



Finalized CRAFT-2009 CSC Alignment

Jim Pivarski

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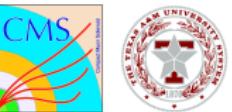
11 October, 2009



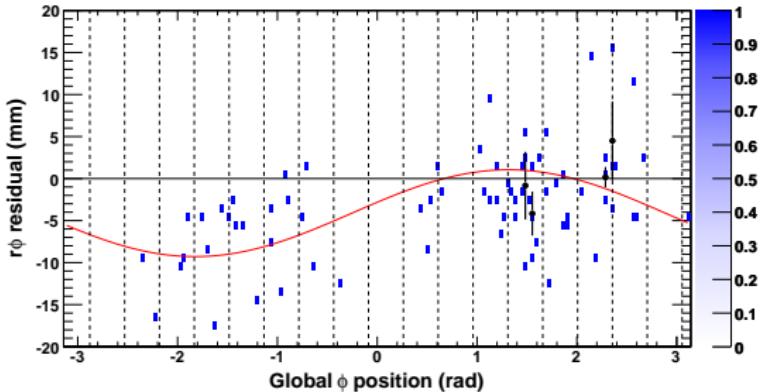
- ▶ Sequence:
 1. 2007 photogrammetry + 2008 hardware alignment (δ_z and δ_{ϕ_x})
 2. adjust each ring's global δ_x , δ_y , δ_{ϕ_z} by hand
 3. track-based chamber alignment (keeping δ_y , δ_z , δ_{ϕ_x} fixed)
- ▶ Where each final aligned position/orientation comes from:
 - ▶ all internal layers relative to chamber center: ideal
 - ▶ chambers poorly illuminated by cosmic rays, local $\delta_{r\phi}$, δ_y , δ_{ϕ_z} :
 - (1) PG with (2) ring adjustment
 - ▶ all chambers δ_{ϕ_x} and δ_z : (1) hardware with (2) ring adjustment
 - ▶ well-illuminated chambers, $\delta_{r\phi}$, δ_{ϕ_y} , δ_{ϕ_z} : (3) track-based chamber alignment
- ▶ Track-based chamber alignment parameters
 - ▶ Dataset: /Cosmics/CRAFT09-GR09_31X_V5P_CSCSkim_BFieldStudies-332_v4/RAW-RECO
 - ▶ Release: CMSSW_3_2_7
 - ▶ GlobalTag: CRAFT09_R_V4::All
 - ▶ Tracks: $100 < p_T < 200$ GeV, #tracker hits ≥ 15 , tracker $\chi^2/\text{ndf} < 10$, no rejection of TID/TEC
 - ▶ No special correction for $\vec{B}(\vec{x})$, dE/dx
 - ▶ Criterion for alignment: at least 5 hits and no Minuit fit failure
 - ▶ 3 iterations

Ring fits: ME-4/1

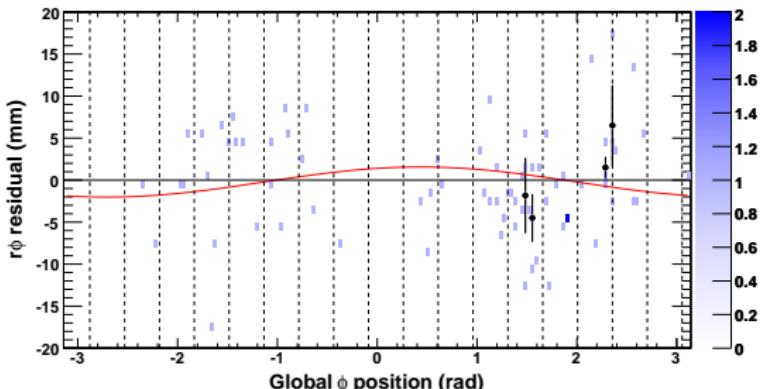
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ME-4/1 before ring alignment



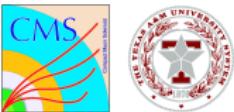
ME-4/1 after ring alignment



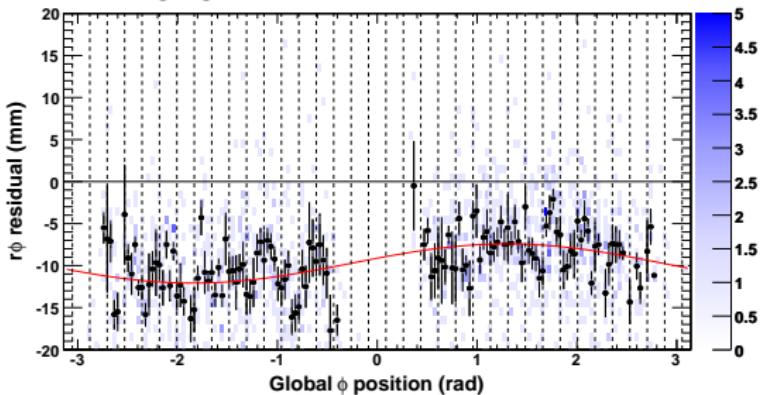
- ▶ Color scale is 2-D plot
- ▶ Black points are a profile (averages in vertical bins)
- ▶ Red line is fit to 2-D data

Ring fits: ME-3/2

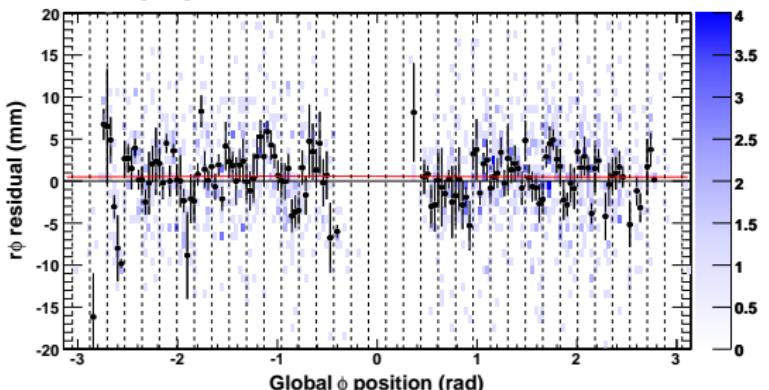
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ME-3/2 before ring alignment



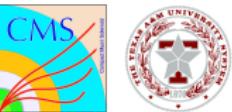
ME-3/2 after ring alignment



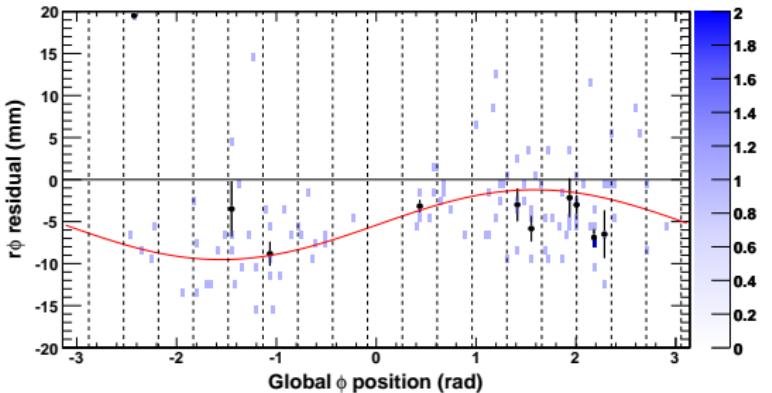
- ▶ Color scale is 2-D plot
- ▶ Black points are a profile (averages in vertical bins)
- ▶ Red line is fit to 2-D data

Ring fits: ME–3/1

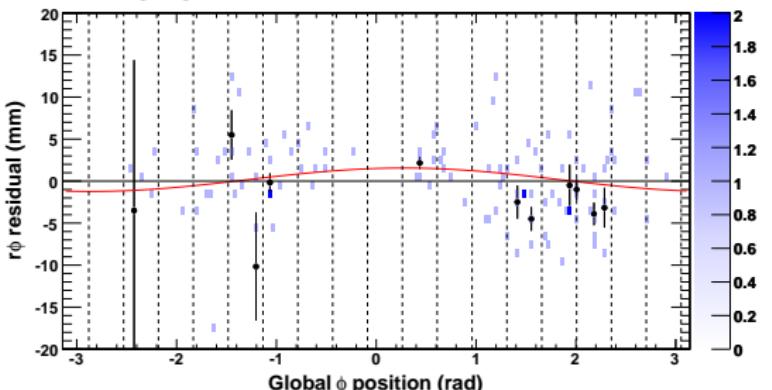
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ME-3/1 before ring alignment



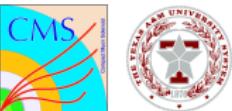
ME-3/1 after ring alignment



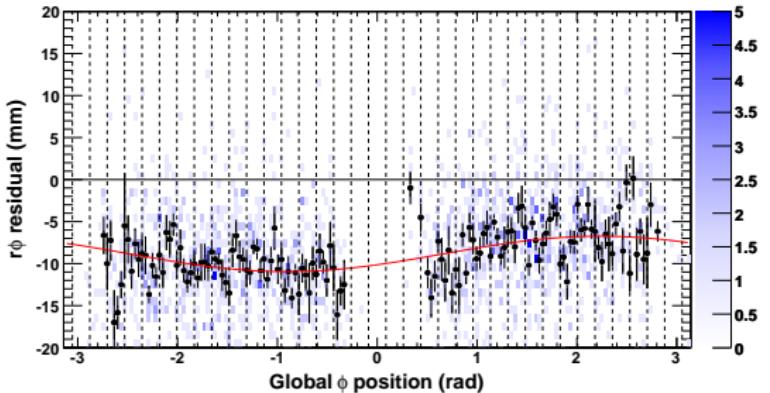
- ▶ Color scale is 2-D plot
- ▶ Black points are a profile (averages in vertical bins)
- ▶ Red line is fit to 2-D data

Ring fits: ME–2/2

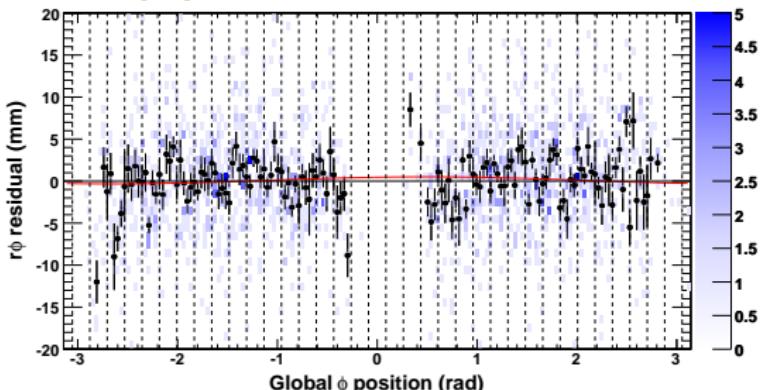
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ME-2/2 before ring alignment



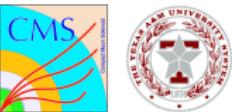
ME-2/2 after ring alignment



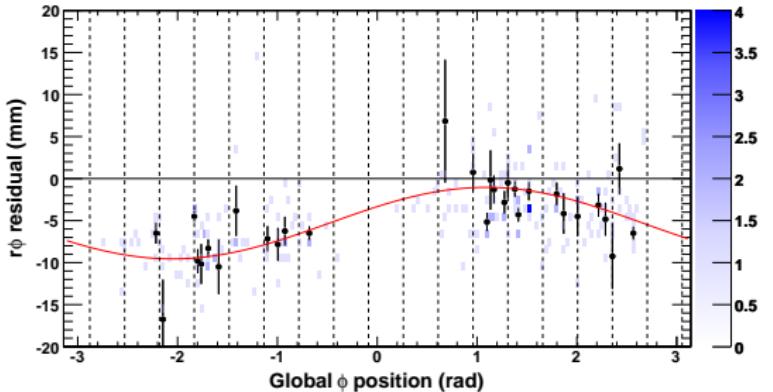
- ▶ Color scale is 2-D plot
- ▶ Black points are a profile (averages in vertical bins)
- ▶ Red line is fit to 2-D data

Ring fits: ME–2/1

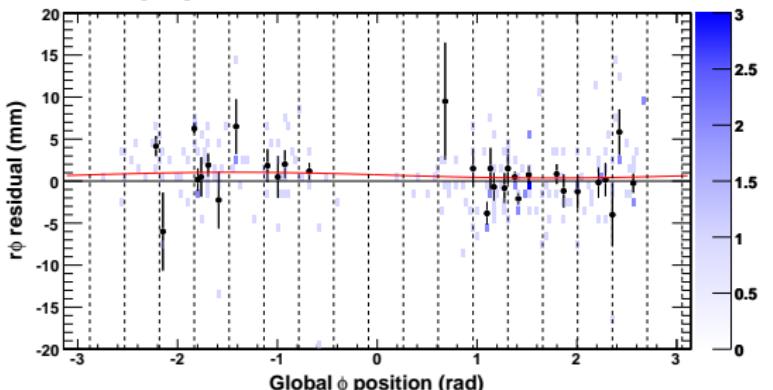
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ME-2/1 before ring alignment



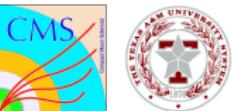
ME-2/1 after ring alignment



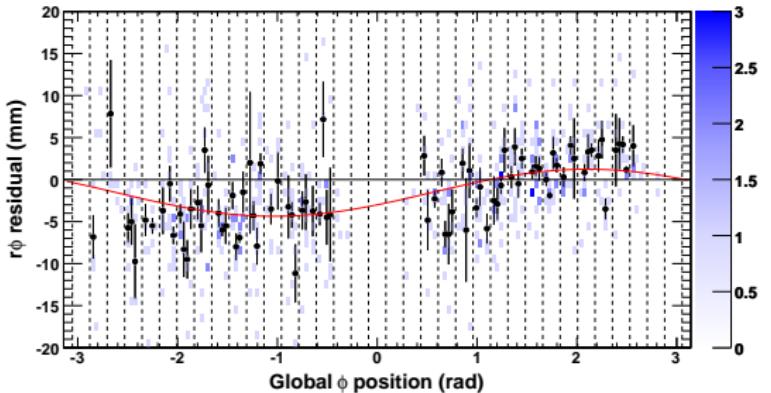
- ▶ Color scale is 2-D plot
- ▶ Black points are a profile (averages in vertical bins)
- ▶ Red line is fit to 2-D data

Ring fits: ME-1/3

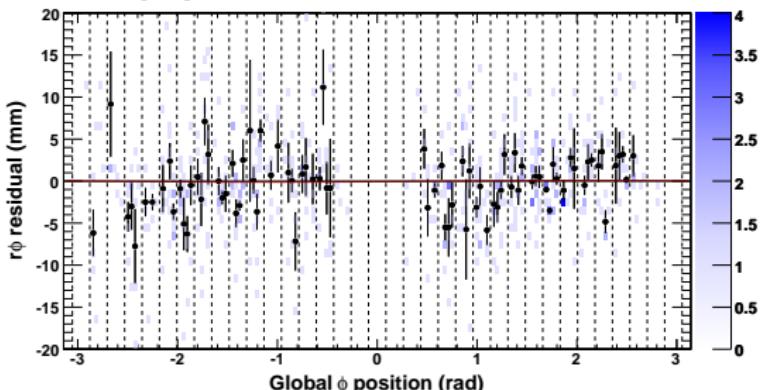
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ME-1/3 before ring alignment



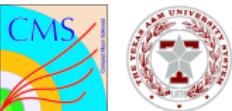
ME-1/3 after ring alignment



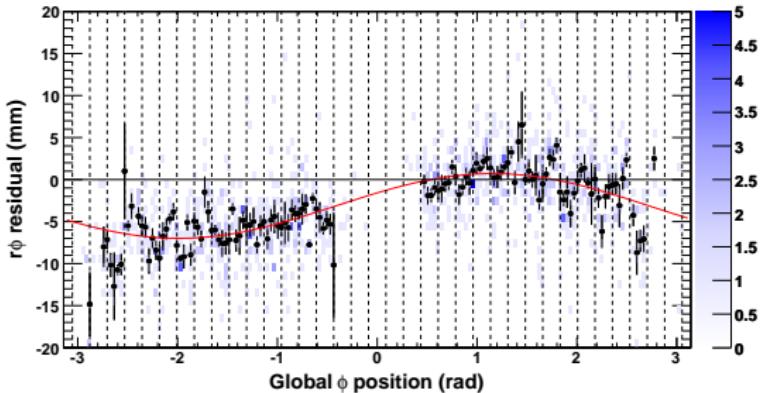
- ▶ Color scale is 2-D plot
- ▶ Black points are a profile (averages in vertical bins)
- ▶ Red line is fit to 2-D data

Ring fits: ME-1/2

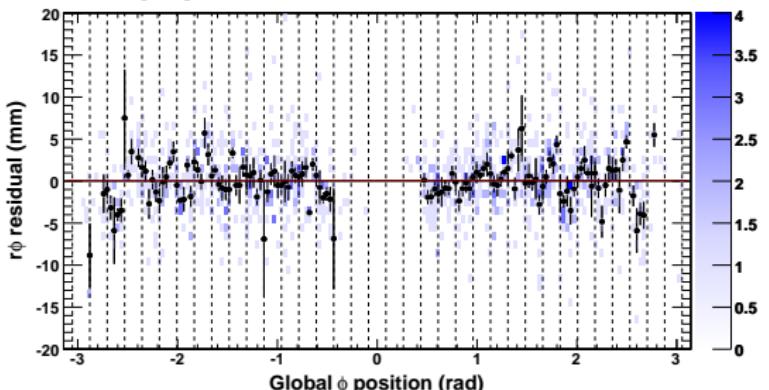
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ME-1/2 before ring alignment



ME-1/2 after ring alignment



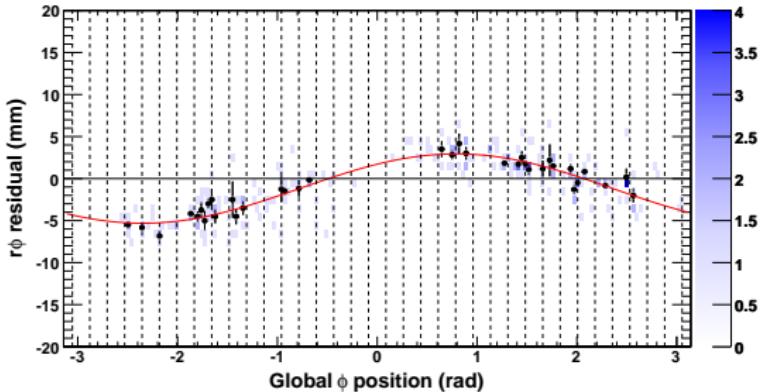
- ▶ Color scale is 2-D plot
- ▶ Black points are a profile (averages in vertical bins)
- ▶ Red line is fit to 2-D data

Ring fits: ME-1/1

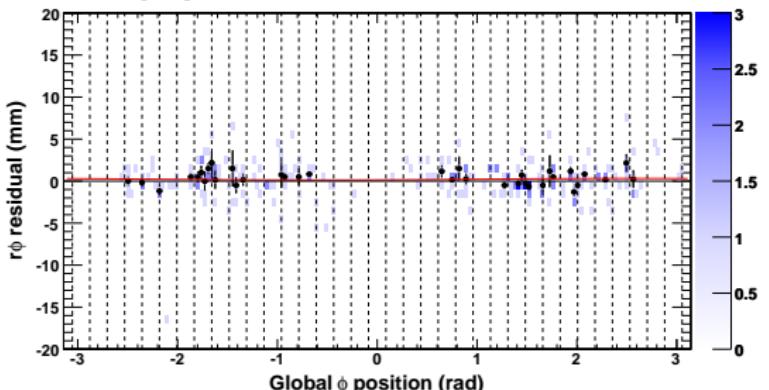
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ME-1/1 before ring alignment



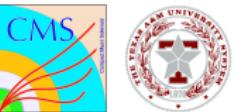
ME-1/1 after ring alignment



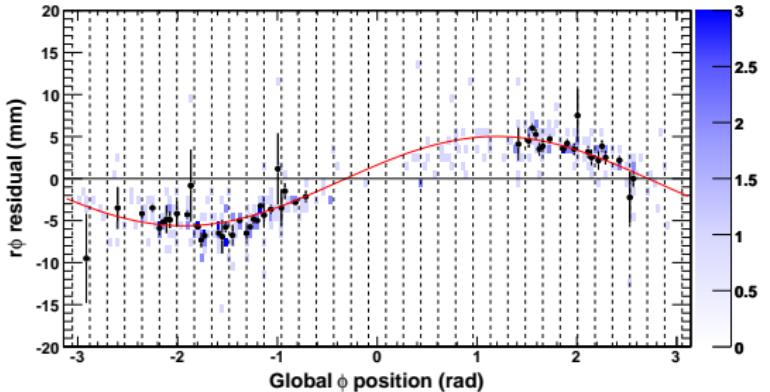
- ▶ Color scale is 2-D plot
- ▶ Black points are a profile (averages in vertical bins)
- ▶ Red line is fit to 2-D data

Ring fits: ME+1/1

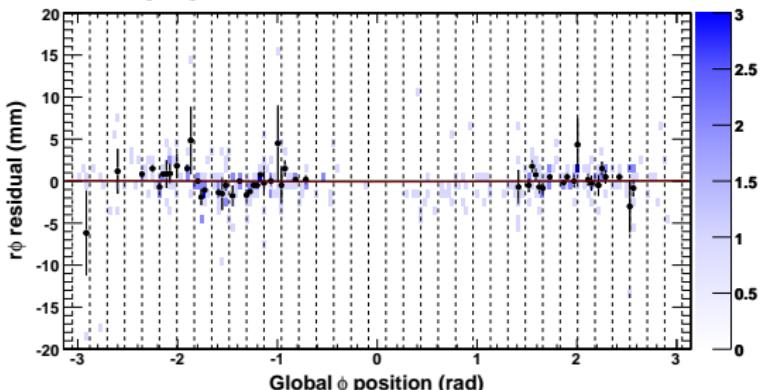
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ME+1/1 before ring alignment



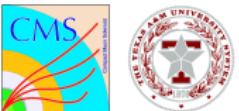
ME+1/1 after ring alignment



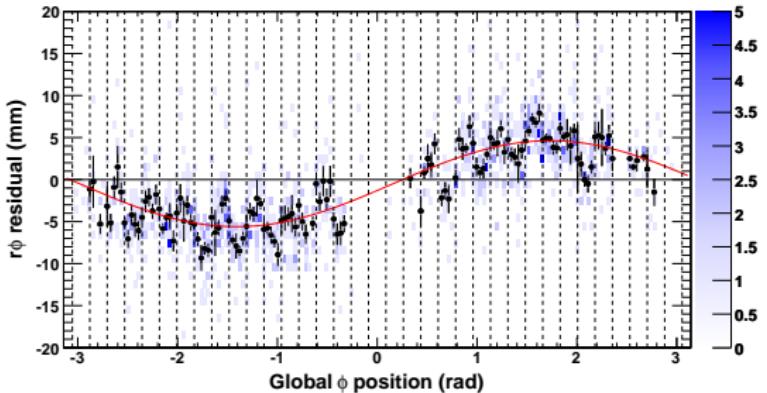
- ▶ Color scale is 2-D plot
- ▶ Black points are a profile (averages in vertical bins)
- ▶ Red line is fit to 2-D data

Ring fits: ME+1/2

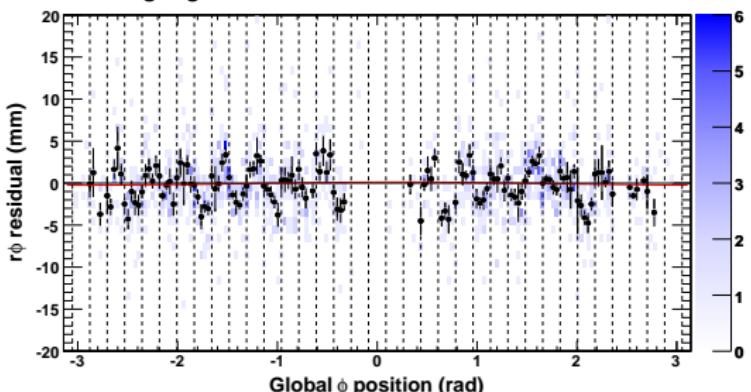
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ME+1/2 before ring alignment



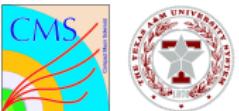
ME+1/2 after ring alignment



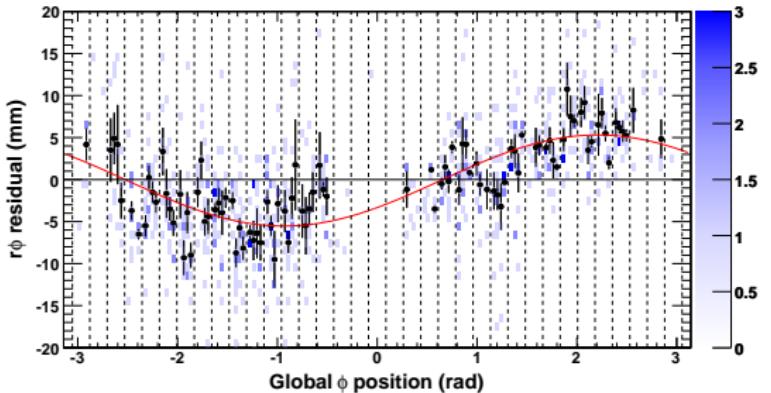
- ▶ Color scale is 2-D plot
- ▶ Black points are a profile (averages in vertical bins)
- ▶ Red line is fit to 2-D data

Ring fits: ME+1/3

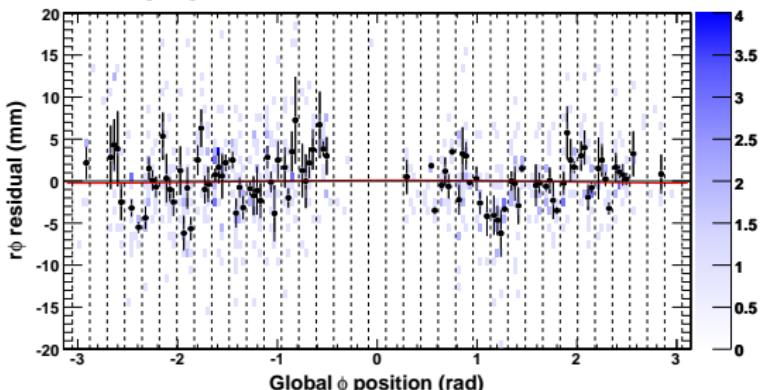
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ME+1/3 before ring alignment



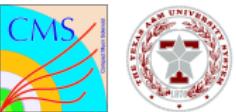
ME+1/3 after ring alignment



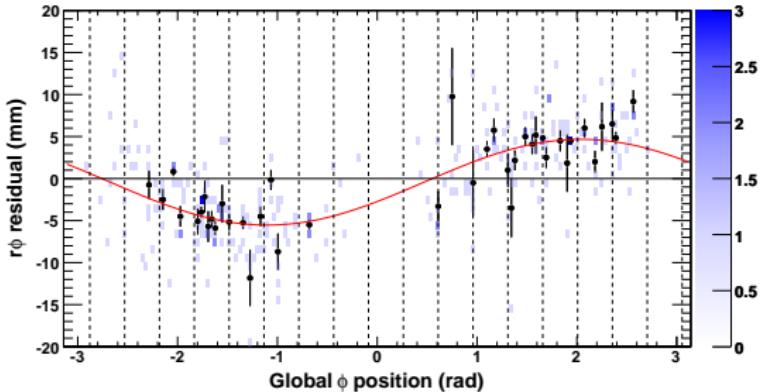
- ▶ Color scale is 2-D plot
- ▶ Black points are a profile (averages in vertical bins)
- ▶ Red line is fit to 2-D data

Ring fits: ME+2/1

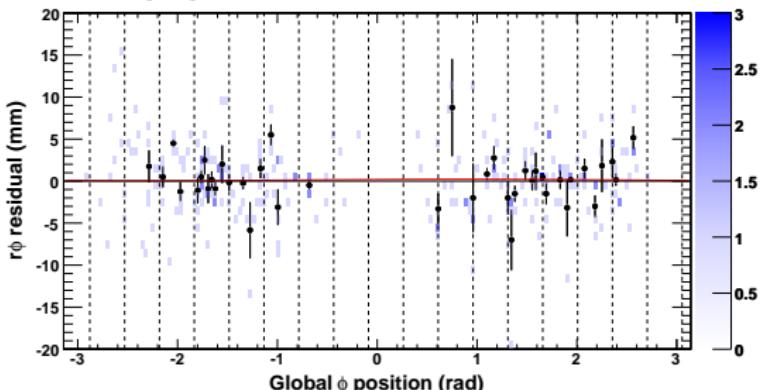
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ME+2/1 before ring alignment



ME+2/1 after ring alignment



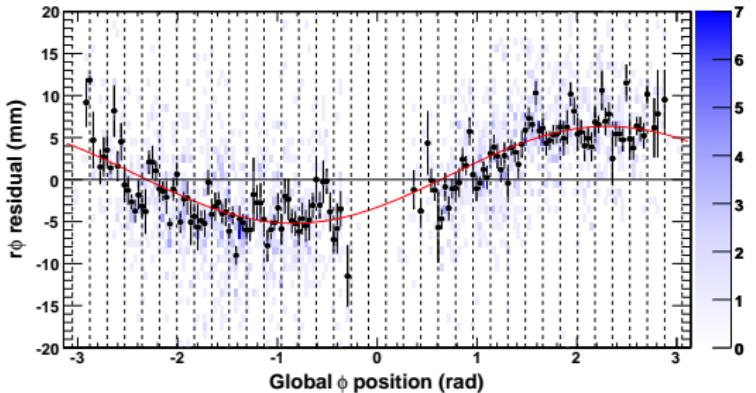
- ▶ Color scale is 2-D plot
- ▶ Black points are a profile (averages in vertical bins)
- ▶ Red line is fit to 2-D data

Ring fits: ME+2/2

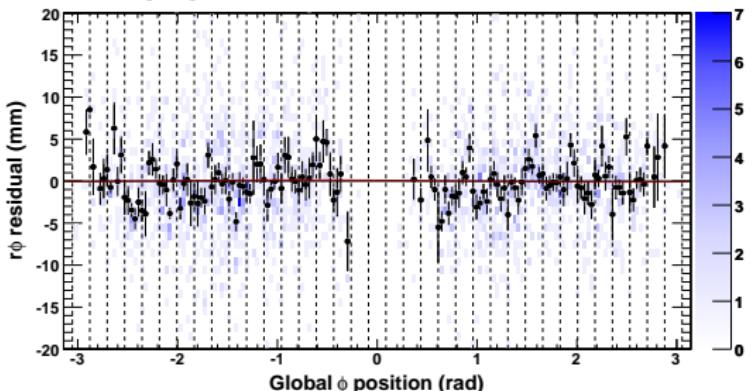
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ME+2/2 before ring alignment



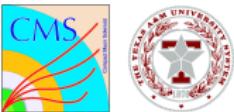
ME+2/2 after ring alignment



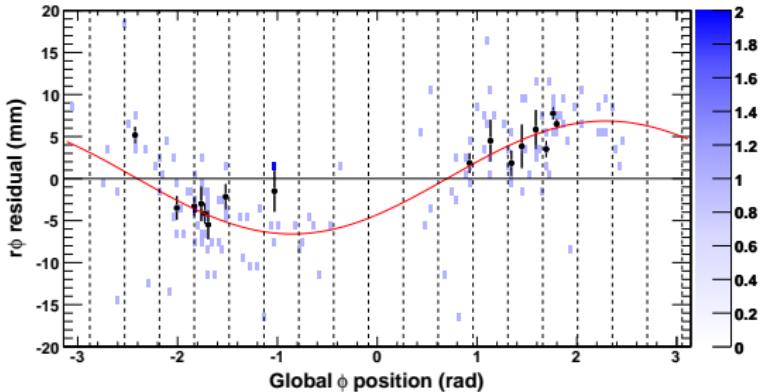
- ▶ Color scale is 2-D plot
- ▶ Black points are a profile (averages in vertical bins)
- ▶ Red line is fit to 2-D data

Ring fits: ME+3/1

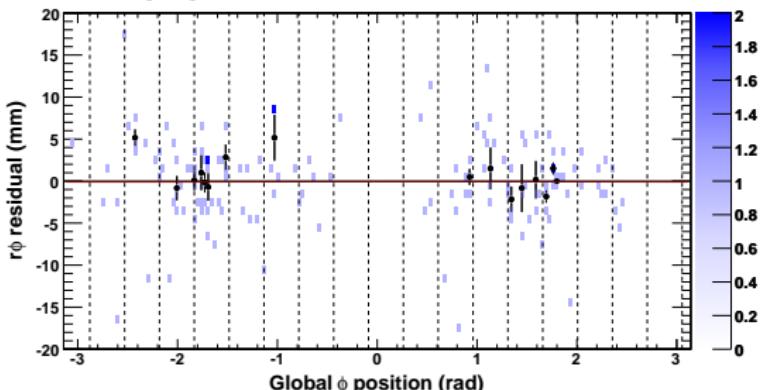
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ME+3/1 before ring alignment



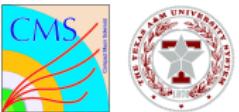
ME+3/1 after ring alignment



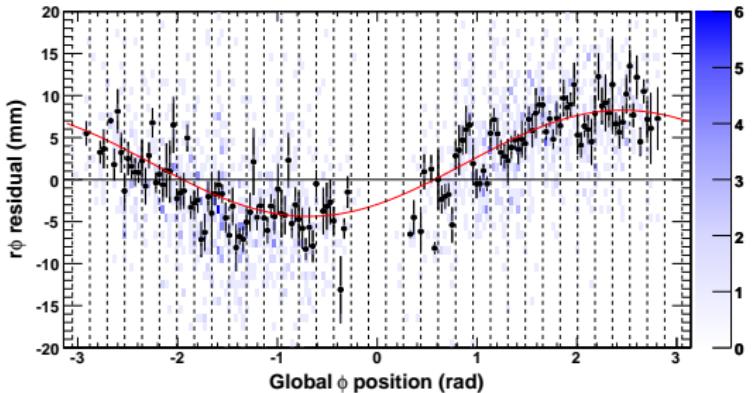
- ▶ Color scale is 2-D plot
- ▶ Black points are a profile (averages in vertical bins)
- ▶ Red line is fit to 2-D data

Ring fits: ME+3/2

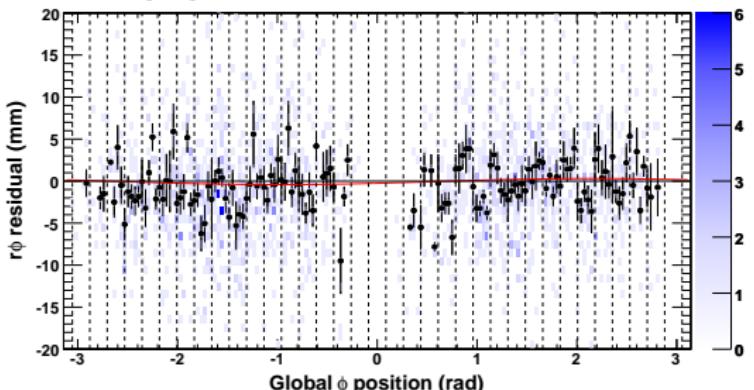
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ME+3/2 before ring alignment



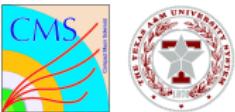
ME+3/2 after ring alignment



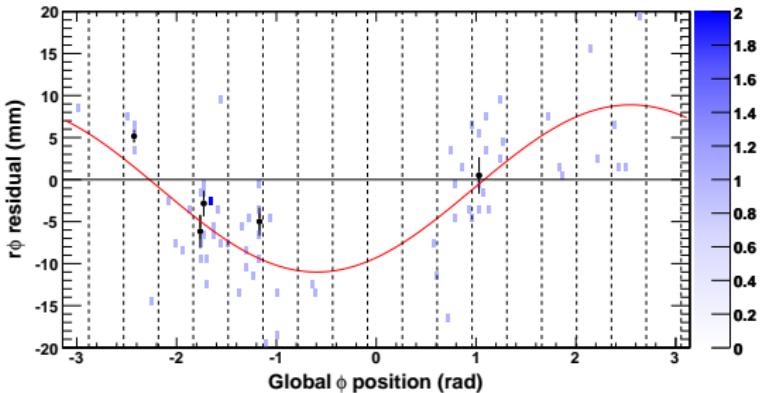
- ▶ Color scale is 2-D plot
- ▶ Black points are a profile (averages in vertical bins)
- ▶ Red line is fit to 2-D data

Ring fits: ME+4/1

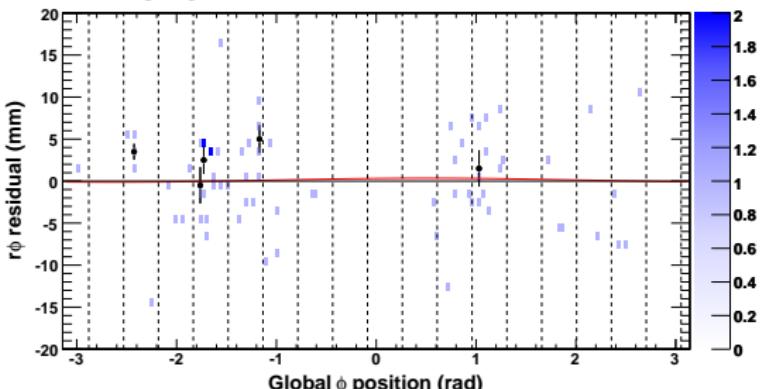
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ME+4/1 before ring alignment



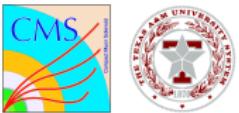
ME+4/1 after ring alignment



- ▶ Color scale is 2-D plot
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- ▶ Red line is fit to 2-D data

Table of ring corrections

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- ▶ Grouped items are physically connected to the same disk; values are correlated but not exactly equal within fitting errors
- ▶ Large χ^2/ndf expected from incomplete chamber alignment

ring	δ_x (mm)	δ_y (mm)	δ_{ϕ_z} (mrad)	χ^2/ndf
ME-4/1	5.00 ± 0.14	-1.30 ± 0.22	1.57 ± 0.05	79.8998
ME-3/2	2.25 ± 0.04	-0.62 ± 0.06	1.85 ± 0.01	60.1288
ME-3/1	4.16 ± 0.12	0.06 ± 0.18	2.12 ± 0.04	63.914
ME-2/2	1.66 ± 0.04	1.29 ± 0.05	1.68 ± 0.01	52.9565
ME-2/1	3.77 ± 0.09	-1.96 ± 0.13	2.18 ± 0.03	37.8555
ME-1/3	2.41 ± 0.06	1.43 ± 0.09	0.26 ± 0.01	45.2275
ME-1/2	3.52 ± 0.05	-1.56 ± 0.07	0.85 ± 0.01	23.7824
ME-1/1	2.93 ± 0.09	-2.90 ± 0.13	0.66 ± 0.04	5.31818
ME+1/1	4.95 ± 0.08	-1.93 ± 0.11	0.17 ± 0.04	11.9906
ME+1/2	5.05 ± 0.05	0.81 ± 0.07	0.13 ± 0.01	22.0969
ME+1/3	4.36 ± 0.06	3.22 ± 0.08	0.02 ± 0.01	38.1421
ME+2/1	4.56 ± 0.08	2.30 ± 0.12	0.18 ± 0.03	28.5622
ME+2/2	4.28 ± 0.04	3.86 ± 0.05	-0.11 ± 0.01	47.6725
ME+3/1	5.06 ± 0.10	4.42 ± 0.17	-0.05 ± 0.03	25.2588
ME+3/2	4.01 ± 0.04	4.88 ± 0.06	-0.37 ± 0.01	60.8494
ME+4/1	5.58 ± 0.15	8.24 ± 0.24	0.40 ± 0.05	31.3307

- ▶ This reprocessed dataset was based on the following runs:

108483 108498 108516 108521 108526 108562 108597 108624 108645 108662 108666 108669 108671 108681 108686
108706 108712 108720 108731 108741 108787 108794 108819 108841 108852 108856 108859 108866 108873 108878
108889 108934 108959 109011 109024 109032 109035 109037 109039 109043 109046 109049 109112 109131 109132
109134 109142 109143 109144 109145 109146 109148 109203 109216 109261 109272 109288 109295 109305 109316
109319 109341 109354 109367 109403 109410 109411 109415 109418 109419 109425 109426 109441 109446 109450
109453 109456 109457 109459 109467 109468 109470 109472 109474 109490 109504 109508 109519 109524 109559
109562 109573 109575 109578 109584 109586 109589 109603 109606 109616 109624 109644 109654 109673 109703
109705 109706 109710 109712 109715 109718 109721 109747 109784 109805 109807 109810 109812 109815 109817
109822 109826 109829 109839 109844 109861 109885 109887 109897 109902 109904 109905 109908 109910 109911
109912 109920 109933 109935 109943 109950 109956 109961 109989 110000 110004 110007 110012 110092 110128
110133 110163 110169 110177 110182 110190 110193 110195 110213 110217 110219 110232 110286 110290 110308
110315 110323 110334 110341 110388 110393 110394 110395 110397 110407 110409 110419 110428 110431 110437
110440 110452 110467 110476 110485 110490 110496 110508 110514 110518 110520 110532 110535 110540 110546
110683 110685 110686 110689 110690 110692 110695 110697 110699 110703 110708 110722 110751 110756 110784
110832 110835 110842 110846 110873 110878 110891 110894 110900 110916 110921 110924 110952 110954 110955
110958 110972 110987 110998 111009 111017 111023 111030 111033 111035 111043 111045 111047 111101 111111
111129 111130 111138 111142 111143 111144 111145 111146 112009 112012 112013 112020 112043 112092 112101
112141 112205 112213 112215 112218 112222 112231 112233 112237 112248 112252 112255 112257 112265 112275
112281 112309 112323 112331 112341 112347 112360 112377 112381 112385

- ▶ The number of tracks passing cuts is: 8251

Convergence

- ▶ All chambers converged with $|\delta_{r\phi}| < 1 \text{ mm}$ $|\delta_{\phi_y}|, |\delta_{\phi_z}| < 1 \text{ mrad}$ except
 - ▶ ME+3/2, chamber 14
 - ▶ ME-1/2, chamber 25 and 31
 - ▶ ME-3/2, chamber 32

- ▶ Lists of values of all chamber positions
- ▶ Map plots (both $r\phi$ and $d(r\phi)/dz$ residuals versus ϕ and R with dashed lines at chamber boundaries)
- ▶ Fit functions (residuals and best-fit projected onto several axes)

Where to find the constants

`/afs/cern.ch/user/p/pivarski/public/CSCAlignmentRcd_CRAFT09_PG-hardware-globalMuons_31X_v1.offline.db`

- ▶ tag “CSCAlignmentRcd”: the aligned geometry
- ▶ tag “CSCAlignmentErrorRcd”: 0 for aligned chambers, 1000 cm for no track-based alignment step
- ▶ ignore tags “DTAlignmentRcd” and “DTAlignmentErrorRcd”

All the values



All values relative to ideal, alternating x, y, z (mm) and ϕ_x, ϕ_y, ϕ_z (mrad)

Columns: PG + hardware, same + global adjustment, **same + track-based chambers**

(color applied only if chamber was aligned)

station, chamber	x or ϕ_x	y or ϕ_y	z or ϕ_z
+1/1, 01	+0.00 -1.62 -1.62	+0.00 +4.95 +4.95	+17.57 +17.57 +17.57
	+0.00 +0.00 +0.00	-0.00 -0.00 -0.00	-0.00 -0.17 -0.17
+1/1, 02	+0.00 -2.45 -2.45	+0.00 +4.54 +4.54	+19.44 +19.44 +19.44
	+0.00 +0.00 +0.00	-0.00 -0.00 -0.00	-0.00 -0.17 -0.17
+1/1, 03	+0.00 -3.20 -3.20	+0.00 +3.99 +3.99	+19.44 +19.44 +19.44
	+0.00 +0.00 +0.00	-0.00 -0.00 -0.00	-0.00 -0.17 -0.17
+1/1, 04	+0.00 -3.84 -3.84	+0.00 +3.32 +3.32	+17.57 +17.57 +17.57
	+0.00 +0.00 +0.00	-0.00 -0.00 -0.00	-0.00 -0.17 -0.17
+1/1, 05	+0.00 -4.36 -4.36	+0.00 +2.55 +2.55	+17.57 +17.57 +17.57
	+0.00 +0.00 +0.00	-0.00 -0.00 -0.00	-0.00 -0.17 -0.17
+1/1, 06	+0.00 -4.73 -4.73	+0.00 +1.71 +1.71	+17.57 +17.57 +17.57
	+0.00 +0.00 +0.00	-0.00 -0.00 -0.00	-0.00 -0.17 -0.17
+1/1, 07	+0.00 -4.95 -4.95	+0.00 +0.81 +0.81	+17.57 +17.57 +17.57
	+0.00 +0.00 +0.00	+0.00 +0.00 +0.00	-0.00 -0.17 -0.17
+1/1, 08	+0.00 -5.01 -5.01	+0.00 -0.12 -0.12	+21.00 +21.00 +21.00
	+0.00 +0.00 +0.00	+0.00 +0.00 +0.00	-0.00 -0.17 -0.17
+1/1, 09	-0.00 -4.91 -4.91	+0.00 -1.04 -1.04	+21.00 +21.00 +21.00
	+0.00 +0.00 +0.00	+0.00 +0.00 +0.00	-0.00 -0.17 -0.17
+1/1, 10	-0.00 -4.65 -4.65	+0.00 -1.93 -1.93	+17.57 +17.57 +17.57
	+0.00 +0.00 +0.00	+0.00 +0.00 +0.00	-0.00 -0.17 -0.17
+1/1, 11	-0.00 -4.24 -4.24	+0.00 -2.76 -2.76	+17.57 +17.57 +17.57
	+0.00 +0.00 +0.00	+0.00 +0.00 +0.00	+0.00 -0.17 -0.17
+1/1, 12	-0.00 -3.69 -3.69	+0.00 -3.51 -3.51	+17.57 +17.57 +17.57
	+0.00 +0.00 +0.00	+0.00 +0.00 +0.00	+0.00 -0.17 -0.17

All the values

All values relative to ideal, alternating x, y, z (mm) and ϕ_x, ϕ_y, ϕ_z (mrad)

Columns: PG + hardware, same + global adjustment, **same + track-based chambers**

(color applied only if chamber was aligned)

station, chamber	x or ϕ_x	y or ϕ_y	z or ϕ_z
+1/1, 13	-0.00 -3.02 -3.02	+0.00 -4.15 -4.15	+17.57 +17.57 +17.57
	+0.00 +0.00 +0.00	+0.00 +0.00 +0.00	+0.00 -0.17 -0.17
+1/1, 14	-0.00 -2.25 -2.25	+0.00 -4.66 -4.66	+22.18 +22.18 +22.18
	+0.00 +0.00 +0.00	+0.00 +0.00 +0.00	+0.00 -0.17 -0.17
+1/1, 15	-0.00 -1.40 -1.40	+0.00 -5.03 -5.03	+22.18 +22.18 +22.18
	+0.00 +0.00 +0.00	+0.00 +0.00 +0.00	+0.00 -0.17 -0.17
+1/1, 16	-0.00 -0.50 -0.50	+0.00 -5.25 -5.25	+17.57 +17.57 +17.57
	+0.00 +0.00 +0.00	+0.00 +0.00 +0.00	+0.00 -0.17 -0.17
+1/1, 17	-0.00 +0.42 +0.42	+0.00 -5.31 -5.31	+17.57 +17.57 +17.57
	-0.00 -0.00 -0.00	+0.00 +0.00 +0.00	+0.00 -0.17 -0.17
+1/1, 18	-0.00 +1.35 +1.35	-0.00 -5.21 -5.21	+17.57 +17.57 +17.57
	-0.00 -0.00 -0.00	+0.00 +0.00 +0.00	-0.00 -0.17 -0.17
+1/1, 19	-0.00 +2.23 +2.23	-0.00 -4.95 -4.95	+17.57 +17.57 +17.57
	-0.00 -0.00 -0.00	+0.00 +0.00 +0.00	-0.00 -0.17 -0.17
+1/1, 20	-0.00 +3.07 +3.07	-0.00 -4.54 -4.54	+17.47 +17.47 +17.47
	-0.00 -0.00 -0.00	+0.00 +0.00 +0.00	-0.00 -0.17 -0.17
+1/1, 21	+0.00 +3.81 +3.81	-0.00 -3.99 -3.99	+17.47 +17.47 +17.47
	-0.00 -0.00 -0.00	+0.00 +0.00 +0.00	-0.00 -0.17 -0.17
+1/1, 22	+0.00 +4.45 +4.45	-0.00 -3.32 -3.32	+17.57 +17.57 +17.57
	-0.00 -0.00 -0.00	-0.00 -0.00 -0.00	-0.00 -0.17 -0.17
+1/1, 23	+0.00 +4.97 +4.97	-0.00 -2.55 -2.55	+17.57 +17.57 +17.57
	-0.00 -0.00 -0.00	-0.00 -0.00 -0.00	-0.00 -0.17 -0.17
+1/1, 24	+0.00 +5.34 +5.34	-0.00 -1.71 -1.71	+17.57 +17.57 +17.57
	-0.00 -0.00 -0.00	-0.00 -0.00 -0.00	-0.00 -0.17 -0.17

All the values



All values relative to ideal, alternating x, y, z (mm) and ϕ_x, ϕ_y, ϕ_z (mrad)

Columns: PG + hardware, same + global adjustment, **same + track-based chambers**

(color applied only if chamber was aligned)

station, chamber	x or ϕ_x	y or ϕ_y	z or ϕ_z
+1/1, 25	+0.00 +5.56 +5.56	-0.00 -0.81 -0.81	+17.57 +17.57 +17.57
	-0.00 -0.00 -0.00	-0.00 -0.00 -0.00	-0.00 -0.17 -0.17
+1/1, 26	+0.00 +5.62 +5.62	-0.00 +0.12 +0.12	+14.05 +14.05 +14.05
	-0.00 -0.00 -0.00	-0.00 -0.00 -0.00	-0.00 -0.17 -0.17
+1/1, 27	+0.00 +5.52 +5.52	-0.00 +1.04 +1.04	+14.05 +14.05 +14.05
	-0.00 -0.00 -0.00	-0.00 -0.00 -0.00	-0.00 -0.17 -0.17
+1/1, 28	+0.00 +5.26 +5.26	-0.00 +1.93 +1.93	+17.57 +17.57 +17.57
	-0.00 -0.00 -0.00	-0.00 -0.00 -0.00	-0.00 -0.17 -0.17
+1/1, 29	+0.00 +4.85 +4.85	-0.00 +2.76 +2.76	+17.57 +17.57 +17.57
	-0.00 -0.00 -0.00	-0.00 -0.00 -0.00	-0.00 -0.17 -0.17
+1/1, 30	+0.00 +4.30 +4.30	+0.00 +3.51 +3.51	+17.57 +17.57 +17.57
	-0.00 -0.00 -0.00	-0.00 -0.00 -0.00	+0.00 -0.17 -0.17
+1/1, 31	+0.00 +3.63 +3.63	+0.00 +4.15 +4.15	+17.57 +17.57 +17.57
	-0.00 -0.00 -0.00	-0.00 -0.00 -0.00	+0.00 -0.17 -0.17
+1/1, 32	+0.00 +2.86 +2.86	+0.00 +4.66 +4.66	+11.30 +11.30 +11.30
	-0.00 -0.00 -0.00	-0.00 -0.00 -0.00	+0.00 -0.17 -0.17
+1/1, 33	+0.00 +2.01 +2.01	+0.00 +5.03 +5.03	+11.30 +11.30 +11.30
	+0.00 +0.00 +0.00	-0.00 -0.00 -0.00	+0.00 -0.17 -0.17
+1/1, 34	+0.00 +1.11 +1.11	+0.00 +5.25 +5.25	+17.57 +17.57 +17.57
	+0.00 +0.00 +0.00	-0.00 -0.00 -0.00	+0.00 -0.17 -0.17
+1/1, 35	+0.00 +0.19 +0.19	+0.00 +5.31 +5.31	+17.57 +17.57 +17.57
	+0.00 +0.00 +0.00	-0.00 -0.00 -0.00	+0.00 -0.17 -0.17
+1/1, 36	+0.00 -0.73 -0.73	+0.00 +5.21 +5.21	+17.57 +17.57 +17.57
	+0.00 +0.00 +0.00	-0.00 -0.00 -0.00	+0.00 -0.17 -0.17

All the values



All values relative to ideal, alternating x , y , z (mm) and ϕ_x , ϕ_y , ϕ_z (mrad)

Columns: PG + hardware, same + global adjustment, **same + track-based chambers**

(color applied only if chamber was aligned)

station, chamber	x or ϕ_x	y or ϕ_y	z or ϕ_z
+1/2, 01	+0.00 +1.30 +1.30 -4.37 -4.37 -4.37	+0.00 +5.05 +5.05 +0.00 +0.00 +0.00	+5.04 +5.04 +5.04 +0.18 +0.05 +0.05
+1/2, 02	+0.00 +0.41 +0.41 -4.36 -4.36 -4.35	+0.00 +5.12 +5.12 -0.00 -0.00 -0.00	+6.15 +6.15 +6.15 -0.12 -0.25 -0.25
+1/2, 03	+0.00 -0.47 -0.47 -4.37 -4.37 -4.37	+0.00 +5.03 +5.03 +0.00 +0.00 +0.01	+5.04 +5.04 +5.04 +0.18 +0.05 +0.05
+1/2, 04	+0.00 -1.33 -1.33 -4.37 -4.37 -4.37	+0.00 +4.78 +4.78 +0.00 +0.00 +0.00	+5.04 +5.04 +5.04 +0.18 +0.05 +0.05
+1/2, 05	+0.00 -2.14 -2.14 -4.37 -4.37 -4.37	+0.00 +4.39 +4.39 +0.00 +0.00 -0.01	+5.04 +5.04 +5.04 +0.18 +0.05 +0.05
+1/2, 06	+0.00 -2.86 -3.59 -4.37 -4.37 -4.37	+0.00 +3.87 +3.87 +0.00 +0.00 +1.07	+5.04 +5.04 +5.05 +0.18 +0.05 +1.18
+1/2, 07	+0.00 -3.48 -2.05 -4.37 -4.37 -4.36	+0.00 +3.23 +3.23 +0.00 +0.00 +0.20	+5.04 +5.04 +5.04 +0.18 +0.05 +0.71
+1/2, 08	+0.00 -3.98 -4.76 -4.63 -4.63 -4.64	+0.00 +2.49 +2.49 +0.00 +0.00 -2.12	+6.42 +6.42 +6.42 +0.04 -0.09 +0.02
+1/2, 09	-0.00 -4.34 -4.03 -4.37 -4.37 -4.36	+0.00 +1.68 +1.68 +0.00 +0.00 +1.77	+5.04 +5.04 +5.04 +0.18 +0.05 -1.37
+1/2, 10	-0.00 -4.56 -6.68 -4.37 -4.37 -4.37	+0.00 +0.81 +0.81 +0.00 +0.00 +0.85	+5.04 +5.04 +5.04 +0.18 +0.05 -0.04
+1/2, 11	-0.00 -4.63 -4.63 -4.37 -4.37 -4.37	+0.00 -0.08 -0.08 +0.00 +0.00 -0.00	+5.04 +5.04 +5.04 +0.18 +0.05 +0.05
+1/2, 12	-0.00 -4.53 -4.53 -4.37 -4.37 -4.37	+0.00 -0.97 -0.97 +0.00 +0.00 +0.01	+5.04 +5.04 +5.04 +0.18 +0.05 +0.05

All the values

All values relative to ideal, alternating x , y , z (mm) and ϕ_x , ϕ_y , ϕ_z (mrad)

Columns: PG + hardware, same + global adjustment, **same + track-based chambers**

(color applied only if chamber was aligned)

station, chamber	x or ϕ_x	y or ϕ_y	z or ϕ_z
+1/2, 13	-0.00 -4.29 -2.01	+0.00 -1.82 -1.82	+5.04 +5.04 +5.04
	-4.37 -4.37 -4.37	+0.00 +0.00 +0.61	+0.18 +0.05 -2.29
+1/2, 14	-0.00 -3.90 -5.42	+0.00 -2.63 -2.63	+6.06 +6.06 +6.06
	-4.89 -4.89 -4.90	+0.00 +0.00 +1.25	+0.59 +0.46 +0.41
+1/2, 15	-0.00 -3.38 -3.38	+0.00 -3.35 -3.35	+5.04 +5.04 +5.04
	-4.37 -4.37 -4.37	+0.00 +0.00 -0.01	+0.18 +0.05 +0.05
+1/2, 16	-0.00 -2.74 -2.74	+0.00 -3.97 -3.97	+5.04 +5.04 +5.04
	-4.37 -4.37 -4.37	+0.00 +0.00 -0.02	+0.18 +0.05 +0.05
+1/2, 17	-0.00 -2.00 -2.00	+0.00 -4.47 -4.47	+5.04 +5.04 +5.04
	-4.37 -4.37 -4.37	+0.00 +0.00 +0.01	+0.18 +0.05 +0.05
+1/2, 18	-0.00 -1.19 -1.19	-0.00 -4.84 -4.84	+5.04 +5.04 +5.04
	-4.37 -4.37 -4.37	+0.00 +0.00 -0.00	+0.18 +0.05 +0.05
+1/2, 19	-0.00 -0.32 -0.32	-0.00 -5.05 -5.05	+5.04 +5.04 +5.04
	-4.37 -4.37 -4.37	+0.00 +0.00 +0.00	+0.18 +0.05 +0.05
+1/2, 20	-0.00 +0.57 +0.57	-0.00 -5.12 -5.12	+5.31 +5.31 +5.31
	-3.74 -3.74 -3.73	+0.00 +0.00 +0.00	+0.44 +0.31 +0.31
+1/2, 21	+0.00 +1.46 +1.46	-0.00 -5.03 -5.03	+5.04 +5.04 +5.04
	-4.37 -4.37 -4.37	+0.00 +0.00 +0.01	+0.18 +0.05 +0.05
+1/2, 22	+0.00 +2.31 +2.31	-0.00 -4.78 -4.78	+5.04 +5.04 +5.04
	-4.37 -4.37 -4.37	+0.00 +0.00 +0.00	+0.18 +0.05 +0.05
+1/2, 23	+0.00 +3.12 +6.48	-0.00 -4.39 -4.39	+5.04 +5.04 +5.04
	-4.37 -4.37 -4.36	+0.00 +0.00 -0.81	+0.18 +0.05 +1.00
+1/2, 24	+0.00 +3.84 +3.84	-0.00 -3.87 -3.87	+5.04 +5.04 +5.04
	-4.37 -4.37 -4.37	+0.00 +0.00 +0.01	+0.18 +0.05 +0.05

All the values

All values relative to ideal, alternating x , y , z (mm) and ϕ_x , ϕ_y , ϕ_z (mrad)

Columns: PG + hardware, same + global adjustment, **same + track-based chambers**

(color applied only if chamber was aligned)

station, chamber	x or ϕ_x	y or ϕ_y	z or ϕ_z
+1/2, 25	+0.00 +4.46 +5.79 -4.37 -4.37 -4.37	-0.00 -3.23 -3.23 +0.00 +0.00 +0.69	+5.04 +5.04 +5.04 +0.18 +0.05 +0.87
+1/2, 26	+0.00 +4.96 +3.35 -4.47 -4.47 -4.49	-0.00 -2.49 -2.49 +0.00 +0.00 +2.44	+2.57 +2.57 +2.58 +0.04 -0.09 +0.14
+1/2, 27	+0.00 +5.33 +7.52 -4.37 -4.37 -4.36	-0.00 -1.68 -1.68 +0.00 +0.00 -2.13	+5.04 +5.04 +5.05 +0.18 +0.05 -1.64
+1/2, 28	+0.00 +5.54 +4.10 -4.37 -4.37 -4.37	-0.00 -0.81 -0.81 +0.00 +0.00 +3.22	+5.04 +5.04 +5.05 +0.18 +0.05 +0.47
+1/2, 29	+0.00 +5.61 +6.18 -4.37 -4.37 -4.37	-0.00 +0.08 +0.08 +0.00 +0.00 +2.23	+5.04 +5.04 +5.05 +0.18 +0.05 -1.13
+1/2, 30	+0.00 +5.52 +5.64 -4.37 -4.37 -4.37	+0.00 +0.97 +0.97 +0.00 +0.00 +1.04	+5.04 +5.04 +5.04 +0.18 +0.05 +1.09
+1/2, 31	+0.00 +5.27 +5.27 -4.37 -4.37 -4.37	+0.00 +1.82 +1.82 +0.00 +0.00 +0.01	+5.04 +5.04 +5.04 +0.18 +0.05 +0.05
+1/2, 32	+0.00 +4.88 +5.11 -4.12 -4.12 -4.11	+0.00 +2.63 +2.63 +0.00 +0.00 -0.37	+3.75 +3.75 +3.75 +0.09 -0.04 -0.77
+1/2, 33	+0.00 +4.36 +4.36 -4.37 -4.37 -4.37	+0.00 +3.35 +3.35 +0.00 +0.00 -0.01	+5.04 +5.04 +5.04 +0.18 +0.05 +0.05
+1/2, 34	+0.00 +3.72 +3.72 -4.37 -4.37 -4.37	+0.00 +3.97 +3.97 +0.00 +0.00 -0.00	+5.04 +5.04 +5.04 +0.18 +0.05 +0.05
+1/2, 35	+0.00 +2.98 +2.98 -4.37 -4.37 -4.37	+0.00 +4.47 +4.47 +0.00 +0.00 +0.01	+5.04 +5.04 +5.04 +0.18 +0.05 +0.05
+1/2, 36	+0.00 +2.17 +2.17 -4.37 -4.37 -4.37	+0.00 +4.84 +4.84 +0.00 +0.00 -0.00	+5.04 +5.04 +5.04 +0.18 +0.05 +0.05

All the values



All values relative to ideal, alternating x , y , z (mm) and ϕ_x , ϕ_y , ϕ_z (mrad)

Columns: PG + hardware, same + global adjustment, **same + track-based chambers**

(color applied only if chamber was aligned)

station, chamber	x or ϕ_x	y or ϕ_y	z or ϕ_z
+1/3, 01	-1.16 +2.17 +2.17	+1.57 +5.93 +5.93	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	+0.00 +0.00 -0.00	+0.33 +0.32 +0.32
+1/3, 02	-1.86 +0.66 +0.66	+0.98 +5.83 +5.83	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	-0.00 +0.00 +0.00	+0.28 +0.26 +0.26
+1/3, 03	-1.50 +0.14 +0.14	+1.98 +7.18 +7.18	+3.18 +3.18 +3.18
	-2.43 -2.43 -2.44	+0.00 +0.00 -0.00	+0.80 +0.78 +0.78
+1/3, 04	-1.31 -0.60 -0.60	+1.92 +7.30 +7.30	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	-0.00 -0.00 -0.02	-0.25 -0.27 -0.27
+1/3, 05	-0.60 -0.83 -0.83	+1.99 +7.40 +7.40	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	+0.00 -0.00 +0.03	+0.79 +0.78 +0.78
+1/3, 06	-1.64 -2.80 -2.80	+1.45 +6.72 +6.72	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	+0.00 -0.00 +0.04	+0.46 +0.44 +0.44
+1/3, 07	-0.31 -2.37 -2.37	-0.12 +4.85 +4.85	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	-0.00 +0.00 -0.02	+0.71 +0.69 +0.69
+1/3, 08	+0.00 -2.89 -2.89	+0.00 +4.51 +4.51	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	-0.00 -0.00 +0.00	+0.00 -0.02 -0.02
+1/3, 09	-0.00 -3.62 -3.62	+0.00 +3.92 +3.92	+4.71 +4.71 +4.71
	-1.85 -1.85 -1.86	-0.00 -0.00 -0.00	+0.00 -0.02 -0.02
+1/3, 10	-0.00 -4.25 -4.25	+0.00 +3.22 +3.22	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	-0.00 -0.00 -0.00	+0.00 -0.02 -0.02
+1/3, 11	-0.00 -4.74 -4.74	+0.00 +2.41 +2.41	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	-0.00 -0.00 +0.01	+0.00 -0.02 -0.02
+1/3, 12	+0.42 -4.66 -4.66	+1.10 +2.63 +2.63	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	-0.00 +0.00 -0.00	+0.45 +0.43 +0.43

All the values



All values relative to ideal, alternating x , y , z (mm) and ϕ_x , ϕ_y , ϕ_z (mrad)

Columns: PG + hardware, same + global adjustment, **same + track-based chambers**

(color applied only if chamber was aligned)

station, chamber	x or ϕ_x	y or ϕ_y	z or ϕ_z
+1/3, 13	-0.04 -5.32 -5.32	+0.83 +1.44 +1.44	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	+0.00 +0.00 -0.02	-0.50 -0.52 -0.52
+1/3, 14	+0.96 -4.33 -4.33	+1.00 +0.66 +0.66	+3.61 +3.61 +3.61
	-0.89 -0.89 -0.91	+0.00 -0.00 -0.05	+0.32 +0.30 +0.30
+1/3, 15	-0.03 -5.19 -5.19	+2.24 +0.96 +0.96	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	+0.00 +0.00 +0.04	+0.51 +0.50 +0.50
+1/3, 16	+0.16 -4.69 -4.69	+0.60 -1.57 -1.57	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	-0.00 -0.00 +0.00	-0.22 -0.24 -0.24
+1/3, 17	+1.40 -3.00 -3.00	+1.13 -1.87 -1.87	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	-0.00 +0.00 -0.02	-1.03 -1.05 -1.05
+1/3, 18	+0.88 -2.94 -2.94	+1.89 -1.84 -1.84	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	-0.00 -0.00 -0.00	-0.42 -0.43 -0.43
+1/3, 19	+0.44 -2.66 -2.66	+2.02 -2.34 -2.34	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	+0.00 +0.00 +0.00	-1.05 -1.07 -1.07
+1/3, 20	-0.15 -2.45 -2.45	+2.65 -2.20 -2.20	+0.85 +0.85 +0.85
	-2.04 -2.04 -2.04	-0.00 +0.00 +0.01	-1.12 -1.14 -1.14
+1/3, 21	-0.24 -1.65 -1.65	+2.61 -2.59 -2.59	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	+0.00 -0.00 -0.00	-0.11 -0.13 -0.13
+1/3, 22	-0.80 -1.29 -1.29	+1.81 -3.58 -3.58	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	+0.00 +0.00 +0.00	+0.41 +0.39 +0.39
+1/3, 23	-0.72 -0.27 -0.27	+2.28 -3.13 -3.13	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	-0.00 -0.00 -0.04	+0.86 +0.85 +0.85
+1/3, 24	-1.24 +0.15 +0.15	+0.37 -4.90 -4.90	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	+0.00 -0.00 +0.04	+0.85 +0.83 +0.83

All the values



All values relative to ideal, alternating x , y , z (mm) and ϕ_x , ϕ_y , ϕ_z (mrad)

Columns: PG + hardware, same + global adjustment, **same + track-based chambers**

(color applied only if chamber was aligned)

station, chamber	x or ϕ_x	y or ϕ_y	z or ϕ_z
+1/3, 25	-1.36 +0.92 +0.92	-0.89 -5.86 -5.86	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	+0.00 +0.00 -0.00	-0.53 -0.55 -0.55
+1/3, 26	-0.81 +2.30 +7.41	+0.76 -3.76 -3.76	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	+0.00 -0.00 +0.84	-0.26 -0.28 -0.26
+1/3, 27	+0.53 +4.38 +4.38	+2.11 -1.81 -1.81	+0.62 +0.62 +0.62
	-0.55 -0.55 -0.60	+0.00 +0.00 -0.02	+0.61 +0.59 +0.59
+1/3, 28	+0.00 +4.47 +4.75	-0.00 -3.22 -3.22	+2.59 +2.59 +2.60
	-1.33 -1.33 -1.33	-0.00 -0.00 -3.88	-0.00 -0.02 +0.17
+1/3, 29	+0.70 +5.67 +5.67	-2.57 -4.98 -4.98	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	-0.00 -0.00 +0.01	+0.04 +0.02 +0.02
+1/3, 30	+0.23 +5.54 +5.54	+0.27 -1.26 -1.26	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	+0.00 -0.00 -0.00	-0.13 -0.15 -0.15
+1/3, 31	+1.00 +6.50 +6.50	-0.46 -1.07 -1.07	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	-0.00 +0.00 +0.04	-1.21 -1.23 -1.23
+1/3, 32	+0.59 +6.11 +7.30	+0.67 +1.01 +1.01	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	-0.00 -0.00 +2.90	-0.60 -0.62 -2.15
+1/3, 33	-0.83 +4.55 +4.55	+1.05 +2.33 +2.33	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	+0.00 -0.00 -0.03	+0.21 +0.19 +0.19
+1/3, 34	+0.46 +5.54 +5.54	+1.58 +3.75 +3.75	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	-0.00 -0.00 +0.00	-0.25 -0.27 -0.27
+1/3, 35	-0.03 +4.59 +4.59	+0.49 +3.49 +3.49	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	-0.00 +0.00 +0.00	+0.41 +0.39 +0.39
+1/3, 36	-0.49 +3.55 +3.55	+1.73 +5.46 +5.46	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	-0.00 +0.00 -0.00	+0.20 +0.18 +0.18

All the values



All values relative to ideal, alternating x, y, z (mm) and ϕ_x, ϕ_y, ϕ_z (mrad)

Columns: PG + hardware, same + global adjustment, **same + track-based chambers**

(color applied only if chamber was aligned)

station, chamber	x or ϕ_x	y or ϕ_y	z or ϕ_z
+1/4, 01	+0.00 -1.62 -1.62	+0.00 +4.95 +4.95	+17.57 +17.57 +17.57
	+0.00 +0.00 +0.00	-0.00 -0.00 -0.00	-0.00 -0.17 -0.17
+1/4, 02	+0.00 -2.45 -2.45	+0.00 +4.54 +4.54	+19.44 +19.44 +19.44
	+0.00 +0.00 +0.00	-0.00 -0.00 -0.00	-0.00 -0.17 -0.17
+1/4, 03	+0.00 -3.20 -3.20	+0.00 +3.99 +3.99	+19.44 +19.44 +19.44
	+0.00 +0.00 +0.00	-0.00 -0.00 -0.00	-0.00 -0.17 -0.17
+1/4, 04	+0.00 -3.84 -3.84	+0.00 +3.32 +3.32	+17.57 +17.57 +17.57
	+0.00 +0.00 +0.00	-0.00 -0.00 -0.00	-0.00 -0.17 -0.17
+1/4, 05	+0.00 -4.36 -4.36	+0.00 +2.55 +2.55	+17.57 +17.57 +17.57
	+0.00 +0.00 +0.00	-0.00 -0.00 -0.00	-0.00 -0.17 -0.17
+1/4, 06	+0.00 -4.73 -4.73	+0.00 +1.71 +1.71	+17.57 +17.57 +17.57
	+0.00 +0.00 +0.00	-0.00 -0.00 -0.00	-0.00 -0.17 -0.17
+1/4, 07	+0.00 -4.95 -4.95	+0.00 +0.81 +0.81	+17.57 +17.57 +17.57
	+0.00 +0.00 +0.00	+0.00 +0.00 +0.00	-0.00 -0.17 -0.17
+1/4, 08	+0.00 -5.01 -5.01	+0.00 -0.12 -0.12	+21.00 +21.00 +21.00
	+0.00 +0.00 +0.00	+0.00 +0.00 +0.00	-0.00 -0.17 -0.17
+1/4, 09	-0.00 -4.91 -4.91	+0.00 -1.04 -1.04	+21.00 +21.00 +21.00
	+0.00 +0.00 +0.00	+0.00 +0.00 +0.00	-0.00 -0.17 -0.17
+1/4, 10	-0.00 -4.65 -4.65	+0.00 -1.93 -1.93	+17.57 +17.57 +17.57
	+0.00 +0.00 +0.00	+0.00 +0.00 +0.00	-0.00 -0.17 -0.17
+1/4, 11	-0.00 -4.24 -4.24	+0.00 -2.76 -2.76	+17.57 +17.57 +17.57
	+0.00 +0.00 +0.00	+0.00 +0.00 +0.00	+0.00 -0.17 -0.17
+1/4, 12	-0.00 -3.69 -3.69	+0.00 -3.51 -3.51	+17.57 +17.57 +17.57
	+0.00 +0.00 +0.00	+0.00 +0.00 +0.00	+0.00 -0.17 -0.17

All the values



All values relative to ideal, alternating x, y, z (mm) and ϕ_x, ϕ_y, ϕ_z (mrad)

Columns: PG + hardware, same + global adjustment, **same + track-based chambers**

(color applied only if chamber was aligned)

station, chamber	x or ϕ_x	y or ϕ_y	z or ϕ_z
+1/4, 13	-0.00 -3.02 -3.02	+0.00 -4.15 -4.15	+17.57 +17.57 +17.57
	+0.00 +0.00 +0.00	+0.00 +0.00 +0.00	+0.00 -0.17 -0.17
+1/4, 14	-0.00 -2.25 -2.25	+0.00 -4.66 -4.66	+22.18 +22.18 +22.18
	+0.00 +0.00 +0.00	+0.00 +0.00 +0.00	+0.00 -0.17 -0.17
+1/4, 15	-0.00 -1.40 -1.40	+0.00 -5.03 -5.03	+22.18 +22.18 +22.18
	+0.00 +0.00 +0.00	+0.00 +0.00 +0.00	+0.00 -0.17 -0.17
+1/4, 16	-0.00 -0.50 -0.50	+0.00 -5.25 -5.25	+17.57 +17.57 +17.57
	+0.00 +0.00 +0.00	+0.00 +0.00 +0.00	+0.00 -0.17 -0.17
+1/4, 17	-0.00 +0.42 +0.42	+0.00 -5.31 -5.31	+17.57 +17.57 +17.57
	-0.00 -0.00 -0.00	+0.00 +0.00 +0.00	+0.00 -0.17 -0.17
+1/4, 18	-0.00 +1.35 +1.35	-0.00 -5.21 -5.21	+17.57 +17.57 +17.57
	-0.00 -0.00 -0.00	+0.00 +0.00 +0.00	-0.00 -0.17 -0.17
+1/4, 19	-0.00 +2.23 +2.23	-0.00 -4.95 -4.95	+17.57 +17.57 +17.57
	-0.00 -0.00 -0.00	+0.00 +0.00 +0.00	-0.00 -0.17 -0.17
+1/4, 20	-0.00 +3.07 +3.07	-0.00 -4.54 -4.54	+17.47 +17.47 +17.47
	-0.00 -0.00 -0.00	+0.00 +0.00 +0.00	-0.00 -0.17 -0.17
+1/4, 21	+0.00 +3.81 +3.81	-0.00 -3.99 -3.99	+17.47 +17.47 +17.47
	-0.00 -0.00 -0.00	+0.00 +0.00 +0.00	-0.00 -0.17 -0.17
+1/4, 22	+0.00 +4.45 +4.45	-0.00 -3.32 -3.32	+17.57 +17.57 +17.57
	-0.00 -0.00 -0.00	-0.00 -0.00 -0.00	-0.00 -0.17 -0.17
+1/4, 23	+0.00 +4.97 +4.97	-0.00 -2.55 -2.55	+17.57 +17.57 +17.57
	-0.00 -0.00 -0.00	-0.00 -0.00 -0.00	-0.00 -0.17 -0.17
+1/4, 24	+0.00 +5.34 +5.34	-0.00 -1.71 -1.71	+17.57 +17.57 +17.57
	-0.00 -0.00 -0.00	-0.00 -0.00 -0.00	-0.00 -0.17 -0.17

All the values



All values relative to ideal, alternating x, y, z (mm) and ϕ_x, ϕ_y, ϕ_z (mrad)

Columns: PG + hardware, same + global adjustment, **same + track-based chambers**

(color applied only if chamber was aligned)

station, chamber	x or ϕ_x	y or ϕ_y	z or ϕ_z
+1/4, 25	+0.00 +5.56 +5.56	-0.00 -0.81 -0.81	+17.57 +17.57 +17.57
	-0.00 -0.00 -0.00	-0.00 -0.00 -0.00	-0.00 -0.17 -0.17
+1/4, 26	+0.00 +5.62 +5.62	-0.00 +0.12 +0.12	+14.05 +14.05 +14.05
	-0.00 -0.00 -0.00	-0.00 -0.00 -0.00	-0.00 -0.17 -0.17
+1/4, 27	+0.00 +5.52 +5.52	-0.00 +1.04 +1.04	+14.05 +14.05 +14.05
	-0.00 -0.00 -0.00	-0.00 -0.00 -0.00	-0.00 -0.17 -0.17
+1/4, 28	+0.00 +5.26 +5.26	-0.00 +1.93 +1.93	+17.57 +17.57 +17.57
	-0.00 -0.00 -0.00	-0.00 -0.00 -0.00	-0.00 -0.17 -0.17
+1/4, 29	+0.00 +4.85 +4.85	-0.00 +2.76 +2.76	+17.57 +17.57 +17.57
	-0.00 -0.00 -0.00	-0.00 -0.00 -0.00	-0.00 -0.17 -0.17
+1/4, 30	+0.00 +4.30 +4.30	+0.00 +3.51 +3.51	+17.57 +17.57 +17.57
	-0.00 -0.00 -0.00	-0.00 -0.00 -0.00	+0.00 -0.17 -0.17
+1/4, 31	+0.00 +3.63 +3.63	+0.00 +4.15 +4.15	+17.57 +17.57 +17.57
	-0.00 -0.00 -0.00	-0.00 -0.00 -0.00	+0.00 -0.17 -0.17
+1/4, 32	+0.00 +2.86 +2.86	+0.00 +4.66 +4.66	+11.30 +11.30 +11.30
	-0.00 -0.00 -0.00	-0.00 -0.00 -0.00	+0.00 -0.17 -0.17
+1/4, 33	+0.00 +2.01 +2.01	+0.00 +5.03 +5.03	+11.30 +11.30 +11.30
	+0.00 +0.00 +0.00	-0.00 -0.00 -0.00	+0.00 -0.17 -0.17
+1/4, 34	+0.00 +1.11 +1.11	+0.00 +5.25 +5.25	+17.57 +17.57 +17.57
	+0.00 +0.00 +0.00	-0.00 -0.00 -0.00	+0.00 -0.17 -0.17
+1/4, 35	+0.00 +0.19 +0.19	+0.00 +5.31 +5.31	+17.57 +17.57 +17.57
	+0.00 +0.00 +0.00	-0.00 -0.00 -0.00	+0.00 -0.17 -0.17
+1/4, 36	+0.00 -0.73 -0.73	+0.00 +5.21 +5.21	+17.57 +17.57 +17.57
	+0.00 +0.00 +0.00	-0.00 -0.00 -0.00	+0.00 -0.17 -0.17

All the values



All values relative to ideal, alternating x , y , z (mm) and ϕ_x , ϕ_y , ϕ_z (mrad)

Columns: PG + hardware, same + global adjustment, **same + track-based chambers**

(color applied only if chamber was aligned)

station, chamber	x or ϕ_x	y or ϕ_y	z or ϕ_z
+2/1, 01	-1.33 +1.00 +1.00	+1.45 +6.19 +6.19	+1.01 +1.01 +1.01
	-1.90 -1.90 -1.89	-0.00 -0.00 +0.00	+0.19 +0.01 +0.01
+2/1, 02	-1.48 -0.88 -0.88	+0.49 +5.59 +5.59	+3.71 +3.71 +3.71
	-1.70 -1.70 -1.69	-0.00 -0.00 -0.01	-1.47 -1.64 -1.64
+2/1, 03	-0.08 -1.24 -1.16	-0.76 +4.09 +4.09	+1.01 +1.01 +1.01
	-1.90 -1.90 -1.90	+0.00 -0.00 -5.85	-0.89 -1.07 -0.16
+2/1, 04	+0.00 -2.72 -2.72	+0.00 +4.01 +4.01	+1.01 +1.01 +1.01
	-1.90 -1.90 -1.89	+0.00 +0.00 +0.02	-0.00 -0.18 -0.18
+2/1, 05	+0.23 -3.68 -3.68	-0.10 +2.59 +2.59	+1.01 +1.01 +1.01
	-1.90 -1.90 -1.89	-0.00 -0.00 -0.00	+0.18 -0.00 -0.00
+2/1, 06	-0.10 -4.67 -4.67	-0.98 +0.07 +0.07	+1.01 +1.01 +1.01
	-1.90 -1.90 -1.89	+0.00 -0.00 -0.03	-0.38 -0.56 -0.56
+2/1, 07	+0.35 -4.27 -4.27	-0.97 -1.70 -1.70	+1.01 +1.01 +1.01
	-1.90 -1.90 -1.89	-0.00 +0.00 -0.01	-0.16 -0.34 -0.34
+2/1, 08	-0.04 -4.10 -4.10	-1.08 -3.49 -3.49	-0.89 -0.89 -0.89
	-2.20 -2.20 -2.21	+0.00 +0.00 -0.02	-0.53 -0.71 -0.71
+2/1, 09	+1.43 -1.54 -1.54	-0.29 -4.10 -4.10	+1.01 +1.01 +1.01
	-1.90 -1.90 -1.89	-0.00 +0.00 +0.01	-0.78 -0.96 -0.96
+2/1, 10	+0.33 -1.14 -1.14	+1.71 -3.02 -3.02	+3.01 +3.01 +3.01
	-1.70 -1.70 -1.69	+0.00 +0.00 +0.00	-0.32 -0.50 -0.50
+2/1, 11	+0.04 +0.31 -4.50	+0.48 -4.62 -4.61	+1.01 +1.01 +1.02
	-1.90 -1.90 -1.92	-0.00 +0.00 -2.88	-0.17 -0.35 +4.99
+2/1, 12	-0.46 +1.57 +1.57	+1.29 -3.55 -3.55	+1.01 +1.01 +1.01
	-1.90 -1.90 -1.89	-0.00 +0.00 +0.02	+0.42 +0.24 +0.24

All the values



All values relative to ideal, alternating x , y , z (mm) and ϕ_x , ϕ_y , ϕ_z (mrad)

Columns: PG + hardware, same + global adjustment, **same + track-based chambers**

(color applied only if chamber was aligned)

station, chamber	x or ϕ_x	y or ϕ_y	z or ϕ_z
+2/1, 13	-0.02 +3.57 +3.57	+1.15 -2.86 -2.86	+1.01 +1.01 +1.01
	-1.90 -1.90 -1.89	-0.00 +0.00 -0.01	+0.00 -0.18 -0.18
+2/1, 14	+0.64 +5.41 +5.41	+3.40 +0.71 +0.71	-0.09 -0.09 -0.09
	-1.90 -1.90 -1.89	-0.00 +0.00 -0.01	-1.22 -1.40 -1.40
+2/1, 15	+0.08 +5.51 +6.28	+0.51 -0.54 -0.54	+1.01 +1.01 +1.01
	-1.90 -1.90 -1.88	+0.00 +0.00 -3.83	+0.57 +0.39 +1.17
+2/1, 16	+0.25 +5.73 +5.73	-1.13 -0.41 -0.41	-0.99 -0.99 -0.99
	-1.90 -1.90 -1.89	-0.00 -0.00 +0.01	+0.32 +0.14 +0.14
+2/1, 17	+0.00 +4.93 +4.93	+0.00 +2.41 +2.41	+1.01 +1.01 +1.01
	-1.90 -1.90 -1.89	+0.00 +0.00 +0.01	-0.00 -0.18 -0.18
+2/1, 18	-0.24 +3.60 +3.60	-0.10 +3.71 +3.71	+1.01 +1.01 +1.01
	-1.90 -1.90 -1.89	+0.00 -0.00 -0.01	+0.13 -0.05 -0.05
+2/2, 01	+1.34 +4.64 +4.64	+1.85 +6.13 +6.13	-6.59 -6.59 -6.59
	-2.40 -2.40 -2.39	+0.00 +0.00 +0.00	-0.39 -0.29 -0.29
+2/2, 02	-0.00 +2.49 +2.49	-0.00 +4.89 +4.89	-6.79 -6.79 -6.79
	-2.40 -2.40 -2.39	+0.00 -0.00 -0.01	-0.00 +0.11 +0.11
+2/2, 03	-0.81 +0.79 +0.79	+2.37 +7.72 +7.72	-4.79 -4.79 -4.79
	-2.90 -2.90 -2.91	+0.00 -0.00 -0.01	+0.00 +0.11 +0.11
+2/2, 04	-0.00 +0.64 +0.64	-0.00 +5.64 +5.64	-6.79 -6.79 -6.79
	-2.40 -2.40 -2.39	+0.00 -0.00 -0.02	-0.00 +0.11 +0.11
+2/2, 05	-1.46 -1.82 +2.62	+0.29 +6.05 +6.05	-6.59 -6.59 -6.59
	-2.40 -2.40 -2.40	-0.00 -0.00 -0.31	+0.39 +0.50 +0.42
+2/2, 06	-1.85 -3.21 -2.46	-0.56 +5.15 +5.15	-6.79 -6.79 -6.79
	-2.40 -2.40 -2.39	-0.00 -0.00 -1.28	+0.56 +0.66 -2.05

All the values

All values relative to ideal, alternating x , y , z (mm) and ϕ_x , ϕ_y , ϕ_z (mrad)

Columns: PG + hardware, same + global adjustment, **same + track-based chambers**

(color applied only if chamber was aligned)

station, chamber	x or ϕ_x	y or ϕ_y	z or ϕ_z
+2/2, 07	-0.94 -3.29 -1.16 -2.40 -2.40 -2.38	+0.38 +5.86 +5.86 +0.00 -0.00 -1.71	-6.59 -6.59 -6.59 -0.03 +0.08 -0.32
+2/2, 08	-0.94 -4.20 -3.68 -2.90 -2.90 -2.90	-0.01 +5.08 +5.08 -0.00 -0.00 -1.80	-7.39 -7.39 -7.39 +0.22 +0.33 -1.37
+2/2, 09	-0.30 -4.41 -4.41 -2.40 -2.40 -2.39	-0.46 +4.08 +4.08 +0.00 +0.00 -0.00	-6.59 -6.59 -6.59 +0.36 +0.47 +0.47
+2/2, 10	+1.07 -3.77 -5.38 -2.40 -2.40 -2.40	-1.72 +2.14 +2.15 -0.00 -0.00 +4.74	-6.79 -6.79 -6.79 -0.81 -0.70 -2.75
+2/2, 11	+0.18 -5.27 -5.27 -2.40 -2.40 -2.39	-0.32 +2.74 +2.74 +0.00 +0.00 +0.01	-6.59 -6.59 -6.59 -0.24 -0.13 -0.13
+2/2, 12	+2.41 -3.49 -4.73 -2.40 -2.40 -2.39	-1.16 +1.01 +1.01 -0.00 +0.00 +0.76	-6.79 -6.79 -6.79 -0.87 -0.77 -0.58
+2/2, 13	+0.16 -6.04 -7.04 -2.40 -2.40 -2.43	+0.39 +1.59 +1.59 -0.00 -0.00 -8.05	-6.59 -6.59 -6.58 -0.18 -0.07 +4.13
+2/2, 14	+1.97 -4.36 -4.36 -2.40 -2.40 -2.39	-0.24 -0.03 -0.03 +0.00 -0.00 -0.00	-6.79 -6.79 -6.79 -0.47 -0.36 -0.36
+2/2, 15	+1.37 -4.90 -4.18 -2.60 -2.60 -2.60	+1.45 +0.65 +0.65 -0.00 -0.00 -2.99	-8.29 -8.29 -8.29 -0.32 -0.22 +1.63
+2/2, 16	+0.00 -6.05 -5.55 -2.40 -2.40 -2.39	-0.00 -1.78 -1.78 -0.00 +0.00 +0.17	-6.79 -6.79 -6.79 +0.00 +0.11 +0.38
+2/2, 17	+1.59 -4.06 -4.06 -2.40 -2.40 -2.39	+0.03 -2.68 -2.68 +0.00 +0.00 -0.00	-6.59 -6.59 -6.59 -0.63 -0.52 -0.52
+2/2, 18	+1.86 -3.25 -3.25 -2.40 -2.40 -2.39	+0.18 -3.36 -3.36 +0.00 -0.00 -0.00	-6.79 -6.79 -6.79 -0.69 -0.58 -0.58

All the values



All values relative to ideal, alternating x , y , z (mm) and ϕ_x , ϕ_y , ϕ_z (mrad)

Columns: PG + hardware, same + global adjustment, **same + track-based chambers**

(color applied only if chamber was aligned)

station, chamber	x or ϕ_x	y or ϕ_y	z or ϕ_z
+2/2, 19	+0.55 -3.87 -3.87	+1.38 -2.91 -2.91	-6.59 -6.59 -6.59
	-2.40 -2.40 -2.39	+0.00 +0.00 -0.00	-0.34 -0.24 -0.24
+2/2, 20	+1.65 -1.97 -1.97	+0.68 -4.20 -4.20	-5.69 -5.69 -5.69
	-2.30 -2.30 -2.29	-0.00 -0.00 -0.00	-0.41 -0.30 -0.30
+2/2, 21	+1.39 -1.33 -3.85	+1.08 -4.26 -4.26	-6.59 -6.59 -6.55
	-2.40 -2.40 -2.40	+0.00 -0.00 +2.83	-0.56 -0.45 +0.38
+2/2, 22	+1.32 -0.45 -0.45	-0.31 -5.95 -5.95	-6.79 -6.79 -6.79
	-2.40 -2.40 -2.39	-0.00 +0.00 +0.03	-0.77 -0.67 -0.67
+2/2, 23	+0.51 -0.26 -0.26	+1.01 -4.75 -4.75	-6.59 -6.59 -6.59
	-2.40 -2.40 -2.39	-0.00 +0.00 -0.00	-0.58 -0.48 -0.48
+2/2, 24	-0.13 +0.10 +0.10	+1.85 -3.86 -3.86	-6.79 -6.79 -6.79
	-2.40 -2.40 -2.39	+0.00 -0.00 +0.00	-0.30 -0.19 -0.19
+2/2, 25	-0.87 +0.34 +1.88	+0.38 -5.10 -5.10	-6.59 -6.59 -6.59
	-2.40 -2.40 -2.40	-0.00 +0.00 -3.39	+0.15 +0.26 +2.53
+2/2, 26	-0.09 +2.05 +2.27	-0.07 -5.16 -5.16	-6.79 -6.79 -6.79
	-2.40 -2.40 -2.38	-0.00 -0.00 +0.53	-0.47 -0.36 -0.94
+2/2, 27	+0.29 +3.27 +3.27	+0.26 -4.28 -4.28	-6.79 -6.79 -6.79
	-1.90 -1.90 -1.89	-0.00 -0.00 -0.01	+0.08 +0.19 +0.19
+2/2, 28	+0.17 +3.89 +2.56	+0.69 -3.17 -3.17	-6.79 -6.79 -6.79
	-2.40 -2.40 -2.39	-0.00 -0.00 +0.52	+0.26 +0.37 -0.60
+2/2, 29	-0.44 +3.88 +7.22	+0.42 -2.64 -2.64	-6.59 -6.59 -6.59
	-2.40 -2.40 -2.40	+0.00 -0.00 -1.36	+0.27 +0.38 +1.11
+2/2, 30	+0.58 +5.36 +6.19	+1.26 -0.90 -0.90	-6.79 -6.79 -6.79
	-2.40 -2.40 -2.41	+0.00 -0.00 -2.09	-0.08 +0.03 +1.66

All the values

All values relative to ideal, alternating x , y , z (mm) and ϕ_x , ϕ_y , ϕ_z (mrad)

Columns: PG + hardware, same + global adjustment, **same + track-based chambers**

(color applied only if chamber was aligned)

station, chamber	x or ϕ_x	y or ϕ_y	z or ϕ_z
+2/2, 31	-0.34 +4.73 +4.73 -2.40 -2.40 -2.39	+0.46 -0.74 -0.74 +0.00 +0.00 -0.02	-6.59 -6.59 -6.59 +0.11 +0.21 +0.21
+2/2, 32	-0.69 +4.51 +3.11 -2.00 -2.00 -2.01	+0.89 +0.69 +0.69 +0.00 -0.00 -1.74	-7.39 -7.39 -7.39 -0.60 -0.49 -2.53
+2/2, 33	-0.00 +5.15 +5.39 -2.40 -2.40 -2.39	-0.00 +0.80 +0.80 -0.00 -0.00 -0.08	-6.59 -6.59 -6.59 +0.00 +0.11 +0.68
+2/2, 34	-0.06 +4.86 +4.86 -2.40 -2.40 -2.39	+1.27 +3.05 +3.05 +0.00 +0.00 +0.01	-6.79 -6.79 -6.79 -0.33 -0.22 -0.22
+2/2, 35	-0.00 +4.53 +4.53 -2.40 -2.40 -2.39	-0.00 +2.70 +2.70 -0.00 +0.00 +0.01	-6.59 -6.59 -6.59 +0.00 +0.11 +0.11
+2/2, 36	-0.00 +3.98 +3.98 -2.40 -2.40 -2.39	-0.00 +3.55 +3.55 -0.00 -0.00 -0.01	-6.79 -6.79 -6.79 +0.00 +0.11 +0.11
+3/1, 01	+1.25 -2.59 -2.59 +2.20 +2.20 +2.21	+0.62 +6.05 +6.05 -0.00 +0.00 +0.00	-4.30 -4.30 -4.30 -0.31 -0.36 -0.36
+3/1, 02	+1.56 -0.18 -0.18 +2.60 +2.60 +2.61	+0.29 +6.75 +6.75 +0.00 -0.00 -0.00	-4.19 -4.19 -4.19 -1.24 -1.29 -1.29
+3/1, 03	+1.51 +2.09 +2.09 +2.20 +2.20 +2.21	-0.80 +5.91 +5.91 -0.00 -0.00 -0.00	-4.30 -4.30 -4.30 +0.63 +0.58 +0.58
+3/1, 04	-0.42 +2.43 +2.43 +2.60 +2.60 +2.61	-2.02 +4.13 +4.13 -0.00 -0.00 -0.00	-5.29 -5.29 -5.29 -0.58 -0.63 -0.63
+3/1, 05	+0.13 +4.91 +4.91 +2.20 +2.20 +2.21	-1.52 +3.32 +3.32 +0.00 +0.00 -0.00	-4.30 -4.30 -4.30 +0.88 +0.83 +0.83
+3/1, 06	+0.04 +6.20 +6.20 +2.20 +2.20 +2.21	-1.85 +1.11 +1.11 +0.00 +0.00 -0.03	-4.30 -4.30 -4.30 +0.12 +0.07 +0.07

All the values



All values relative to ideal, alternating x , y , z (mm) and ϕ_x , ϕ_y , ϕ_z (mrad)

Columns: PG + hardware, same + global adjustment, **same + track-based chambers**

(color applied only if chamber was aligned)

station, chamber	x or ϕ_x	y or ϕ_y	z or ϕ_z
+3/1, 07	+0.27 +7.08 +7.08	-1.52 -0.80 -0.80	-4.30 -4.30 -4.30
	+2.20 +2.20 +2.21	-0.00 +0.00 -0.02	+0.89 +0.84 +0.84
+3/1, 08	+0.37 +7.02 +7.02	-2.17 -3.78 -3.78	-3.39 -3.39 -3.39
	+1.80 +1.80 +1.79	-0.00 +0.00 -0.02	-0.13 -0.18 -0.18
+3/1, 09	-0.41 +5.30 +5.30	-0.16 -3.91 -3.91	-4.30 -4.30 -4.30
	+2.20 +2.20 +2.21	+0.00 +0.00 -0.01	+0.43 +0.38 +0.38
+3/1, 10	+0.00 +4.09 +4.09	-0.00 -5.43 -5.43	-3.89 -3.89 -3.89
	+2.20 +2.20 +2.21	+0.00 +0.00 +0.00	-0.00 -0.05 -0.05
+3/1, 11	+0.00 +2.00 +2.00	-0.00 -6.46 -6.46	-4.30 -4.30 -4.30
	+2.20 +2.20 +2.21	+0.00 +0.00 -0.01	-0.00 -0.05 -0.05
+3/1, 12	+0.73 +0.41 +0.41	+0.46 -6.25 -6.25	-4.30 -4.30 -4.30
	+2.20 +2.20 +2.21	+0.00 -0.00 -0.00	+0.81 +0.75 +0.75
+3/1, 13	+0.23 -2.37 -2.37	+0.26 -5.88 -5.88	-4.30 -4.30 -4.30
	+2.20 +2.20 +2.21	+0.00 +0.00 -0.01	+0.29 +0.24 +0.24
+3/1, 14	+0.98 -3.55 -3.55	+0.17 -4.67 -4.67	-5.79 -5.79 -5.79
	+2.00 +2.00 +2.01	-0.00 +0.00 -0.00	+0.63 +0.58 +0.58
+3/1, 15	+0.82 -5.08 -5.08	+1.53 -1.43 -1.43	-4.30 -4.30 -4.30
	+2.20 +2.20 +2.21	+0.00 +0.00 -0.03	-0.12 -0.17 -0.17
+3/1, 16	+0.28 -6.28 -6.28	+0.93 +0.21 +0.21	-3.39 -3.39 -3.39
	+2.20 +2.20 +2.21	-0.00 +0.00 -0.02	-0.24 -0.29 -0.29
+3/1, 17	+0.94 -5.46 -5.46	+0.92 +2.53 +2.53	-4.30 -4.30 -4.30
	+2.20 +2.20 +2.21	+0.00 -0.00 +0.02	-0.58 -0.63 -0.63
+3/1, 18	+0.80 -4.66 -4.66	+0.42 +4.17 +4.17	-4.30 -4.30 -4.30
	+2.20 +2.20 +2.21	+0.00 +0.00 -0.01	-0.79 -0.84 -0.84

All the values

All values relative to ideal, alternating x , y , z (mm) and ϕ_x , ϕ_y , ϕ_z (mrad)

Columns: PG + hardware, same + global adjustment, **same + track-based chambers**

(color applied only if chamber was aligned)

station, chamber	x or ϕ_x	y or ϕ_y	z or ϕ_z
+3/2, 01	+0.00 -2.95 -2.95	+0.00 +4.01 +4.01	+2.97 +2.97 +2.97
	+2.60 +2.60 +2.61	+0.00 +0.00 -0.00	+0.00 -0.37 -0.37
+3/2, 02	+3.42 +1.24 +1.24	+1.65 +6.44 +6.44	+3.58 +3.58 +3.58
	+2.60 +2.60 +2.61	+0.00 +0.00 -0.00	-0.61 -0.97 -0.97
+3/2, 03	+2.43 +1.14 +1.14	+2.35 +7.79 +7.79	+3.01 +3.01 +3.01
	+2.30 +2.30 +2.29	-0.00 -0.00 -0.01	-0.66 -1.03 -1.03
+3/2, 04	+1.69 +1.39 +1.39	+1.04 +6.95 +6.95	+3.58 +3.58 +3.58
	+2.60 +2.60 +2.61	+0.00 +0.00 -0.02	-0.43 -0.80 -0.80
+3/2, 05	+2.06 +2.82 +2.82	+0.58 +6.79 +6.79	+2.97 +2.97 +2.97
	+2.60 +2.60 +2.61	-0.00 +0.00 +0.00	-0.42 -0.78 -0.78
+3/2, 06	+0.77 +2.63 +2.63	+1.47 +7.79 +7.79	+3.58 +3.58 +3.58
	+2.60 +2.60 +2.61	-0.00 -0.00 -0.02	-0.16 -0.53 -0.53
+3/2, 07	+0.84 +3.80 -1.16	-0.94 +5.30 +5.30	+2.97 +2.97 +2.97
	+2.60 +2.60 +2.62	-0.00 -0.00 -1.27	-0.25 -0.61 -1.33
+3/2, 08	+0.74 +4.77 +5.30	+0.13 +6.09 +6.09	+3.31 +3.31 +3.31
	+3.10 +3.10 +3.10	-0.00 -0.00 -2.55	+0.86 +0.49 -0.88
+3/2, 09	+0.71 +5.74 +5.74	-0.25 +5.25 +5.25	+2.97 +2.97 +2.97
	+2.60 +2.60 +2.61	+0.00 +0.00 -0.00	-0.06 -0.42 -0.42
+3/2, 10	+0.01 +5.95 +6.46	-1.09 +3.79 +3.79	+3.58 +3.58 +3.58
	+2.60 +2.60 +2.61	-0.00 -0.00 -1.28	-0.23 -0.60 +0.37
+3/2, 11	+0.13 +6.86 +5.93	+0.58 +4.69 +4.69	+2.97 +2.97 +2.97
	+2.60 +2.60 +2.62	-0.00 -0.00 +3.59	-0.15 -0.52 +0.96
+3/2, 12	+0.23 +7.60 +7.60	+0.08 +3.29 +3.29	+3.58 +3.58 +3.58
	+2.60 +2.60 +2.61	-0.00 +0.00 +0.01	+0.27 -0.09 -0.09

All the values

All values relative to ideal, alternating x , y , z (mm) and ϕ_x , ϕ_y , ϕ_z (mrad)

Columns: PG + hardware, same + global adjustment, **same + track-based chambers**

(color applied only if chamber was aligned)

station, chamber	x or ϕ_x	y or ϕ_y	z or ϕ_z
+3/2, 13	-1.48 +6.36 +4.70	+0.41 +2.64 +2.64	+2.97 +2.97 +2.97
	+2.60 +2.60 +2.60	-0.00 +0.00 -3.25	+0.30 -0.06 -0.99
+3/2, 14	-0.91 +7.23 +9.98	-0.33 +0.84 +0.83	+3.58 +3.58 +3.56
	+2.60 +2.60 +2.60	-0.00 -0.00 +3.05	-0.00 -0.37 -2.39
+3/2, 15	-0.00 +8.25 +8.25	+0.00 +0.07 +0.07	+4.12 +4.12 +4.12
	+2.70 +2.70 +2.70	-0.00 -0.00 +0.01	+0.00 -0.37 -0.37
+3/2, 16	-1.56 +6.60 +6.61	-0.52 -1.55 -1.55	+3.58 +3.58 +3.58
	+2.60 +2.60 +2.61	-0.00 +0.00 -0.88	-0.02 -0.39 -1.27
+3/2, 17	-1.76 +6.13 +6.13	+0.33 -1.77 -1.77	+2.97 +2.97 +2.97
	+2.60 +2.60 +2.61	+0.00 -0.00 +0.00	+0.57 +0.20 +0.20
+3/2, 18	-1.36 +6.08 +6.08	-0.50 -3.60 -3.60	+3.58 +3.58 +3.58
	+2.60 +2.60 +2.61	-0.00 -0.00 +0.00	+0.29 -0.08 -0.08
+3/2, 19	-1.05 +5.77 +5.77	+0.49 -3.52 -3.52	+2.97 +2.97 +2.97
	+2.60 +2.60 +2.61	+0.00 +0.00 +0.00	-0.27 -0.63 -0.63
+3/2, 20	-1.25 +4.79 +4.79	+0.19 -4.60 -4.60	+3.71 +3.71 +3.71
	+2.30 +2.30 +2.29	+0.00 -0.00 -0.01	-0.45 -0.81 -0.81
+3/2, 21	-0.87 +4.28 +4.28	+0.81 -4.63 -4.63	+2.97 +2.97 +2.97
	+2.60 +2.60 +2.61	+0.00 +0.00 -0.01	+0.12 -0.25 -0.25
+3/2, 22	-1.00 +3.15 +3.15	+0.91 -5.01 -5.01	+3.58 +3.58 +3.58
	+2.60 +2.60 +2.61	+0.00 -0.00 -0.01	-0.05 -0.42 -0.42
+3/2, 23	-1.61 +1.48 +1.48	+0.51 -5.70 -5.70	+2.97 +2.97 +2.97
	+2.60 +2.60 +2.61	+0.00 +0.00 -0.02	+0.38 +0.01 +0.01
+3/2, 24	-1.63 +0.37 +0.37	+0.51 -5.81 -5.81	+3.58 +3.58 +3.58
	+2.60 +2.60 +2.61	+0.00 +0.00 -0.02	+0.07 -0.30 -0.30

All the values

All values relative to ideal, alternating x , y , z (mm) and ϕ_x , ϕ_y , ϕ_z (mrad)

Columns: PG + hardware, same + global adjustment, **same + track-based chambers**

(color applied only if chamber was aligned)

station, chamber	x or ϕ_x	y or ϕ_y	z or ϕ_z
+3/2, 25	-0.53 +0.37 -2.46	-0.32 -6.56 -6.56	+2.97 +2.97 +2.97
	+2.60 +2.60 +2.61	-0.00 -0.00 +1.08	-0.10 -0.47 -2.14
+3/2, 26	-0.70 -0.86 -1.07	-0.06 -6.02 -6.02	+3.58 +3.58 +3.58
	+2.60 +2.60 +2.60	+0.00 -0.00 -0.88	-0.20 -0.57 -0.38
+3/2, 27	-1.31 -2.48 -6.16	+0.71 -4.79 -4.79	+1.81 +1.81 +1.81
	+3.00 +3.00 +3.00	+0.00 -0.00 -9.17	+1.01 +0.65 +0.78
+3/2, 28	-0.57 -2.65 -2.65	-0.01 -4.89 -4.89	+3.58 +3.58 +3.58
	+2.60 +2.60 +2.61	-0.00 -0.00 +1.92	+0.32 -0.05 -0.49
+3/2, 29	+0.00 -2.87 -6.45	+0.00 -4.11 -4.11	+2.97 +2.97 +2.97
	+2.60 +2.60 +2.60	+0.00 +0.00 -4.69	-0.00 -0.37 +0.92
+3/2, 30	+1.25 -2.26 -3.54	+0.85 -2.37 -2.37	+3.58 +3.58 +3.58
	+2.60 +2.60 +2.61	-0.00 -0.00 +1.46	-0.04 -0.40 +0.32
+3/2, 31	+0.00 -3.98 -4.40	+0.00 -2.22 -2.22	+2.97 +2.97 +2.97
	+2.60 +2.60 +2.60	+0.00 +0.00 -1.59	-0.00 -0.37 -1.10
+3/2, 32	+1.02 -3.26 -2.43	-0.27 -1.43 -1.43	+3.71 +3.71 +3.71
	+2.40 +2.40 +2.40	+0.00 -0.00 -1.13	-0.50 -0.87 -2.04
+3/2, 33	+0.75 -3.64 -3.64	+1.10 +1.03 +1.03	+2.97 +2.97 +2.97
	+2.60 +2.60 +2.61	-0.00 +0.00 -0.02	-0.50 -0.87 -0.87
+3/2, 34	+2.87 -1.43 -1.43	+1.26 +2.29 +2.29	+3.58 +3.58 +3.58
	+2.60 +2.60 +2.61	-0.00 -0.00 -0.00	-0.37 -0.74 -0.74
+3/2, 35	+0.88 -3.15 -3.15	+0.99 +3.09 +3.09	+2.97 +2.97 +2.97
	+2.60 +2.60 +2.61	+0.00 -0.00 +0.00	+0.68 +0.31 +0.31
+3/2, 36	+0.00 -3.58 -3.58	+0.00 +3.10 +3.10	+3.58 +3.58 +3.58
	+2.60 +2.60 +2.61	+0.00 +0.00 -0.00	-0.00 -0.37 -0.37

All the values

All values relative to ideal, alternating x , y , z (mm) and ϕ_x , ϕ_y , ϕ_z (mrad)

Columns: PG + hardware, same + global adjustment, **same + track-based chambers**

(color applied only if chamber was aligned)

station, chamber	x or ϕ_x	y or ϕ_y	z or ϕ_z
+4/1, 01	+2.60 -6.18 -6.18	+0.64 +6.92 +6.92	+0.66 +0.66 +0.66
	+2.70 +2.70 +2.70	-0.00 -0.00 -0.00	-0.67 -0.27 -0.27
+4/1, 02	+1.91 -4.26 -4.26	+0.72 +9.25 +9.25	+0.66 +0.66 +0.66
	+2.70 +2.70 +2.70	+0.00 -0.00 -0.01	+0.29 +0.69 +0.69
+4/1, 03	+1.47 -1.47 -1.47	-2.55 +7.22 +7.22	+0.66 +0.66 +0.66
	+2.70 +2.70 +2.70	-0.00 -0.00 -0.02	+0.41 +0.81 +0.81
+4/1, 04	+1.48 +2.00 +2.00	-1.94 +7.89 +7.89	+2.61 +2.61 +2.61
	+3.80 +3.80 +3.80	+0.00 +0.00 +0.01	+0.45 +0.86 +0.86
+4/1, 05	+0.90 +4.69 +4.69	-1.61 +7.09 +7.09	+0.66 +0.66 +0.66
	+2.70 +2.70 +2.70	+0.00 +0.00 +0.00	-0.03 +0.37 +0.37
+4/1, 06	+0.58 +7.04 +7.04	-1.24 +5.28 +5.28	+0.66 +0.66 +0.66
	+2.70 +2.70 +2.70	-0.00 -0.00 -0.01	-0.09 +0.32 +0.32
+4/1, 07	+0.44 +8.68 +8.68	-0.91 +2.64 +2.64	+0.66 +0.66 +0.66
	+2.70 +2.70 +2.70	+0.00 -0.00 -0.00	+0.38 +0.78 +0.78
+4/1, 08	-0.45 +8.44 +8.44	-0.45 -0.29 -0.29	+0.21 +0.21 +0.21
	+2.80 +2.80 +2.80	-0.00 +0.00 -0.00	+0.36 +0.76 +0.76
+4/1, 09	-1.55 +6.80 +6.80	-0.03 -3.29 -3.29	+0.66 +0.66 +0.66
	+2.70 +2.70 +2.70	-0.00 -0.00 +0.00	+0.98 +1.38 +1.38
+4/1, 10	-1.54 +5.13 +5.13	+0.37 -5.90 -5.90	+0.66 +0.66 +0.66
	+2.70 +2.70 +2.70	-0.00 -0.00 -0.00	+0.39 +0.80 +0.80
+4/1, 11	-0.06 +4.00 +4.00	+0.43 -8.11 -8.11	+0.66 +0.66 +0.66
	+2.70 +2.70 +2.70	+0.00 +0.00 +0.01	+0.53 +0.93 +0.93
+4/1, 12	-0.24 +0.58 +0.58	+1.64 -8.13 -8.13	+0.66 +0.66 +0.66
	+2.70 +2.70 +2.70	+0.00 -0.00 -0.00	+0.03 +0.43 +0.43

All the values

All values relative to ideal, alternating x, y, z (mm) and ϕ_x, ϕ_y, ϕ_z (mrad)

Columns: PG + hardware, same + global adjustment, **same + track-based chambers**

(color applied only if chamber was aligned)

station, chamber	x or ϕ_x	y or ϕ_y	z or ϕ_z
+4/1, 13	+1.17 -1.46 -1.46	+0.76 -9.06 -9.06	+0.66 +0.66 +0.66
	+2.70 +2.70 +2.70	+0.00 +0.00 -0.01	-1.51 -1.11 -1.11
+4/1, 14	+0.12 -5.78 -2.95	+0.91 -7.78 -7.77	+0.81 +0.81 +0.81
	+2.20 +2.20 +2.23	+0.00 -0.00 +4.44	+0.40 +0.80 +7.96
+4/1, 15	+0.07 -8.50 -8.50	+1.70 -4.82 -4.82	+0.66 +0.66 +0.66
	+2.70 +2.70 +2.70	-0.00 +0.00 +0.00	+0.03 +0.44 +0.44
+4/1, 16	+0.93 -9.42 -9.42	+0.61 -2.94 -2.94	-0.99 -0.99 -0.99
	+2.10 +2.10 +2.10	-0.00 +0.00 +0.00	-1.06 -0.66 -0.66
+4/1, 17	+1.82 -9.19 -9.19	+1.88 +1.73 +1.73	+0.66 +0.66 +0.66
	+2.70 +2.70 +2.70	+0.00 -0.00 +0.00	-0.53 -0.13 -0.13
+4/1, 18	+2.81 -7.65 -7.65	+0.92 +4.18 +4.18	+0.66 +0.66 +0.66
	+2.70 +2.70 +2.70	-0.00 +0.00 +0.01	-0.67 -0.27 -0.27
-1/1, 01	+0.00 +1.71 +1.71	+0.00 +2.93 +2.93	+16.72 +16.72 +16.72
	+0.00 +0.00 +0.00	-0.00 -0.00 -0.00	+0.00 +0.66 +0.66
-1/1, 02	+0.00 +2.18 +2.18	+0.00 +2.38 +2.38	+17.55 +17.55 +17.55
	+0.00 +0.00 +0.00	-0.00 -0.00 -0.00	+0.00 +0.66 +0.66
-1/1, 03	+0.00 +2.54 +2.54	+0.00 +1.76 +1.76	+17.55 +17.55 +17.55
	+0.00 +0.00 +0.00	-0.00 -0.00 -0.00	+0.00 +0.66 +0.66
-1/1, 04	+0.00 +2.79 +2.79	+0.00 +1.09 +1.09	+16.72 +16.72 +16.72
	+0.00 -0.00 -0.00	-0.00 -0.00 -0.00	+0.00 +0.66 +0.66
-1/1, 05	+0.00 +2.92 +2.92	+0.00 +0.38 +0.38	+16.72 +16.72 +16.72
	-0.00 -0.00 -0.00	-0.00 -0.00 -0.00	+0.00 +0.66 +0.66
-1/1, 06	+0.00 +2.92 +2.92	+0.00 -0.34 -0.34	+16.72 +16.72 +16.72
	-0.00 -0.00 -0.00	-0.00 -0.00 -0.00	+0.00 +0.66 +0.66

All the values



All values relative to ideal, alternating x, y, z (mm) and ϕ_x, ϕ_y, ϕ_z (mrad)

Columns: PG + hardware, same + global adjustment, **same + track-based chambers**

(color applied only if chamber was aligned)

station, chamber	x or ϕ_x	y or ϕ_y	z or ϕ_z
-1/1, 07	+0.00 +2.80 +2.80	+0.00 -1.05 -1.05	+16.72 +16.72 +16.72
	-0.00 -0.00 -0.00	+0.00 +0.00 +0.00	+0.00 +0.66 +0.66
-1/1, 08	+0.00 +2.56 +2.56	-0.00 -1.73 -1.73	+20.42 +20.42 +20.42
	-0.00 -0.00 -0.00	+0.00 +0.00 +0.00	+0.00 +0.66 +0.66
-1/1, 09	-0.00 +2.20 +2.20	-0.00 -2.35 -2.35	+20.42 +20.42 +20.42
	-0.00 -0.00 -0.00	+0.00 +0.00 +0.00	+0.00 +0.66 +0.66
-1/1, 10	-0.00 +1.74 +1.74	-0.00 -2.90 -2.90	+16.72 +16.72 +16.72
	-0.00 -0.00 -0.00	+0.00 +0.00 +0.00	-0.00 +0.66 +0.66
-1/1, 11	-0.00 +1.19 +1.19	-0.00 -3.37 -3.37	+16.72 +16.72 +16.72
	-0.00 -0.00 -0.00	+0.00 +0.00 +0.00	+0.00 +0.66 +0.66
-1/1, 12	-0.00 +0.57 +0.57	-0.00 -3.73 -3.73	+16.72 +16.72 +16.72
	-0.00 -0.00 -0.00	+0.00 +0.00 +0.00	+0.00 +0.66 +0.66
-1/1, 13	-0.00 -0.10 -0.10	-0.00 -3.98 -3.98	+16.72 +16.72 +16.72
	-0.00 -0.00 -0.00	+0.00 +0.00 +0.00	+0.00 +0.66 +0.66
-1/1, 14	-0.00 -0.81 -0.81	-0.00 -4.11 -4.11	+19.10 +19.10 +19.10
	-0.00 -0.00 -0.00	+0.00 +0.00 +0.00	+0.00 +0.66 +0.66
-1/1, 15	-0.00 -1.53 -1.53	-0.00 -4.11 -4.11	+19.10 +19.10 +19.10
	-0.00 -0.00 -0.00	+0.00 +0.00 +0.00	+0.00 +0.66 +0.66
-1/1, 16	-0.00 -2.24 -2.99	-0.00 -3.99 -3.99	+16.72 +16.72 +16.72
	-0.00 +0.00 +0.00	+0.00 +0.00 -0.00	+0.00 +0.66 +0.91
-1/1, 17	-0.00 -2.92 -2.92	-0.00 -3.75 -3.75	+16.72 +16.72 +16.72
	+0.00 +0.00 +0.00	+0.00 +0.00 +0.00	+0.00 +0.66 +0.66
-1/1, 18	-0.00 -3.54 -3.54	+0.00 -3.39 -3.39	+16.72 +16.72 +16.72
	+0.00 +0.00 +0.00	+0.00 +0.00 +0.00	+0.00 +0.66 +0.66

All the values



All values relative to ideal, alternating x, y, z (mm) and ϕ_x, ϕ_y, ϕ_z (mrad)

Columns: PG + hardware, same + global adjustment, **same + track-based chambers**

(color applied only if chamber was aligned)

station, chamber	x or ϕ_x	y or ϕ_y	z or ϕ_z
-1/1, 19	-0.00 -4.09 -4.09 +0.00 +0.00 +0.00	+0.00 -2.93 -2.93 +0.00 +0.00 +0.00	+16.72 +16.72 +16.72 +0.00 +0.66 +0.66
-1/1, 20	-0.00 -4.56 -4.56 +0.00 +0.00 +0.00	+0.00 -2.38 -2.38 +0.00 +0.00 +0.00	+16.83 +16.83 +16.83 +0.00 +0.66 +0.66
-1/1, 21	-0.00 -4.92 -4.92 +0.00 +0.00 +0.00	+0.00 -1.76 -1.76 +0.00 +0.00 +0.00	+16.83 +16.83 +16.83 +0.00 +0.66 +0.66
-1/1, 22	-0.00 -5.17 -5.17 +0.00 +0.00 +0.00	+0.00 -1.09 -1.09 +0.00 +0.00 +0.00	+16.72 +16.72 +16.72 +0.00 +0.66 +0.66
-1/1, 23	-0.00 -5.30 -5.30 +0.00 +0.00 +0.00	+0.00 -0.38 -0.38 +0.00 +0.00 +0.00	+16.72 +16.72 +16.72 +0.00 +0.66 +0.66
-1/1, 24	-0.00 -5.30 -5.30 +0.00 +0.00 +0.00	+0.00 +0.34 +0.34 +0.00 +0.00 +0.00	+16.72 +16.72 +16.72 +0.00 +0.66 +0.66
-1/1, 25	-0.00 -5.18 -5.18 +0.00 +0.00 +0.00	+0.00 +1.05 +1.05 +0.00 +0.00 +0.00	+16.72 +16.72 +16.72 +0.00 +0.66 +0.66
-1/1, 26	-0.00 -4.94 -4.94 +0.00 +0.00 +0.00	+0.00 +1.72 +1.72 +0.00 +0.00 +0.00	+12.81 +12.81 +12.81 +0.00 +0.66 +0.66
-1/1, 27	-0.00 -4.58 -4.58 +0.00 +0.00 +0.00	+0.00 +2.35 +2.35 +0.00 +0.00 +0.00	+12.81 +12.81 +12.81 +0.00 +0.66 +0.66
-1/1, 28	-0.00 -4.12 -4.12 +0.00 +0.00 +0.00	+0.00 +2.90 +2.90 +0.00 +0.00 +0.00	+16.72 +16.72 +16.72 +0.00 +0.66 +0.66
-1/1, 29	-0.00 -3.57 -3.57 +0.00 +0.00 +0.00	+0.00 +3.37 +3.37 +0.00 +0.00 +0.00	+16.72 +16.72 +16.72 +0.00 +0.66 +0.66
-1/1, 30	-0.00 -2.95 -2.95 +0.00 +0.00 +0.00	+0.00 +3.73 +3.73 +0.00 +0.00 +0.00	+16.72 +16.72 +16.72 +0.00 +0.66 +0.66

All the values



All values relative to ideal, alternating x, y, z (mm) and ϕ_x, ϕ_y, ϕ_z (mrad)

Columns: PG + hardware, same + global adjustment, **same + track-based chambers**

(color applied only if chamber was aligned)

station, chamber	x or ϕ_x	y or ϕ_y	z or ϕ_z
-1/1, 31	-0.00 -2.28 -2.28	+0.00 +3.98 +3.98	+16.72 +16.72 +16.72
	+0.00 +0.00 +0.00	-0.00 -0.00 -0.00	+0.00 +0.66 +0.66
-1/1, 32	-0.00 -1.57 -1.57	+0.00 +4.11 +4.11	+13.64 +13.64 +13.64
	+0.00 +0.00 +0.00	-0.00 -0.00 -0.00	+0.00 +0.66 +0.66
-1/1, 33	-0.00 -0.85 -0.85	+0.00 +4.11 +4.11	+13.64 +13.64 +13.64
	+0.00 +0.00 +0.00	-0.00 -0.00 -0.00	+0.00 +0.66 +0.66
-1/1, 34	-0.00 -0.14 -0.14	+0.00 +3.99 +3.99	+16.72 +16.72 +16.72
	+0.00 +0.00 +0.00	-0.00 -0.00 -0.00	+0.00 +0.66 +0.66
-1/1, 35	+0.00 +0.53 +0.53	+0.00 +3.75 +3.75	+16.72 +16.72 +16.72
	+0.00 +0.00 +0.00	-0.00 -0.00 -0.00	+0.00 +0.66 +0.66
-1/1, 36	+0.00 +1.16 +1.16	+0.00 +3.39 +3.39	+16.72 +16.72 +16.72
	+0.00 +0.00 +0.00	-0.00 -0.00 -0.00	+0.00 +0.66 +0.66
-1/2, 01	+0.00 -1.58 -1.58	+0.00 +3.52 +3.52	+5.94 +5.94 +5.94
	-4.37 -4.37 -4.37	+0.00 +0.00 +0.00	+0.18 +1.03 +1.03
-1/2, 02	+0.00 -1.00 -1.00	+0.00 +3.20 +3.20	+5.73 +5.73 +5.73
	-4.37 -4.37 -4.37	+0.00 +0.00 +0.00	+0.18 +1.03 +1.03
-1/2, 03	+0.00 -0.47 -0.47	+0.00 +2.78 +2.78	+5.94 +5.94 +5.94
	-4.37 -4.37 -4.37	+0.00 +0.00 -0.00	+0.18 +1.03 +1.03
-1/2, 04	+0.00 -0.03 -0.03	+0.00 +2.27 +2.27	+5.94 +5.94 +5.94
	-4.37 -4.37 -4.37	+0.00 +0.00 +0.02	+0.18 +1.03 +1.03
-1/2, 05	+0.00 +0.32 +0.37	+0.00 +1.70 +1.70	+5.94 +5.94 +5.94
	-4.37 -4.37 -4.36	+0.00 +0.00 -0.21	+0.18 +1.03 +1.62
-1/2, 06	+0.00 +0.56 +0.56	+0.00 +1.07 +1.07	+5.94 +5.94 +5.94
	-4.37 -4.37 -4.37	+0.00 +0.00 +0.00	+0.18 +1.03 +1.03

All the values

All values relative to ideal, alternating x , y , z (mm) and ϕ_x , ϕ_y , ϕ_z (mrad)

Columns: PG + hardware, same + global adjustment, **same + track-based chambers**

(color applied only if chamber was aligned)

station, chamber	x or ϕ_x	y or ϕ_y	z or ϕ_z
-1/2, 07	+0.00 +0.69 +0.93 -4.37 -4.37 -4.38	+0.00 +0.41 +0.41 +0.00 +0.00 -0.19	+5.94 +5.94 +5.94 +0.18 +1.03 -0.52
-1/2, 08	+0.00 +0.70 +0.70 -4.37 -4.37 -4.37	-0.00 -0.26 -0.26 +0.00 +0.00 +0.01	+5.84 +5.84 +5.84 +0.18 +1.03 +1.03
-1/2, 09	-0.00 +0.60 +1.90 -4.37 -4.37 -4.37	-0.00 -0.92 -0.92 +0.00 +0.00 -2.85	+5.94 +5.94 +5.94 +0.18 +1.03 +1.05
-1/2, 10	-0.00 +0.38 +0.38 -4.37 -4.37 -4.37	-0.00 -1.56 -1.56 +0.00 +0.00 +0.00	+5.94 +5.94 +5.94 +0.18 +1.03 +1.03
-1/2, 11	-0.00 +0.06 +0.06 -4.37 -4.37 -4.37	-0.00 -2.15 -2.15 +0.00 +0.00 +0.00	+5.94 +5.94 +5.94 +0.18 +1.03 +1.03
-1/2, 12	-0.00 -0.36 -1.99 -4.37 -4.37 -4.37	-0.00 -2.67 -2.67 +0.00 +0.00 +2.56	+5.94 +5.94 +5.94 +0.18 +1.03 -1.86
-1/2, 13	-0.00 -0.87 -0.87 -4.37 -4.37 -4.37	-0.00 -3.11 -3.11 +0.00 +0.00 -0.00	+5.94 +5.94 +5.94 +0.18 +1.03 +1.03
-1/2, 14	-0.00 -1.44 -1.44 -4.37 -4.37 -4.37	-0.00 -3.46 -3.46 +0.00 +0.00 +0.01	+6.90 +6.90 +6.90 +0.18 +1.03 +1.03
-1/2, 15	-0.00 -2.07 -2.07 -4.37 -4.37 -4.37	-0.00 -3.70 -3.70 +0.00 +0.00 +0.01	+5.94 +5.94 +5.94 +0.18 +1.03 +1.03
-1/2, 16	-0.00 -2.72 -2.72 -4.37 -4.37 -4.37	-0.00 -3.83 -3.83 +0.00 +0.00 -0.01	+5.94 +5.94 +5.94 +0.18 +1.03 +1.03
-1/2, 17	-0.00 -3.40 -3.40 -4.37 -4.37 -4.37	-0.00 -3.85 -3.85 +0.00 +0.00 +0.01	+5.94 +5.94 +5.94 +0.18 +1.03 +1.03
-1/2, 18	-0.00 -4.06 -4.06 -4.37 -4.37 -4.37	+0.00 -3.74 -3.74 +0.00 +0.00 -0.00	+5.94 +5.94 +5.94 +0.18 +1.03 +1.03

All the values

All values relative to ideal, alternating x, y, z (mm) and ϕ_x, ϕ_y, ϕ_z (mrad)

Columns: PG + hardware, same + global adjustment, **same + track-based chambers**

(color applied only if chamber was aligned)

station, chamber	x or ϕ_x	y or ϕ_y	z or ϕ_z
-1/2, 19	-0.00 -4.70 -4.70	+0.00 -3.53 -3.53	+5.94 +5.94 +5.94
	-4.37 -4.37 -4.37	+0.00 +0.00 +0.00	+0.18 +1.03 +1.03
-1/2, 20	-0.00 -5.28 -5.28	+0.00 -3.20 -3.20	+5.39 +5.39 +5.39
	-4.37 -4.37 -4.37	+0.00 +0.00 -0.00	+0.18 +1.03 +1.03
-1/2, 21	-0.00 -5.81 -5.81	+0.00 -2.78 -2.78	+5.94 +5.94 +5.94
	-4.37 -4.37 -4.37	+0.00 +0.00 -0.00	+0.18 +1.03 +1.03
-1/2, 22	-0.00 -6.25 -8.00	+0.00 -2.28 -2.28	+5.94 +5.94 +5.94
	-4.37 -4.37 -4.41	+0.00 +0.00 +6.88	+0.18 +1.03 -4.55
-1/2, 23	-0.00 -6.60 -6.60	+0.00 -1.70 -1.70	+5.94 +5.94 +5.94
	-4.37 -4.37 -4.37	+0.00 +0.00 -0.00	+0.18 +1.03 +1.03
-1/2, 24	-0.00 -6.84 -6.84	+0.00 -1.07 -1.07	+5.94 +5.94 +5.94
	-4.37 -4.37 -4.37	+0.00 +0.00 +0.01	+0.18 +1.03 +1.03
-1/2, 25	-0.00 -6.97 -6.26	+0.00 -0.42 -0.42	+5.94 +5.94 +5.94
	-4.37 -4.37 -4.38	+0.00 +0.00 +2.66	+0.18 +1.03 -2.60
-1/2, 26	-0.00 -6.98 -6.98	+0.00 +0.26 +0.26	+5.64 +5.64 +5.64
	-4.37 -4.37 -4.37	+0.00 +0.00 +0.01	+0.18 +1.03 +1.03
-1/2, 27	-0.00 -6.88 -6.88	+0.00 +0.92 +0.92	+5.94 +5.94 +5.94
	-4.37 -4.37 -4.37	+0.00 +0.00 -0.00	+0.18 +1.03 +1.03
-1/2, 28	-0.00 -6.66 -6.66	+0.00 +1.55 +1.55	+5.94 +5.94 +5.94
	-4.37 -4.37 -4.37	+0.00 +0.00 +0.00	+0.18 +1.03 +1.03
-1/2, 29	-0.00 -6.34 -6.34	+0.00 +2.14 +2.14	+5.94 +5.94 +5.94
	-4.37 -4.37 -4.37	+0.00 +0.00 -0.00	+0.18 +1.03 +1.03
-1/2, 30	-0.00 -5.92 -5.92	+0.00 +2.67 +2.67	+5.94 +5.94 +5.94
	-4.37 -4.37 -4.37	+0.00 +0.00 -0.00	+0.18 +1.03 +1.03

All the values

All values relative to ideal, alternating x , y , z (mm) and ϕ_x , ϕ_y , ϕ_z (mrad)

Columns: PG + hardware, same + global adjustment, **same + track-based chambers**

(color applied only if chamber was aligned)

station, chamber	x or ϕ_x	y or ϕ_y	z or ϕ_z
-1/2, 31	-0.00 -5.41 -5.87	+0.00 +3.11 +3.11	+5.94 +5.94 +5.94
	-4.37 -4.37 -4.37	+0.00 +0.00 -1.23	+0.18 +1.03 +3.09
-1/2, 32	-0.00 -4.84 -4.84	+0.00 +3.46 +3.46	+6.10 +6.10 +6.10
	-4.37 -4.37 -4.37	+0.00 +0.00 +0.01	+0.18 +1.03 +1.03
-1/2, 33	-0.00 -4.21 -4.21	+0.00 +3.70 +3.70	+5.94 +5.94 +5.94
	-4.37 -4.37 -4.37	+0.00 +0.00 -0.01	+0.18 +1.03 +1.03
-1/2, 34	-0.00 -3.55 -3.55	+0.00 +3.83 +3.83	+5.94 +5.94 +5.94
	-4.37 -4.37 -4.37	+0.00 +0.00 -0.01	+0.18 +1.03 +1.03
-1/2, 35	+0.00 -2.88 -2.88	+0.00 +3.84 +3.84	+5.94 +5.94 +5.94
	-4.37 -4.37 -4.37	+0.00 +0.00 +0.01	+0.18 +1.03 +1.03
-1/2, 36	+0.00 -2.22 -2.22	+0.00 +3.74 +3.74	+5.94 +5.94 +5.94
	-4.37 -4.37 -4.37	+0.00 +0.00 -0.00	+0.18 +1.03 +1.03
-1/3, 01	+1.79 -1.22 -1.22	+0.36 +2.76 +2.76	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	-0.00 -0.00 -0.00	-0.73 -0.46 -0.46
-1/3, 02	+0.95 -1.62 -1.62	+2.41 +5.03 +5.03	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	-0.00 -0.00 -0.02	-0.41 -0.15 -0.15
-1/3, 03	+1.65 -0.44 -0.44	+0.68 +3.43 +3.43	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	+0.00 +0.00 +0.00	+0.13 +0.39 +0.39
-1/3, 04	+1.00 -0.61 -0.61	+1.54 +4.34 +4.34	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	+0.00 +0.00 +0.02	+0.21 +0.47 +0.47
-1/3, 05	+1.13 +0.00 +0.00	-0.47 +2.29 +2.29	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	-0.00 -0.00 -0.03	+0.43 +0.70 +0.70
-1/3, 06	+1.07 +0.42 +0.42	-0.33 +2.31 +2.31	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	+0.00 -0.00 -0.00	-1.24 -0.98 -0.98

All the values

All values relative to ideal, alternating x , y , z (mm) and ϕ_x , ϕ_y , ϕ_z (mrad)

Columns: PG + hardware, same + global adjustment, **same + track-based chambers**

(color applied only if chamber was aligned)

station, chamber	x or ϕ_x	y or ϕ_y	z or ϕ_z
-1/3, 07	+1.35 +1.15 -3.18	-0.41 +2.03 +2.03	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.32	+0.00 -0.00 +1.52	+0.12 +0.39 +0.59
-1/3, 08	+0.37 +0.57 +0.57	+1.04 +3.21 +3.21	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	-0.00 +0.00 +0.02	-0.36 -0.10 -0.10
-1/3, 09	+0.57 +1.11 +1.11	+0.82 +2.65 +2.65	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	+0.00 +0.00 -0.01	-1.04 -0.77 -0.77
-1/3, 10	-0.28 +0.56 +0.56	+1.48 +2.91 +2.91	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	-0.00 -0.00 +0.00	+0.61 +0.87 +0.87
-1/3, 11	-0.71 +0.34 +0.34	-0.07 +0.92 +0.92	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	+0.00 +0.00 +0.02	-0.85 -0.59 -0.59
-1/3, 12	-1.73 -0.55 -0.55	+0.73 +1.25 +1.25	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	+0.00 -0.00 +0.00	-0.10 +0.16 +0.16
-1/3, 13	-1.84 -0.61 -0.61	+0.03 +0.06 +0.06	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	-0.00 -0.00 -0.02	+0.20 +0.47 +0.47
-1/3, 14	-2.53 -1.34 -1.34	+1.05 +0.60 +0.60	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	+0.00 +0.00 +0.01	+1.19 +1.46 +1.46
-1/3, 15	-1.94 -0.87 -0.87	+1.80 +0.88 +0.88	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	+0.00 -0.00 +0.03	-0.14 +0.12 +0.12
-1/3, 16	-2.03 -1.16 -1.16	+1.82 +0.45 +0.45	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	-0.00 +0.00 -0.02	-0.24 +0.02 +0.02
-1/3, 17	-2.00 -1.40 -1.40	+1.54 -0.23 -0.23	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	-0.00 -0.00 +0.02	+0.14 +0.41 +0.41
-1/3, 18	-2.36 -2.10 -2.10	+1.74 -0.38 -0.38	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	-0.00 +0.00 +0.01	+0.23 +0.49 +0.49

All the values

All values relative to ideal, alternating x , y , z (mm) and ϕ_x , ϕ_y , ϕ_z (mrad)

Columns: PG + hardware, same + global adjustment, **same + track-based chambers**

(color applied only if chamber was aligned)

station, chamber	x or ϕ_x	y or ϕ_y	z or ϕ_z
-1/3, 19	-1.21 -1.35 -1.35	+3.95 +1.54 +1.54	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	-0.00 -0.00 +0.00	+0.60 +0.87 +0.87
-1/3, 20	-1.35 -1.93 -1.93	+0.88 -1.74 -1.74	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	+0.00 -0.00 +0.01	-0.32 -0.06 -0.06
-1/3, 21	-1.56 -2.61 -2.61	+1.45 -1.30 -1.30	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	+0.00 +0.00 +0.00	+0.34 +0.60 +0.60
-1/3, 22	-0.48 -2.01 -2.01	-0.09 -2.89 -2.89	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	+0.00 -0.00 -0.00	-0.73 -0.47 -0.47
-1/3, 23	-1.16 -3.18 -3.18	+1.34 -1.43 -1.43	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	-0.00 -0.00 +0.04	-0.04 +0.23 +0.23
-1/3, 24	+0.81 -1.69 -1.69	+0.00 -2.64 -2.64	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	-0.00 +0.00 +0.03	-0.76 -0.49 -0.49
-1/3, 25	-0.21 -3.15 -3.15	-1.06 -3.51 -3.51	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	+0.00 +0.00 -0.02	-0.49 -0.23 -0.23
-1/3, 26	+0.55 -2.79 -2.79	-0.08 -2.24 -2.24	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	-0.00 +0.00 -0.00	+0.13 +0.39 +0.39
-1/3, 27	-1.16 -4.85 -4.85	-0.34 -2.16 -2.16	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	-0.00 -0.00 -0.01	+0.39 +0.65 +0.65
-1/3, 28	-1.32 -5.29 -5.29	-1.49 -2.92 -2.92	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	-0.00 -0.00 -0.00	+0.11 +0.38 +0.38
-1/3, 29	-1.35 -5.54 -5.54	-0.62 -1.61 -1.61	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	-0.00 +0.00 +0.01	+0.22 +0.49 +0.49
-1/3, 30	-1.88 -6.20 -6.20	+0.28 -0.24 -0.24	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	-0.00 +0.00 +0.00	+0.09 +0.35 +0.35

All the values



All values relative to ideal, alternating x, y, z (mm) and ϕ_x, ϕ_y, ϕ_z (mrad)

Columns: PG + hardware, same + global adjustment, **same + track-based chambers**

(color applied only if chamber was aligned)

station, chamber	x or ϕ_x	y or ϕ_y	z or ϕ_z
-1/3, 31	-0.65 -5.03 -5.03	+0.18 +0.14 +0.14	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	-0.00 +0.00 -0.02	-0.93 -0.67 -0.67
-1/3, 32	-1.31 -5.64 -5.64	+1.16 +1.61 +1.61	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	-0.00 -0.00 +0.00	-0.27 -0.00 -0.00
-1/3, 33	-0.30 -4.51 -4.51	+1.93 +2.85 +2.85	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	+0.00 +0.00 -0.04	+0.39 +0.66 +0.66
-1/3, 34	+0.92 -3.09 -3.09	+2.04 +3.41 +3.41	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	-0.00 -0.00 +0.04	-0.79 -0.53 -0.53
-1/3, 35	+0.30 -3.44 -3.44	+2.09 +3.86 +3.86	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	+0.00 -0.00 +0.02	+0.45 +0.71 +0.71
-1/3, 36	+1.18 -2.22 -2.22	+1.69 +3.81 +3.81	+2.59 +2.59 +2.59
	-1.33 -1.33 -1.34	+0.00 -0.00 +0.00	+0.04 +0.30 +0.30
-1/4, 01	+0.00 +1.71 +1.71	+0.00 +2.93 +2.93	+16.72 +16.72 +16.72
	+0.00 +0.00 +0.00	-0.00 -0.00 -0.00	+0.00 +0.66 +0.66
-1/4, 02	+0.00 +2.18 +2.18	+0.00 +2.38 +2.38	+17.55 +17.55 +17.55
	+0.00 +0.00 +0.00	-0.00 -0.00 -0.00	+0.00 +0.66 +0.66
-1/4, 03	+0.00 +2.54 +2.54	+0.00 +1.76 +1.76	+17.55 +17.55 +17.55
	+0.00 +0.00 +0.00	-0.00 -0.00 -0.00	+0.00 +0.66 +0.66
-1/4, 04	+0.00 +2.79 +2.79	+0.00 +1.09 +1.09	+16.72 +16.72 +16.72
	+0.00 -0.00 -0.00	-0.00 -0.00 -0.00	+0.00 +0.66 +0.66
-1/4, 05	+0.00 +2.92 +2.92	+0.00 +0.38 +0.38	+16.72 +16.72 +16.72
	-0.00 -0.00 -0.00	-0.00 -0.00 -0.00	+0.00 +0.66 +0.66
-1/4, 06	+0.00 +2.92 +2.92	+0.00 -0.34 -0.34	+16.72 +16.72 +16.72
	-0.00 -0.00 -0.00	-0.00 -0.00 -0.00	+0.00 +0.66 +0.66

All the values



All values relative to ideal, alternating x, y, z (mm) and ϕ_x, ϕ_y, ϕ_z (mrad)

Columns: PG + hardware, same + global adjustment, **same + track-based chambers**

(color applied only if chamber was aligned)

station, chamber	x or ϕ_x	y or ϕ_y	z or ϕ_z
-1/4, 07	+0.00 +2.80 +2.80	+0.00 -1.05 -1.05	+16.72 +16.72 +16.72
	-0.00 -0.00 -0.00	+0.00 +0.00 +0.00	+0.00 +0.66 +0.66
-1/4, 08	+0.00 +2.56 +2.56	-0.00 -1.73 -1.73	+20.42 +20.42 +20.42
	-0.00 -0.00 -0.00	+0.00 +0.00 +0.00	+0.00 +0.66 +0.66
-1/4, 09	-0.00 +2.20 +2.20	-0.00 -2.35 -2.35	+20.42 +20.42 +20.42
	-0.00 -0.00 -0.00	+0.00 +0.00 +0.00	+0.00 +0.66 +0.66
-1/4, 10	-0.00 +1.74 +1.74	-0.00 -2.90 -2.90	+16.72 +16.72 +16.72
	-0.00 -0.00 -0.00	+0.00 +0.00 +0.00	-0.00 +0.66 +0.66
-1/4, 11	-0.00 +1.19 +1.19	-0.00 -3.37 -3.37	+16.72 +16.72 +16.72
	-0.00 -0.00 -0.00	+0.00 +0.00 +0.00	+0.00 +0.66 +0.66
-1/4, 12	-0.00 +0.57 +0.57	-0.00 -3.73 -3.73	+16.72 +16.72 +16.72
	-0.00 -0.00 -0.00	+0.00 +0.00 +0.00	+0.00 +0.66 +0.66
-1/4, 13	-0.00 -0.10 -0.10	-0.00 -3.98 -3.98	+16.72 +16.72 +16.72
	-0.00 -0.00 -0.00	+0.00 +0.00 +0.00	+0.00 +0.66 +0.66
-1/4, 14	-0.00 -0.81 -0.81	-0.00 -4.11 -4.11	+19.10 +19.10 +19.10
	-0.00 -0.00 -0.00	+0.00 +0.00 +0.00	+0.00 +0.66 +0.66
-1/4, 15	-0.00 -1.53 -1.53	-0.00 -4.11 -4.11	+19.10 +19.10 +19.10
	-0.00 -0.00 -0.00	+0.00 +0.00 +0.00	+0.00 +0.66 +0.66
-1/4, 16	-0.00 -2.24 -2.24	-0.00 -3.99 -3.99	+16.72 +16.72 +16.72
	-0.00 +0.00 +0.00	+0.00 +0.00 +0.00	+0.00 +0.66 +0.66
-1/4, 17	-0.00 -2.92 -2.92	-0.00 -3.75 -3.75	+16.72 +16.72 +16.72
	+0.00 +0.00 +0.00	+0.00 +0.00 +0.00	+0.00 +0.66 +0.66
-1/4, 18	-0.00 -3.54 -3.54	+0.00 -3.39 -3.39	+16.72 +16.72 +16.72
	+0.00 +0.00 +0.00	+0.00 +0.00 +0.00	+0.00 +0.66 +0.66

All the values



All values relative to ideal, alternating x, y, z (mm) and ϕ_x, ϕ_y, ϕ_z (mrad)

Columns: PG + hardware, same + global adjustment, **same + track-based chambers**

(color applied only if chamber was aligned)

station, chamber	x or ϕ_x	y or ϕ_y	z or ϕ_z
-1/4, 19	-0.00 -4.09 -4.09	+0.00 -2.93 -2.93	+16.72 +16.72 +16.72
	+0.00 +0.00 +0.00	+0.00 +0.00 +0.00	+0.00 +0.66 +0.66
-1/4, 20	-0.00 -4.56 -4.56	+0.00 -2.38 -2.38	+16.83 +16.83 +16.83
	+0.00 +0.00 +0.00	+0.00 +0.00 +0.00	+0.00 +0.66 +0.66
-1/4, 21	-0.00 -4.92 -4.92	+0.00 -1.76 -1.76	+16.83 +16.83 +16.83
	+0.00 +0.00 +0.00	+0.00 +0.00 +0.00	+0.00 +0.66 +0.66
-1/4, 22	-0.00 -5.17 -5.17	+0.00 -1.09 -1.09	+16.72 +16.72 +16.72
	+0.00 +0.00 +0.00	+0.00 +0.00 +0.00	+0.00 +0.66 +0.66
-1/4, 23	-0.00 -5.30 -5.30	+0.00 -0.38 -0.38	+16.72 +16.72 +16.72
	+0.00 +0.00 +0.00	+0.00 +0.00 +0.00	+0.00 +0.66 +0.66
-1/4, 24	-0.00 -5.30 -5.30	+0.00 +0.34 +0.34	+16.72 +16.72 +16.72
	+0.00 +0.00 +0.00	+0.00 +0.00 +0.00	+0.00 +0.66 +0.66
-1/4, 25	-0.00 -5.18 -5.18	+0.00 +1.05 +1.05	+16.72 +16.72 +16.72
	+0.00 +0.00 +0.00	+0.00 +0.00 +0.00	+0.00 +0.66 +0.66
-1/4, 26	-0.00 -4.94 -4.94	+0.00 +1.72 +1.72	+12.81 +12.81 +12.81
	+0.00 +0.00 +0.00	+0.00 +0.00 +0.00	+0.00 +0.66 +0.66
-1/4, 27	-0.00 -4.58 -4.58	+0.00 +2.35 +2.35	+12.81 +12.81 +12.81
	+0.00 +0.00 +0.00	+0.00 +0.00 +0.00	+0.00 +0.66 +0.66
-1/4, 28	-0.00 -4.12 -4.12	+0.00 +2.90 +2.90	+16.72 +16.72 +16.72
	+0.00 +0.00 +0.00	+0.00 +0.00 +0.00	+0.00 +0.66 +0.66
-1/4, 29	-0.00 -3.57 -3.57	+0.00 +3.37 +3.37	+16.72 +16.72 +16.72
	+0.00 +0.00 +0.00	+0.00 +0.00 +0.00	+0.00 +0.66 +0.66
-1/4, 30	-0.00 -2.95 -2.95	+0.00 +3.73 +3.73	+16.72 +16.72 +16.72
	+0.00 +0.00 +0.00	+0.00 +0.00 +0.00	+0.00 +0.66 +0.66

All the values



All values relative to ideal, alternating x, y, z (mm) and ϕ_x, ϕ_y, ϕ_z (mrad)

Columns: PG + hardware, same + global adjustment, **same + track-based chambers**

(color applied only if chamber was aligned)

station, chamber	x or ϕ_x	y or ϕ_y	z or ϕ_z
-1/4, 31	-0.00 -2.28 -2.28	+0.00 +3.98 +3.98	+16.72 +16.72 +16.72
	+0.00 +0.00 +0.00	-0.00 -0.00 -0.00	+0.00 +0.66 +0.66
-1/4, 32	-0.00 -1.57 -1.57	+0.00 +4.11 +4.11	+13.64 +13.64 +13.64
	+0.00 +0.00 +0.00	-0.00 -0.00 -0.00	+0.00 +0.66 +0.66
-1/4, 33	-0.00 -0.85 -0.85	+0.00 +4.11 +4.11	+13.64 +13.64 +13.64
	+0.00 +0.00 +0.00	-0.00 -0.00 -0.00	+0.00 +0.66 +0.66
-1/4, 34	-0.00 -0.14 -0.14	+0.00 +3.99 +3.99	+16.72 +16.72 +16.72
	+0.00 +0.00 +0.00	-0.00 -0.00 -0.00	+0.00 +0.66 +0.66
-1/4, 35	+0.00 +0.53 +0.53	+0.00 +3.75 +3.75	+16.72 +16.72 +16.72
	+0.00 +0.00 +0.00	-0.00 -0.00 -0.00	+0.00 +0.66 +0.66
-1/4, 36	+0.00 +1.16 +1.16	+0.00 +3.39 +3.39	+16.72 +16.72 +16.72
	+0.00 +0.00 +0.00	-0.00 -0.00 -0.00	+0.00 +0.66 +0.66
-2/1, 01	+0.33 -2.69 -2.69	-0.03 +3.55 +3.55	+10.24 +10.24 +10.24
	-1.60 -1.60 -1.58	+0.00 -0.00 +0.01	+0.65 +2.83 +2.83
-2/1, 02	+0.06 -1.87 -1.87	+0.94 +3.53 +3.53	+10.61 +10.61 +10.61
	-2.00 -2.00 -2.01	+0.00 -0.00 -0.03	+0.15 +2.33 +2.33
-2/1, 03	+0.33 -0.91 -0.91	-2.16 -0.89 -0.89	+10.24 +10.24 +10.24
	-1.60 -1.60 -1.58	+0.00 +0.00 +0.00	-0.61 +1.57 +1.57
-2/1, 04	-0.35 -1.40 -1.40	-2.81 -3.00 -3.00	+7.91 +7.91 +7.91
	-1.30 -1.30 -1.29	-0.00 +0.00 +0.04	-1.71 +0.47 +0.47
-2/1, 05	-0.44 -1.81 -3.12	-1.30 -2.94 -2.94	+10.24 +10.24 +10.24
	-1.60 -1.60 -1.58	+0.00 +0.00 -0.77	+0.54 +2.73 +0.61
-2/1, 06	-0.56 -2.72 -2.72	-2.01 -4.89 -4.89	+10.24 +10.24 +10.24
	-1.60 -1.60 -1.58	-0.00 -0.00 -0.00	-0.40 +1.79 +1.79

All the values



All values relative to ideal, alternating x, y, z (mm) and ϕ_x, ϕ_y, ϕ_z (mrad)

Columns: PG + hardware, same + global adjustment, **same + track-based chambers**

(color applied only if chamber was aligned)

station, chamber	x or ϕ_x	y or ϕ_y	z or ϕ_z
-2/1, 07	-0.74 -4.07 -4.07	-1.60 -5.38 -5.38	+10.24 +10.24 +10.24
	-1.60 -1.60 -1.58	+0.00 -0.00 -0.00	+0.38 +2.57 +2.57
-2/1, 08	-1.09 -5.83 -2.94	-1.37 -5.60 -5.59	+12.41 +12.41 +12.41
	-1.60 -1.60 -1.59	+0.00 -0.00 -1.42	+0.72 +2.90 +4.96
-2/1, 09	-0.88 -7.10 -7.10	-0.06 -4.22 -4.22	+10.24 +10.24 +10.24
	-1.60 -1.60 -1.58	-0.00 +0.00 +0.01	+0.19 +2.37 +2.37
-2/1, 10	+0.26 -7.33 -7.33	+0.36 -3.24 -3.24	+10.61 +10.61 +10.61
	-2.00 -2.00 -2.01	-0.00 +0.00 -0.00	+0.27 +2.46 +2.46
-2/1, 11	-1.22 -9.90 -9.90	+0.93 -1.67 -1.67	+10.24 +10.24 +10.24
	-1.60 -1.60 -1.58	-0.00 -0.00 -0.00	+0.98 +3.17 +3.17
-2/1, 12	-1.30 -10.66 -10.66	+0.25 -1.03 -1.03	+10.24 +10.24 +10.24
	-1.60 -1.60 -1.58	+0.00 +0.00 -0.05	+0.05 +2.23 +2.23
-2/1, 13	-0.20 -9.75 -9.75	-0.41 -0.23 -0.23	+10.24 +10.24 +10.24
	-1.60 -1.60 -1.58	-0.00 -0.00 -0.01	+0.32 +2.50 +2.50
-2/1, 14	-1.04 -10.27 -10.27	-0.53 +1.09 +1.09	+8.01 +8.01 +8.01
	-0.80 -0.80 -0.77	+0.00 -0.00 -0.01	-0.02 +2.16 +2.16
-2/1, 15	-0.38 -8.82 -8.82	-0.60 +2.27 +2.27	+10.24 +10.24 +10.24
	-1.60 -1.60 -1.58	-0.00 -0.00 -0.00	+0.37 +2.55 +2.55
-2/1, 16	+0.56 -6.71 -6.71	+0.39 +4.16 +4.16	+11.81 +11.81 +11.81
	-1.70 -1.70 -1.69	-0.00 -0.00 -0.02	-1.29 +0.90 +0.90
-2/1, 17	-0.57 -6.43 -6.43	-0.24 +3.97 +3.97	+10.24 +10.24 +10.24
	-1.60 -1.60 -1.58	+0.00 +0.00 +0.00	+0.17 +2.36 +2.36
-2/1, 18	+0.32 -4.06 -4.06	+0.61 +4.75 +4.75	+10.24 +10.24 +10.24
	-1.60 -1.60 -1.58	+0.00 +0.00 -0.02	-1.15 +1.04 +1.04

All the values

All values relative to ideal, alternating x , y , z (mm) and ϕ_x , ϕ_y , ϕ_z (mrad)

Columns: PG + hardware, same + global adjustment, **same + track-based chambers**

(color applied only if chamber was aligned)

station, chamber	x or ϕ_x	y or ϕ_y	z or ϕ_z
-2/2, 01	+2.20 -7.93 -7.93	+0.13 +1.79 +1.79	+2.87 +2.87 +2.87
	-2.20 -2.20 -2.21	-0.00 -0.00 -0.00	-0.93 +0.75 +0.75
-2/2, 02	+2.66 -7.17 -7.17	+0.74 +2.60 +2.60	+2.62 +2.62 +2.62
	-2.20 -2.20 -2.21	-0.00 +0.00 +0.00	-1.06 +0.62 +0.62
-2/2, 03	+2.93 -6.56 -6.56	+2.08 +4.08 +4.08	+2.81 +2.81 +2.81
	-2.20 -2.20 -2.21	+0.00 +0.00 +0.01	-1.29 +0.39 +0.39
-2/2, 04	+2.92 -6.22 -6.22	+1.44 +3.52 +3.52	+2.62 +2.62 +2.62
	-2.20 -2.20 -2.21	-0.00 +0.00 -0.02	-0.87 +0.81 +0.81
-2/2, 05	+1.95 -6.82 -8.22	+0.40 +2.50 +2.50	+2.87 +2.87 +2.87
	-2.20 -2.20 -2.20	+0.00 +0.00 -0.53	-0.75 +0.93 -0.38
-2/2, 06	+2.63 -5.77 -4.75	-0.20 +1.85 +1.85	+2.62 +2.62 +2.62
	-2.20 -2.20 -2.23	+0.00 -0.00 +0.23	-0.52 +1.16 -1.13
-2/2, 07	+1.72 -6.33 -3.75	-0.79 +1.16 +1.16	+2.87 +2.87 +2.87
	-2.20 -2.20 -2.21	-0.00 +0.00 -0.77	-0.54 +1.14 +1.46
-2/2, 08	+0.80 -6.93 -6.18	+0.92 +2.70 +2.70	+0.51 +0.51 +0.51
	-2.10 -2.10 -2.10	-0.00 +0.00 -3.33	+0.02 +1.70 +0.92
-2/2, 09	+0.85 -6.58 -6.30	-0.11 +1.45 +1.45	+2.87 +2.87 +2.87
	-2.20 -2.20 -2.20	+0.00 -0.00 -1.11	-0.44 +1.24 +2.21
-2/2, 10	+0.12 -7.06 -7.06	-1.44 -0.15 -0.15	+2.62 +2.62 +2.62
	-2.20 -2.20 -2.21	-0.00 -0.00 -0.00	-0.28 +1.40 +1.40
-2/2, 11	-0.14 -7.12 -7.12	-0.13 +0.85 +0.85	+2.87 +2.87 +2.87
	-2.20 -2.20 -2.21	+0.00 +0.00 +0.00	-0.35 +1.33 +1.33
-2/2, 12	-0.45 -7.29 -8.94	-0.88 -0.24 -0.24	+2.62 +2.62 +2.62
	-2.20 -2.20 -2.24	+0.00 +0.00 +2.69	+0.10 +1.78 -0.82

All the values



All values relative to ideal, alternating x, y, z (mm) and ϕ_x, ϕ_y, ϕ_z (mrad)

Columns: PG + hardware, same + global adjustment, **same + track-based chambers**

(color applied only if chamber was aligned)

station, chamber	x or ϕ_x	y or ϕ_y	z or ϕ_z
-2/2, 13	-0.69 -7.45 -7.45	-0.46 -0.18 -0.18	+2.87 +2.87 +2.87
	-2.20 -2.20 -2.21	+0.00 -0.00 +0.02	+0.08 +1.76 +1.76
-2/2, 14	-1.48 -8.21 -10.27	-1.94 -2.03 -2.03	+2.62 +2.62 +2.62
	-2.20 -2.20 -2.21	+0.00 -0.00 -1.50	+0.06 +1.74 +2.84
-2/2, 15	-0.99 -7.78 -7.78	+0.54 +0.09 +0.09	+4.51 +4.51 +4.51
	-2.50 -2.50 -2.49	-0.00 -0.00 -0.01	-0.58 +1.10 +1.10
-2/2, 16	-2.88 -9.77 -9.77	-0.69 -1.49 -1.49	+2.62 +2.62 +2.62
	-2.20 -2.20 -2.21	-0.00 +0.00 +0.02	+0.42 +2.10 +2.10
-2/2, 17	-1.07 -8.13 -8.13	+0.13 -1.00 -1.00	+2.87 +2.87 +2.87
	-2.20 -2.20 -2.21	+0.00 -0.00 -0.02	-0.06 +1.62 +1.62
-2/2, 18	-1.60 -8.88 -8.88	+1.02 -0.40 -0.40	+2.62 +2.62 +2.62
	-2.20 -2.20 -2.21	+0.00 +0.00 +0.01	-0.08 +1.60 +1.60
-2/2, 19	-1.15 -8.70 -8.70	-0.67 -2.34 -2.34	+2.87 +2.87 +2.87
	-2.20 -2.20 -2.21	-0.00 -0.00 -0.00	+0.12 +1.80 +1.80
-2/2, 20	-2.09 -9.95 -9.95	-0.06 -1.93 -1.93	+4.11 +4.11 +4.11
	-2.30 -2.30 -2.29	-0.00 -0.00 -0.00	+0.61 +2.29 +2.29
-2/2, 21	-0.54 -8.73 -8.73	+0.09 -1.92 -1.92	+2.87 +2.87 +2.87
	-2.20 -2.20 -2.21	-0.00 -0.00 -0.00	+0.03 +1.71 +1.71
-2/2, 22	+0.08 -8.48 -8.48	-0.62 -2.71 -2.71	+2.62 +2.62 +2.62
	-2.20 -2.20 -2.21	-0.00 +0.00 -0.02	+0.24 +1.92 +1.92
-2/2, 23	-0.72 -9.65 -9.65	+0.18 -1.93 -1.93	+2.87 +2.87 +2.87
	-2.20 -2.20 -2.21	-0.00 +0.00 -0.02	+0.09 +1.76 +1.76
-2/2, 24	+1.13 -8.15 -8.15	-0.35 -2.42 -2.42	+2.62 +2.62 +2.62
	-2.20 -2.20 -2.21	+0.00 +0.00 -0.02	-0.50 +1.18 +1.18

All the values

All values relative to ideal, alternating x , y , z (mm) and ϕ_x , ϕ_y , ϕ_z (mrad)

Columns: PG + hardware, same + global adjustment, **same + track-based chambers**

(color applied only if chamber was aligned)

station, chamber	x or ϕ_x			y or ϕ_y			z or ϕ_z		
-2/2, 25	-0.04	-9.67	-9.14	+0.42	-1.54	-1.54	+2.87	+2.87	+2.87
	-2.20	-2.20	-2.19	+0.00	-0.00	+1.07	-0.14	+1.54	+0.71
-2/2, 26	+0.87	-9.10	-9.09	-0.68	-2.47	-2.46	+2.62	+2.62	+2.62
	-2.20	-2.20	-2.21	-0.00	-0.00	+2.49	-0.72	+0.96	-0.86
-2/2, 27	+0.28	-9.98	-9.98	-0.59	-2.15	-2.15	+1.21	+1.21	+1.21
	-1.90	-1.90	-1.89	-0.00	+0.00	-0.01	-0.56	+1.12	+1.12
-2/2, 28	+0.99	-9.52	-10.58	-1.04	-2.34	-2.34	+2.62	+2.62	+2.62
	-2.20	-2.20	-2.21	-0.00	-0.00	-1.39	-0.61	+1.07	+2.05
-2/2, 29	+0.56	-10.14	-10.14	-0.92	-1.92	-1.92	+2.87	+2.87	+2.87
	-2.20	-2.20	-2.21	-0.00	-0.00	-0.00	-0.28	+1.40	+1.40
-2/2, 30	+0.78	-10.07	-10.07	-0.61	-1.26	-1.26	+2.62	+2.62	+2.62
	-2.20	-2.20	-2.21	+0.00	+0.00	+0.01	-0.15	+1.53	+1.53
-2/2, 31	+0.86	-10.07	-10.07	-0.36	-0.66	-0.66	+2.87	+2.87	+2.87
	-2.20	-2.20	-2.21	-0.00	-0.00	+0.02	-0.68	+1.00	+1.00
-2/2, 32	+1.02	-9.93	-11.58	+1.62	+1.69	+1.69	+3.21	+3.21	+3.21
	-2.00	-2.00	-2.00	+0.00	-0.00	+1.27	-0.48	+1.19	+2.41
-2/2, 33	+1.90	-9.00	-9.00	+0.54	+0.98	+0.98	+2.87	+2.87	+2.87
	-2.20	-2.20	-2.21	+0.00	-0.00	+0.02	-0.89	+0.79	+0.79
-2/2, 34	+1.29	-9.51	-6.95	+1.45	+2.24	+2.24	+2.62	+2.62	+2.62
	-2.20	-2.20	-2.21	+0.00	-0.00	+1.89	-1.02	+0.66	-1.52
-2/2, 35	+2.36	-8.27	-8.27	+1.41	+2.52	+2.52	+2.87	+2.87	+2.87
	-2.20	-2.20	-2.21	+0.00	-0.00	+0.01	-0.80	+0.88	+0.88
-2/2, 36	+1.43	-8.98	-8.98	+1.63	+3.04	+3.04	+2.62	+2.62	+2.62
	-2.20	-2.20	-2.21	+0.00	+0.00	+0.01	-0.97	+0.71	+0.71

All the values



All values relative to ideal, alternating x , y , z (mm) and ϕ_x , ϕ_y , ϕ_z (mrad)

Columns: PG + hardware, same + global adjustment, **same + track-based chambers**

(color applied only if chamber was aligned)

station, chamber	x or ϕ_x	y or ϕ_y	z or ϕ_z
-3/1, 01	-0.56 +4.50 +4.50	-1.21 +2.93 +2.93	-11.38 -11.38 -11.38
	+2.50 +2.50 +2.49	+0.00 +0.00 -0.00	+1.03 -1.09 -1.09
-3/1, 02	-0.22 +3.44 +3.44	-1.58 +2.20 +2.20	-11.79 -11.79 -11.79
	+2.40 +2.40 +2.39	-0.00 +0.00 +0.00	+0.29 -1.83 -1.83
-3/1, 03	+1.04 +3.50 +3.50	-2.00 +0.98 +0.98	-11.38 -11.38 -11.38
	+2.50 +2.50 +2.49	+0.00 +0.00 +0.02	-0.25 -2.38 -2.38
-3/1, 04	+1.05 +2.67 +2.67	-0.85 +0.95 +0.95	-12.19 -12.19 -12.19
	+2.60 +2.60 +2.61	+0.00 -0.00 -0.01	+1.27 -0.85 -0.85
-3/1, 05	+2.24 +3.47 +6.23	-1.54 -1.13 -1.14	-11.38 -11.38 -11.38
	+2.50 +2.50 +2.49	-0.00 -0.00 +2.41	-0.09 -2.21 -3.94
-3/1, 06	+2.31 +3.64 +3.64	-2.14 -3.17 -3.17	-11.38 -11.38 -11.38
	+2.50 +2.50 +2.49	+0.00 -0.00 -0.00	+0.44 -1.69 -1.69
-3/1, 07	+1.72 +3.65 +3.65	-1.01 -3.35 -3.35	-11.38 -11.38 -11.38
	+2.50 +2.50 +2.49	-0.00 -0.00 +0.01	-1.07 -3.19 -3.19
-3/1, 08	+2.11 +5.03 +5.03	-1.80 -5.19 -5.19	-11.19 -11.19 -11.19
	+2.30 +2.30 +2.29	+0.00 -0.00 +0.02	-1.86 -3.99 -3.99
-3/1, 09	+0.00 +4.23 +4.23	-0.00 -4.01 -4.01	-11.38 -11.38 -11.38
	+2.50 +2.50 +2.49	-0.00 -0.00 -0.01	+0.00 -2.12 -2.12
-3/1, 10	+1.77 +7.44 +7.44	+1.69 -2.46 -2.46	-11.89 -11.89 -11.89
	+2.70 +2.70 +2.70	+0.00 -0.00 +0.00	-0.70 -2.82 -2.82
-3/1, 11	+1.67 +8.74 +8.74	+0.07 -3.73 -3.73	-11.38 -11.38 -11.38
	+2.50 +2.50 +2.49	+0.00 +0.00 -0.01	-0.19 -2.31 -2.31
-3/1, 12	+0.82 +9.08 +9.08	+0.59 -2.40 -2.40	-11.38 -11.38 -11.38
	+2.50 +2.50 +2.49	+0.00 -0.00 +0.02	-0.74 -2.86 -2.86

All the values



All values relative to ideal, alternating x, y, z (mm) and ϕ_x, ϕ_y, ϕ_z (mrad)

Columns: PG + hardware, same + global adjustment, **same + track-based chambers**

(color applied only if chamber was aligned)

station, chamber	x or ϕ_x	y or ϕ_y	z or ϕ_z
-3/1, 13	+1.28 +10.39 +10.39	-0.88 -2.70 -2.70	-11.38 -11.38 -11.38
	+2.50 +2.50 +2.49	-0.00 -0.00 +0.00	-0.23 -2.36 -2.36
-3/1, 14	+1.28 +10.78 +10.78	+0.50 +0.07 +0.07	-11.09 -11.09 -11.09
	+2.40 +2.40 +2.39	+0.00 -0.00 -0.00	-0.29 -2.42 -2.42
-3/1, 15	-0.09 +9.31 +9.31	-0.02 +0.99 +0.99	-11.38 -11.38 -11.38
	+2.50 +2.50 +2.49	-0.00 -0.00 -0.00	+0.41 -1.71 -1.71
-3/1, 16	-0.71 +8.10 +8.10	-0.70 +1.64 +1.64	-9.99 -9.99 -9.99
	+2.50 +2.50 +2.49	-0.00 -0.00 -0.01	-0.42 -2.55 -2.55
-3/1, 17	-1.37 +6.43 +6.43	-0.17 +3.20 +3.20	-11.38 -11.38 -11.38
	+2.50 +2.50 +2.49	+0.00 +0.00 -0.00	+1.05 -1.07 -1.07
-3/1, 18	-0.12 +6.37 +6.37	-0.74 +3.26 +3.26	-11.38 -11.38 -11.38
	+2.50 +2.50 +2.49	+0.00 -0.00 +0.00	+1.17 -0.95 -0.95
-3/2, 01	-0.36 +8.77 +8.77	-0.54 +1.70 +1.70	-4.00 -4.00 -4.00
	+2.70 +2.70 +2.70	+0.00 +0.00 +0.00	+0.05 -1.81 -1.81
-3/2, 02	-1.03 +7.72 +7.72	-1.32 +0.77 +0.77	-3.69 -3.69 -3.69
	+2.70 +2.70 +2.70	-0.00 +0.00 +0.00	+0.27 -1.59 -1.59
-3/2, 03	-0.65 +7.74 +7.74	-0.12 +1.77 +1.77	-3.69 -3.69 -3.69
	+2.90 +2.90 +2.91	+0.00 -0.00 +0.01	+0.25 -1.60 -1.60
-3/2, 04	+0.35 +8.43 +7.81	-1.18 +0.45 +0.45	-3.69 -3.69 -3.69
	+2.70 +2.70 +2.70	+0.00 -0.00 -2.23	-0.03 -1.88 -4.97
-3/2, 05	-0.06 +7.76 +7.76	+0.05 +1.36 +1.36	-4.00 -4.00 -4.00
	+2.70 +2.70 +2.70	+0.00 -0.00 -0.01	+0.74 -1.11 -1.11
-3/2, 06	+0.03 +7.66 +8.36	-0.93 +0.03 +0.03	-3.69 -3.69 -3.69
	+2.70 +2.70 +2.69	-0.00 -0.00 -0.93	+0.35 -1.50 +0.38

All the values



All values relative to ideal, alternating x, y, z (mm) and ϕ_x, ϕ_y, ϕ_z (mrad)

Columns: PG + hardware, same + global adjustment, **same + track-based chambers**

(color applied only if chamber was aligned)

station, chamber	x or ϕ_x	y or ϕ_y	z or ϕ_z
-3/2, 07	+1.73 +9.22 +7.85	-0.75 -0.18 -0.17	-4.00 -4.00 -4.00
	+2.70 +2.70 +2.69	+0.00 +0.00 +2.14	-0.56 -2.41 -2.85
-3/2, 08	+2.26 +9.68 +8.48	-0.98 -0.81 -0.81	-4.29 -4.29 -4.29
	+3.00 +3.00 +2.99	+0.00 +0.00 -2.95	-0.19 -2.04 -3.77
-3/2, 09	+1.17 +8.59 +8.59	-0.65 -0.88 -0.88	-4.00 -4.00 -4.00
	+2.70 +2.70 +2.70	+0.00 -0.00 +0.00	-0.06 -1.91 -1.91
-3/2, 10	+2.76 +10.26 +10.26	-0.21 -0.84 -0.84	-3.69 -3.69 -3.69
	+2.70 +2.70 +2.70	+0.00 +0.00 +0.00	-0.14 -1.99 -1.99
-3/2, 11	+2.07 +9.71 +9.71	-2.07 -3.09 -3.09	-4.00 -4.00 -4.00
	+2.70 +2.70 +2.70	-0.00 -0.00 +0.00	-1.00 -2.85 -2.85
-3/2, 12	+2.67 +10.52 +10.52	-0.79 -2.16 -2.16	-3.69 -3.69 -3.69
	+2.70 +2.70 +2.70	+0.00 -0.00 -0.02	-0.71 -2.56 -2.56
-3/2, 13	+0.00 +8.11 +8.57	-0.00 -1.67 -1.67	-4.00 -4.00 -4.00
	+2.70 +2.70 +2.70	-0.00 +0.00 +1.24	+0.00 -1.85 -1.57
-3/2, 14	+1.47 +9.89 +9.02	-1.66 -3.59 -3.59	-3.69 -3.69 -3.69
	+2.70 +2.70 +2.69	-0.00 -0.00 -2.40	-0.16 -2.01 +0.17
-3/2, 15	+0.00 +8.78 +7.69	-0.00 -2.13 -2.13	-4.19 -4.19 -4.19
	+2.60 +2.60 +2.60	-0.00 -0.00 +0.53	+0.00 -1.85 -0.65
-3/2, 16	+3.65 +12.81 +12.81	+0.54 -1.73 -1.73	-3.69 -3.69 -3.69
	+2.70 +2.70 +2.70	+0.00 +0.00 -0.01	-0.56 -2.41 -2.41
-3/2, 17	+1.14 +10.70 +10.70	+0.38 -1.96 -1.96	-4.00 -4.00 -4.00
	+2.70 +2.70 +2.70	-0.00 +0.00 -0.02	-0.17 -2.02 -2.02
-3/2, 18	+0.00 +9.97 +9.97	-0.00 -2.33 -2.33	-3.69 -3.69 -3.69
	+2.70 +2.70 +2.70	+0.00 +0.00 +0.00	-0.00 -1.85 -1.85

All the values



All values relative to ideal, alternating x, y, z (mm) and ϕ_x, ϕ_y, ϕ_z (mrad)

Columns: PG + hardware, same + global adjustment, **same + track-based chambers**

(color applied only if chamber was aligned)

station, chamber	x or ϕ_x	y or ϕ_y	z or ϕ_z
-3/2, 19	+2.87 +13.24 +13.24	+0.93 -1.33 -1.33	-4.00 -4.00 -4.00
	+2.70 +2.70 +2.70	+0.00 +0.00 -0.00	-0.33 -2.18 -2.18
-3/2, 20	+1.50 +12.25 +12.25	+1.76 -0.36 -0.36	-4.19 -4.19 -4.19
	+2.80 +2.80 +2.80	-0.00 +0.00 +0.00	-0.17 -2.02 -2.02
-3/2, 21	+1.85 +12.95 +12.95	+1.01 -0.90 -0.90	-4.00 -4.00 -4.00
	+2.70 +2.70 +2.70	-0.00 +0.00 -0.00	-0.31 -2.16 -2.16
-3/2, 22	+1.75 +13.16 +13.16	+1.54 -0.11 -0.11	-3.69 -3.69 -3.69
	+2.70 +2.70 +2.70	+0.00 -0.00 +0.01	-0.15 -2.00 -2.00
-3/2, 23	+2.06 +13.73 +13.73	+0.99 -0.34 -0.34	-4.00 -4.00 -4.00
	+2.70 +2.70 +2.70	-0.00 -0.00 -0.01	-0.37 -2.22 -2.22
-3/2, 24	+0.32 +12.19 +12.19	-0.65 -1.62 -1.62	-3.69 -3.69 -3.69
	+2.70 +2.70 +2.70	-0.00 -0.00 -0.01	+0.38 -1.47 -1.47
-3/2, 25	+0.00 +12.00 +12.00	-0.00 -0.59 -0.59	-4.00 -4.00 -4.00
	+2.70 +2.70 +2.70	+0.00 +0.00 +0.00	-0.00 -1.85 -1.85
-3/2, 26	+1.07 +13.14 +13.14	+0.19 -0.00 -0.00	-3.69 -3.69 -3.69
	+2.70 +2.70 +2.70	+0.00 -0.00 +0.01	+0.06 -1.79 -1.79
-3/2, 27	+1.55 +13.61 +13.61	+0.49 +0.70 +0.70	-4.09 -4.09 -4.09
	+2.20 +2.20 +2.21	+0.00 +0.00 +0.01	-0.23 -2.08 -2.08
-3/2, 28	+0.05 +12.05 +12.05	+1.96 +2.58 +2.58	-3.69 -3.69 -3.69
	+2.70 +2.70 +2.70	+0.00 +0.00 -0.00	+0.96 -0.89 -0.89
-3/2, 29	-0.75 +11.10 +11.10	+0.10 +1.09 +1.09	-4.00 -4.00 -4.00
	+2.70 +2.70 +2.70	+0.00 +0.00 +0.00	+0.91 -0.95 -0.95
-3/2, 30	+0.14 +11.78 +10.61	+0.73 +2.08 +2.08	-3.69 -3.69 -3.69
	+2.70 +2.70 +2.71	+0.00 +0.00 -0.24	+0.25 -1.60 -2.69

All the values



All values relative to ideal, alternating x, y, z (mm) and ϕ_x, ϕ_y, ϕ_z (mrad)

Columns: PG + hardware, same + global adjustment, **same + track-based chambers**

(color applied only if chamber was aligned)

station, chamber	x or ϕ_x	y or ϕ_y	z or ϕ_z
-3/2, 31	-1.54 +9.84 +9.84	-0.83 +0.82 +0.82	-4.00 -4.00 -4.00
	+2.70 +2.70 +2.70	+0.00 +0.00 +0.01	-0.36 -2.22 -2.22
-3/2, 32	-1.61 +9.46 +11.98	-0.72 +1.19 +1.19	-2.59 -2.59 -2.59
	+2.70 +2.70 +2.70	+0.00 -0.00 +0.27	+0.21 -1.64 -3.95
-3/2, 33	-1.21 +9.50 +9.50	+0.60 +2.72 +2.72	-4.00 -4.00 -4.00
	+2.70 +2.70 +2.70	-0.00 -0.00 -0.00	-0.30 -2.15 -2.15
-3/2, 34	-1.39 +8.94 +8.94	-0.62 +1.63 +1.63	-3.69 -3.69 -3.69
	+2.70 +2.70 +2.70	-0.00 +0.00 +0.00	-0.01 -1.86 -1.86
-3/2, 35	-2.33 +7.60 +7.60	-0.59 +1.73 +1.73	-4.00 -4.00 -4.00
	+2.70 +2.70 +2.70	-0.00 +0.00 +0.01	+0.88 -0.97 -0.97
-3/2, 36	-1.32 +8.21 +8.21	-0.22 +2.09 +2.09	-3.69 -3.69 -3.69
	+2.70 +2.70 +2.70	-0.00 -0.00 +0.00	-0.31 -2.16 -2.16
-4/1, 01	-0.04 +2.35 +2.35	-0.07 +4.80 +4.80	-8.49 -8.49 -8.49
	+1.60 +1.60 +1.58	-0.00 +0.00 -0.00	-0.01 -1.58 -1.58
-4/1, 02	-1.27 -0.44 -0.44	+0.36 +4.35 +4.35	-8.49 -8.49 -8.49
	+1.60 +1.60 +1.58	-0.00 -0.00 -0.00	-0.22 -1.79 -1.79
-4/1, 03	-0.16 -0.50 -0.50	-1.35 +1.26 +1.26	-8.49 -8.49 -8.49
	+1.60 +1.60 +1.58	+0.00 -0.00 +0.03	+0.27 -1.30 -1.30
-4/1, 04	+0.50 -0.47 -0.47	-1.23 -0.30 -0.30	-9.39 -9.39 -9.39
	+1.50 +1.50 +1.50	-0.00 +0.00 +0.00	+1.03 -0.54 -0.54
-4/1, 05	+0.29 -0.69 -0.69	-1.48 -2.35 -2.35	-8.49 -8.49 -8.49
	+1.60 +1.60 +1.58	+0.00 -0.00 -0.01	+0.55 -1.02 -1.02
-4/1, 06	+1.93 +1.55 +1.55	-1.55 -4.11 -4.11	-8.49 -8.49 -8.49
	+1.60 +1.60 +1.58	+0.00 +0.00 +0.02	-0.79 -2.36 -2.36

All the values



All values relative to ideal, alternating x, y, z (mm) and ϕ_x, ϕ_y, ϕ_z (mrad)

Columns: PG + hardware, same + global adjustment, **same + track-based chambers**

(color applied only if chamber was aligned)

station, chamber	x or ϕ_x	y or ϕ_y	z or ϕ_z
-4/1, 07	+0.34 +1.11 +1.11	-1.40 -5.34 -5.34	-8.49 -8.49 -8.49
	+1.60 +1.60 +1.58	-0.00 -0.00 -0.00	+0.58 -0.98 -0.98
-4/1, 08	+2.98 +5.29 +5.29	-1.18 -6.03 -6.03	-8.49 -8.49 -8.49
	+1.60 +1.60 +1.58	-0.00 -0.00 +0.00	-0.93 -2.50 -2.50
-4/1, 09	+2.43 +6.51 +6.51	+0.61 -4.57 -4.57	-8.49 -8.49 -8.49
	+1.60 +1.60 +1.58	+0.00 +0.00 +0.01	-1.15 -2.72 -2.72
-4/1, 10	+1.62 +7.47 +7.47	+0.36 -4.52 -4.52	-8.49 -8.49 -8.49
	+1.60 +1.60 +1.58	-0.00 +0.00 +0.00	-0.08 -1.64 -1.64
-4/1, 11	+2.04 +9.45 +9.45	+0.79 -3.20 -3.20	-8.49 -8.49 -8.49
	+1.60 +1.60 +1.58	+0.00 -0.00 -0.00	-0.38 -1.95 -1.95
-4/1, 12	+1.93 +10.51 +10.51	+0.89 -1.74 -1.74	-8.49 -8.49 -8.49
	+1.60 +1.60 +1.58	-0.00 +0.00 +0.00	-0.63 -2.19 -2.19
-4/1, 13	+1.43 +10.64 +10.64	+0.80 -0.14 -0.14	-8.49 -8.49 -8.49
	+1.60 +1.60 +1.58	-0.00 -0.00 +0.01	-0.91 -2.47 -2.47
-4/1, 14	+0.69 +9.91 +9.91	+1.00 +1.86 +1.86	-7.49 -7.49 -7.49
	+1.70 +1.70 +1.69	+0.00 -0.00 +0.00	+0.12 -1.45 -1.45
-4/1, 15	+0.60 +9.22 +9.22	-0.36 +2.18 +2.18	-8.49 -8.49 -8.49
	+1.60 +1.60 +1.58	+0.00 -0.00 -0.00	-0.23 -1.79 -1.79
-4/1, 16	-0.44 +7.03 +7.03	+0.13 +4.06 +4.06	-8.49 -8.49 -8.49
	+1.60 +1.60 +1.58	-0.00 -0.00 -0.06	+0.11 -1.45 -1.45
-4/1, 17	+0.85 +6.78 +6.78	+0.22 +5.06 +5.06	-8.49 -8.49 -8.49
	+1.60 +1.60 +1.58	+0.00 -0.00 +0.00	-0.32 -1.88 -1.88
-4/1, 18	+0.44 +4.60 +4.60	+0.73 +5.90 +5.90	-8.49 -8.49 -8.49
	+1.60 +1.60 +1.58	-0.00 +0.00 -0.00	-1.02 -2.59 -2.59

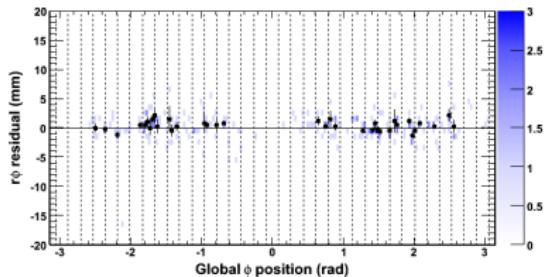
Map plots

Jim Pivarski 67/21

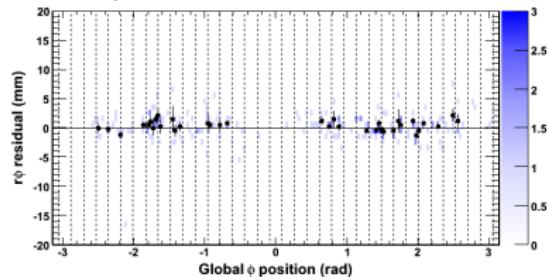


before (left) and after (right) individual chamber alignment

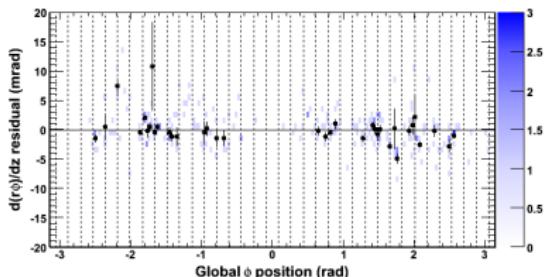
ME-1/1 after global adjustment only



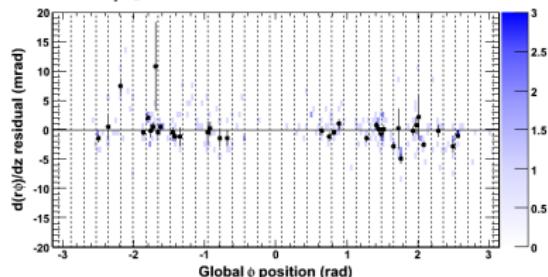
ME-1/1 after $r_\phi = \phi_y - \phi_z$ alignment



ME-1/1 after global adjustment only



ME-1/1 after $r_\phi = \phi_y - \phi_z$ alignment



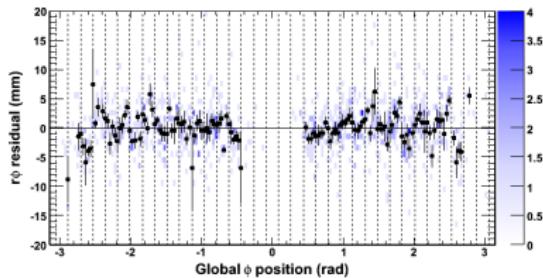
Map plots

Jim Pivarski 68/21

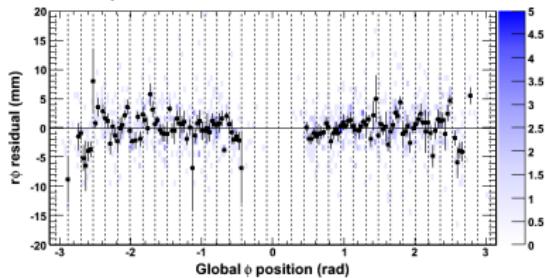


before (left) and after (right) individual chamber alignment

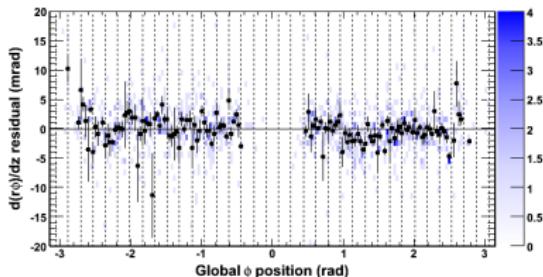
ME-1/2 after global adjustment only



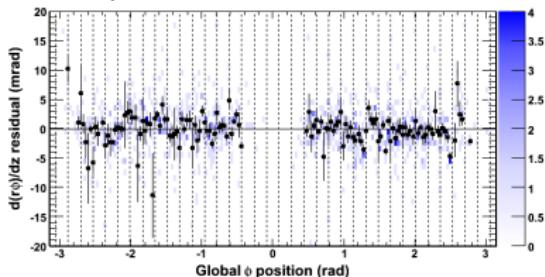
ME-1/2 after $r_\phi - \phi_y - \phi_z$ alignment



ME-1/2 after global adjustment only



ME-1/2 after $r_\phi - \phi_y - \phi_z$ alignment



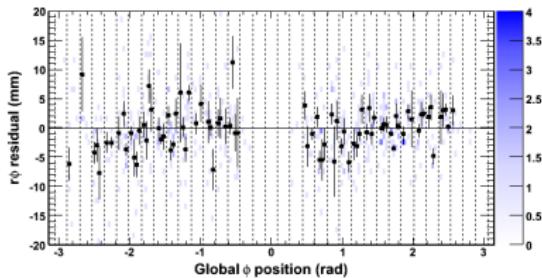
Map plots

Jim Pivarski 69/21

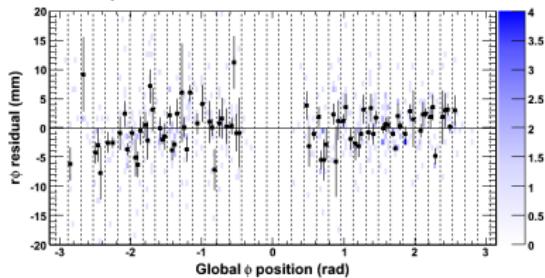


before (left) and after (right) individual chamber alignment

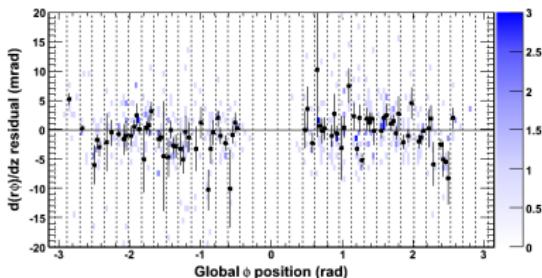
ME-1/3 after global adjustment only



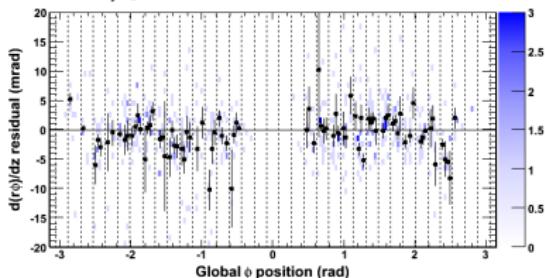
ME-1/3 after $r\phi = \phi_y - \phi_z$ alignment



ME-1/3 after global adjustment only



ME-1/3 after $r\phi = \phi_y - \phi_z$ alignment



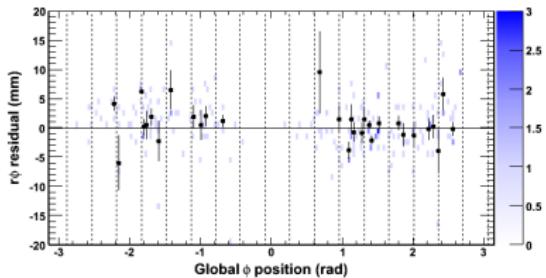
Map plots

Jim Pivarski 70/21

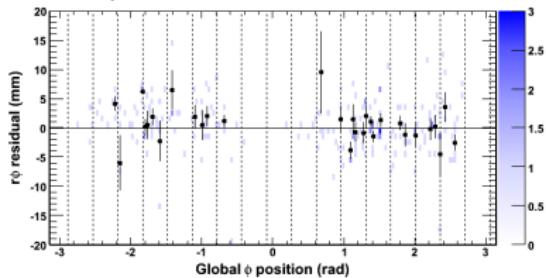


before (left) and after (right) individual chamber alignment

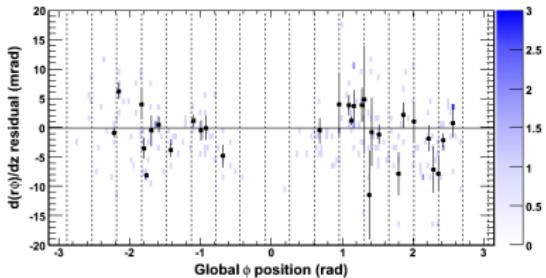
ME-2/1 after global adjustment only



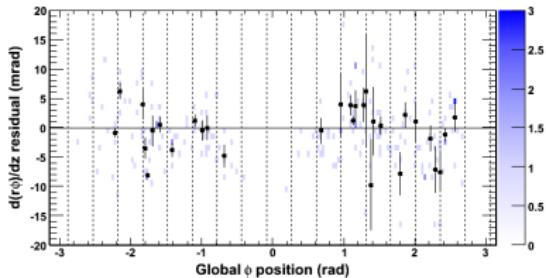
ME-2/1 after $r_\phi - \phi_y - \phi_z$ alignment



ME-2/1 after global adjustment only



ME-2/1 after $r_\phi - \phi_y - \phi_z$ alignment



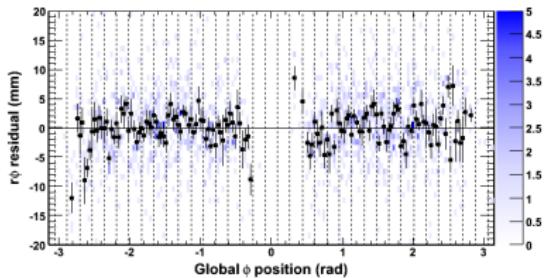
Map plots

Jim Pivarski 71/21

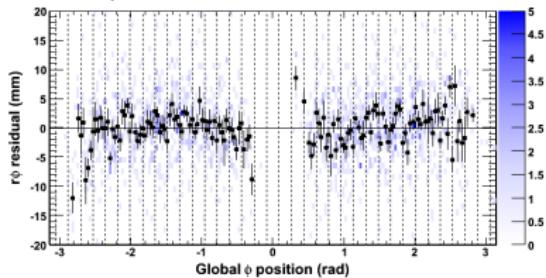


before (left) and after (right) individual chamber alignment

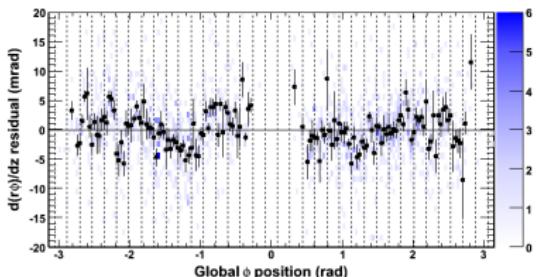
ME-2/2 after global adjustment only



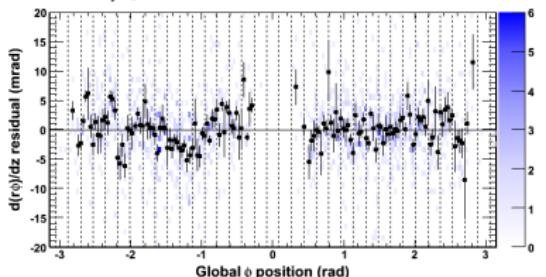
ME-2/2 after $r\phi-\phi_y-\phi_z$ alignment



ME-2/2 after global adjustment only



ME-2/2 after $r\phi-\phi_y-\phi_z$ alignment



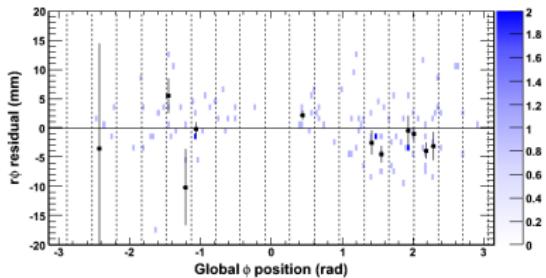
Map plots

Jim Pivarski 72/21

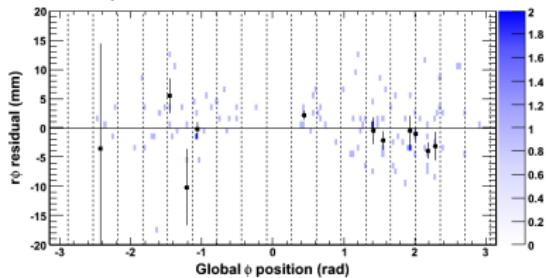


before (left) and after (right) individual chamber alignment

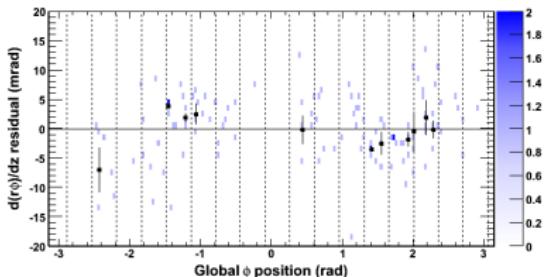
ME-3/1 after global adjustment only



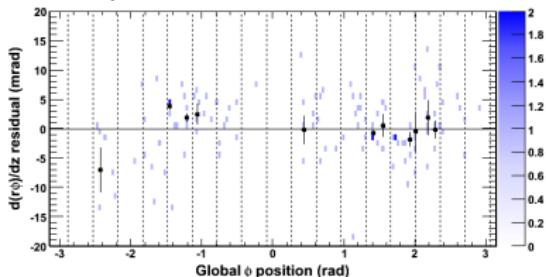
ME-3/1 after $r_\phi = \phi_z$ alignment



ME-3/1 after global adjustment only



ME-3/1 after $r_\phi = \phi_z$ alignment



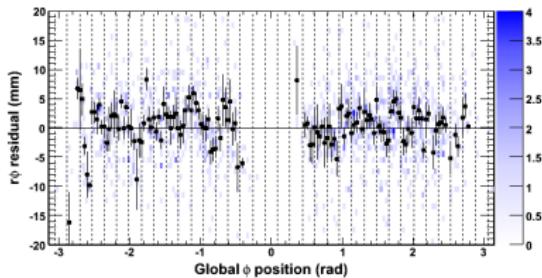
Map plots

Jim Pivarski 73/21

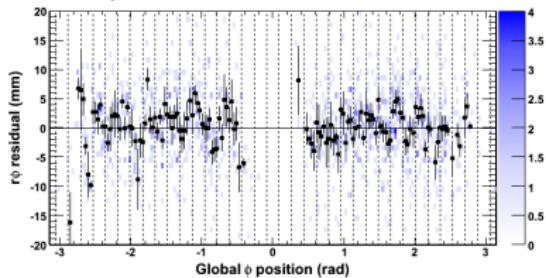


before (left) and after (right) individual chamber alignment

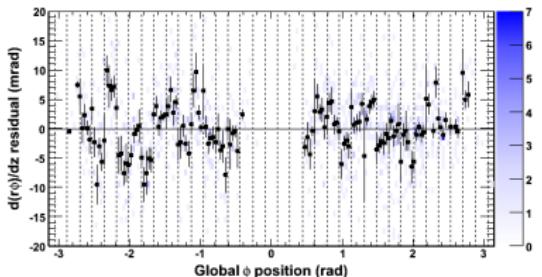
ME-3/2 after global adjustment only



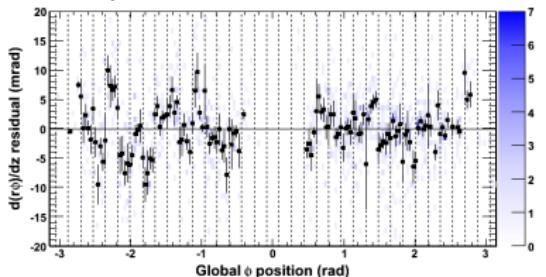
ME-3/2 after $r_\phi - \phi_y - \phi_z$ alignment



ME-3/2 after global adjustment only



ME-3/2 after $r_\phi - \phi_y - \phi_z$ alignment



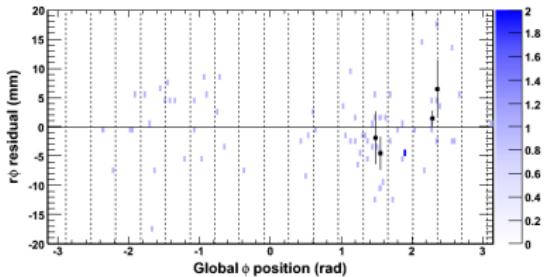
Map plots

Jim Pivarski 74/21

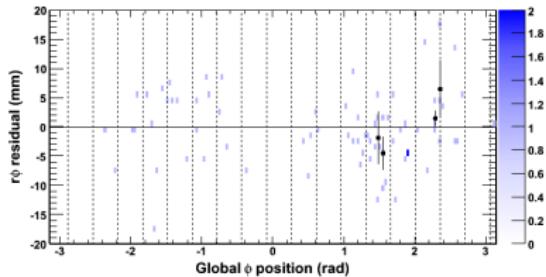


before (left) and after (right) individual chamber alignment

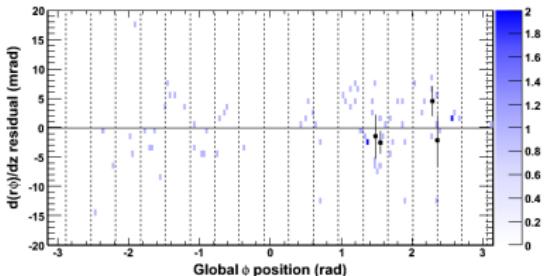
ME-4/1 after global adjustment only



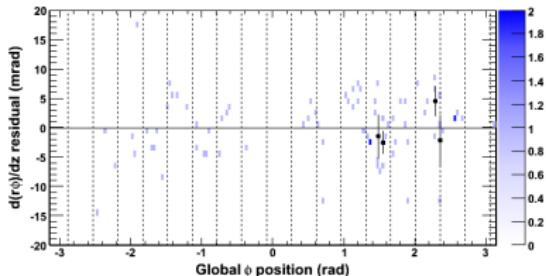
ME-4/1 after $r\phi = \phi_y - \phi_z$ alignment



ME-4/1 after global adjustment only



ME-4/1 after $r\phi = \phi_y - \phi_z$ alignment



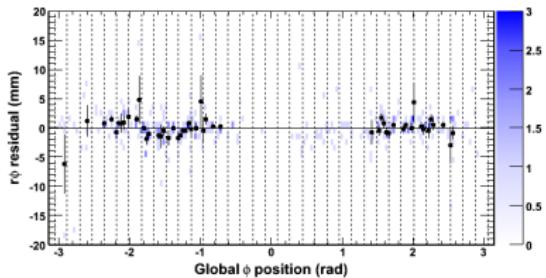
Map plots

Jim Pivarski 75/21

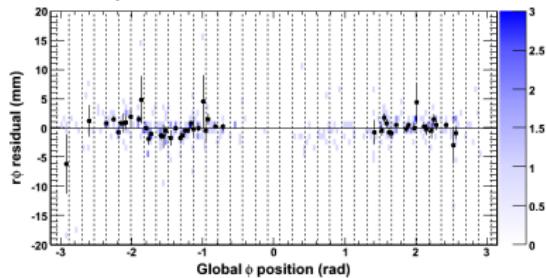


before (left) and after (right) individual chamber alignment

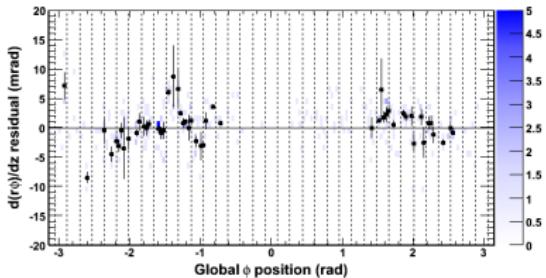
ME+1/1 after global adjustment only



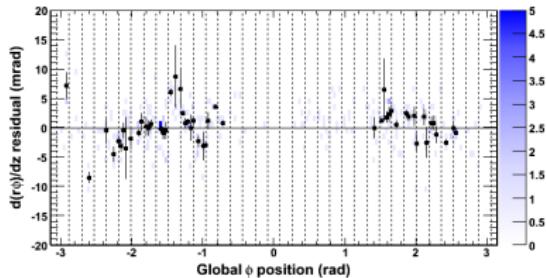
ME+1/1 after $r\phi-\phi_y-\phi_z$ alignment



ME+1/1 after global adjustment only



ME+1/1 after $r\phi-\phi_y-\phi_z$ alignment



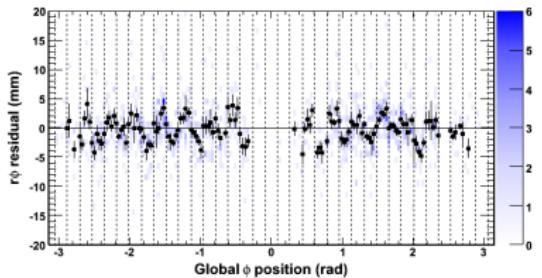
Map plots

Jim Pivarski 76/21

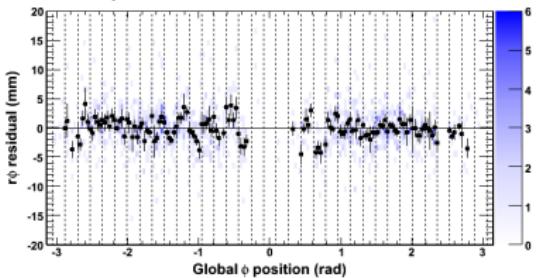


before (left) and after (right) individual chamber alignment

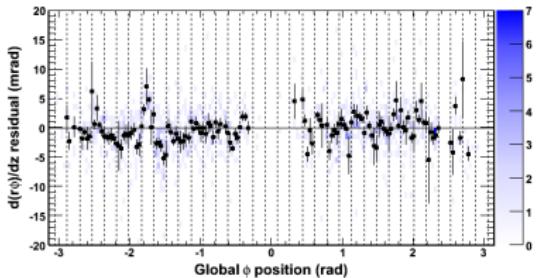
ME+1/2 after global adjustment only



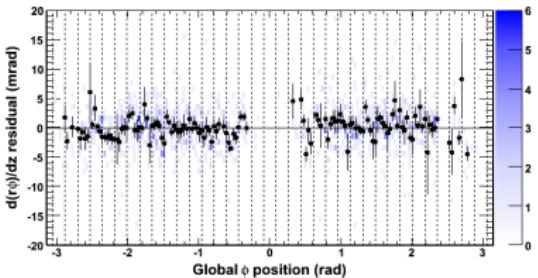
ME+1/2 after $r\phi=0_y -\phi_z$ alignment



ME+1/2 after global adjustment only



ME+1/2 after $r\phi=0_y -\phi_z$ alignment



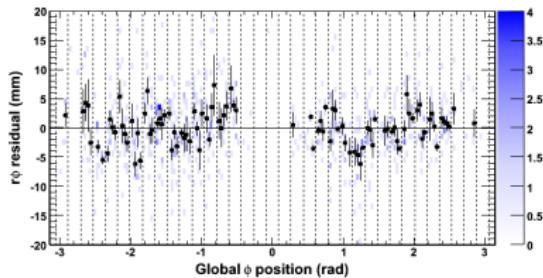
Map plots

Jim Pivarski 77/21

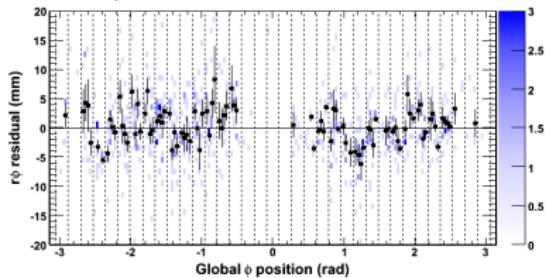


before (left) and after (right) individual chamber alignment

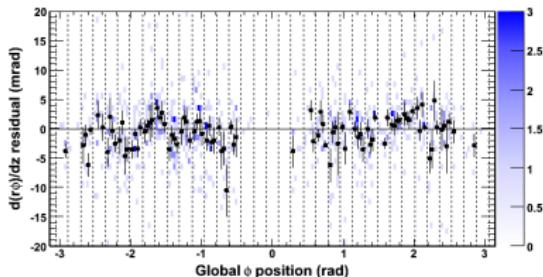
ME+1/3 after global adjustment only



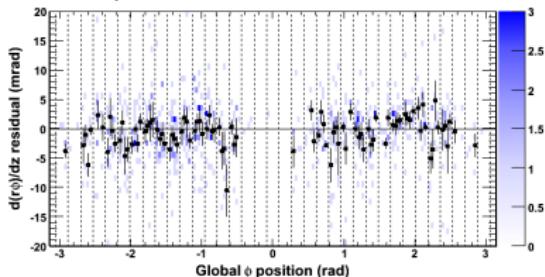
ME+1/3 after $r\phi=0_y - \phi_z$ alignment



ME+1/3 after global adjustment only



ME+1/3 after $r\phi=0_y - \phi_z$ alignment



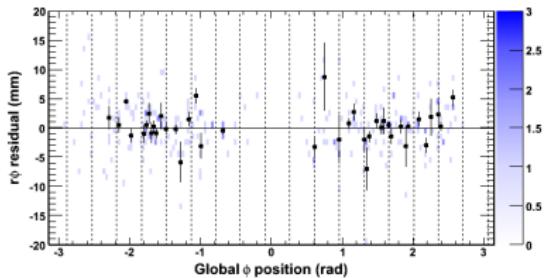
Map plots

Jim Pivarski 78/21

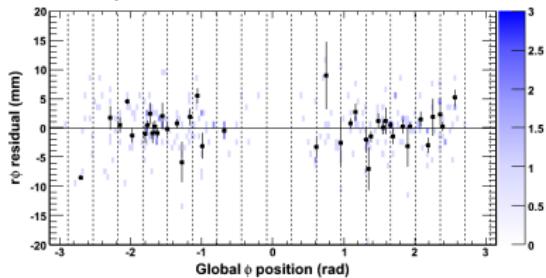


before (left) and after (right) individual chamber alignment

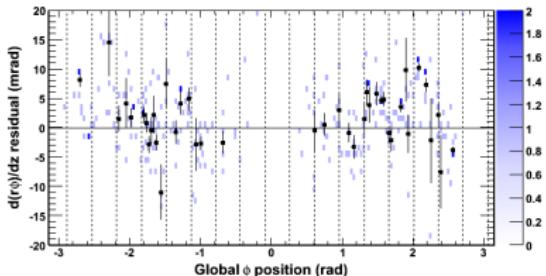
ME+2/1 after global adjustment only



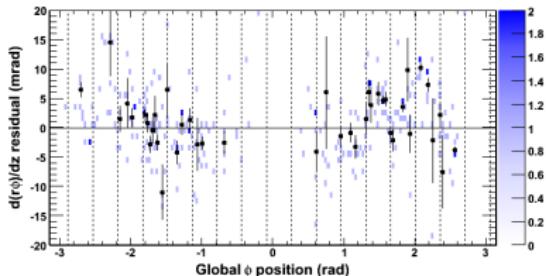
ME+2/1 after $r\phi=0_y - \phi_z$ alignment



ME+2/1 after global adjustment only



ME+2/1 after $r\phi=0_y - \phi_z$ alignment



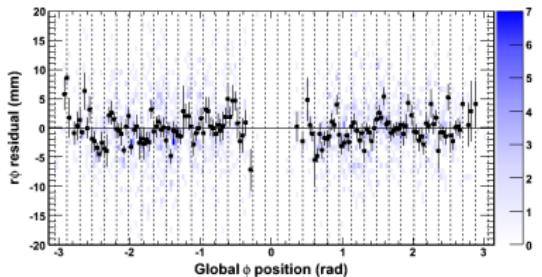
Map plots

Jim Pivarski 79/21

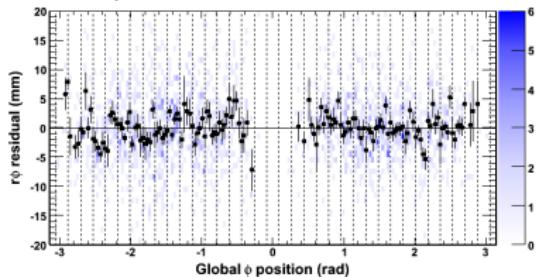


before (left) and after (right) individual chamber alignment

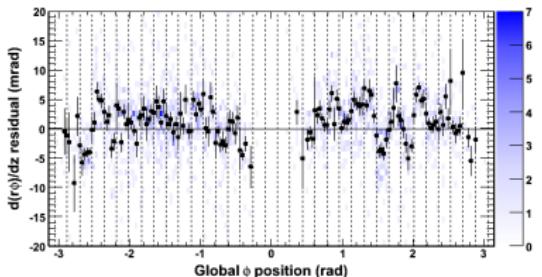
ME+2/2 after global adjustment only



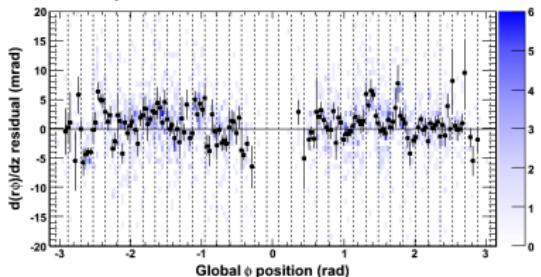
ME+2/2 after $r\phi-\phi_y-\phi_z$ alignment



ME+2/2 after global adjustment only



ME+2/2 after $r\phi-\phi_y-\phi_z$ alignment



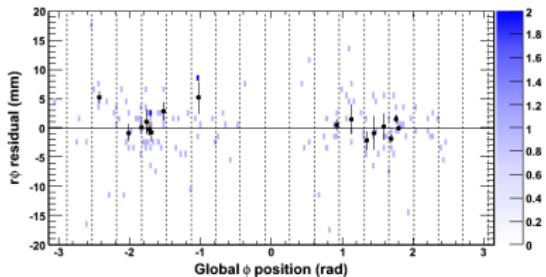
Map plots

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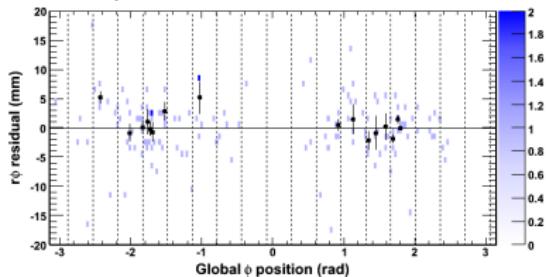


before (left) and after (right) individual chamber alignment

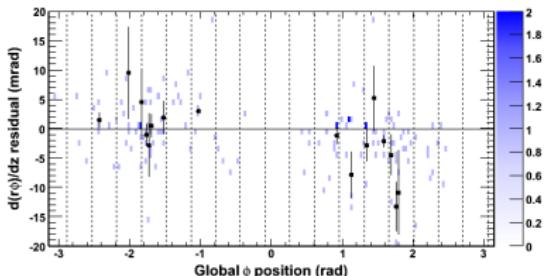
ME+3/1 after global adjustment only



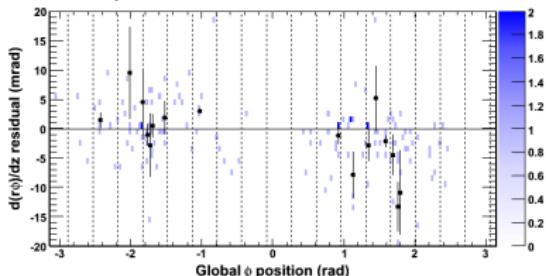
ME+3/1 after $r\phi=0_y -\phi_z$ alignment



ME-3/1 after global adjustment only



ME-3/1 after $r\phi=0_y -\phi_z$ alignment



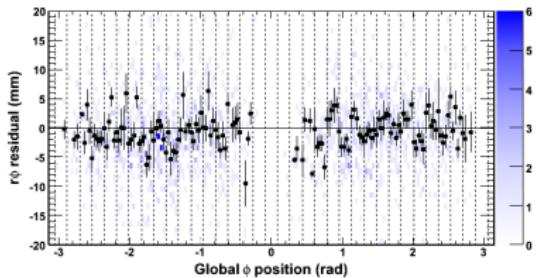
Map plots

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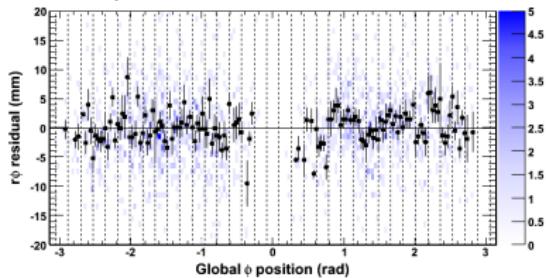


before (left) and after (right) individual chamber alignment

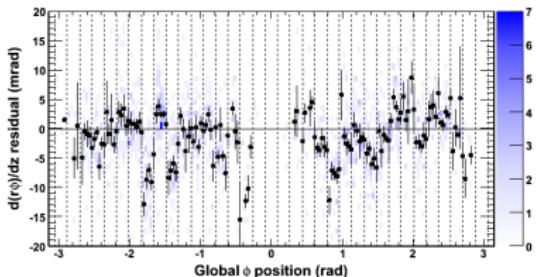
ME+3/2 after global adjustment only



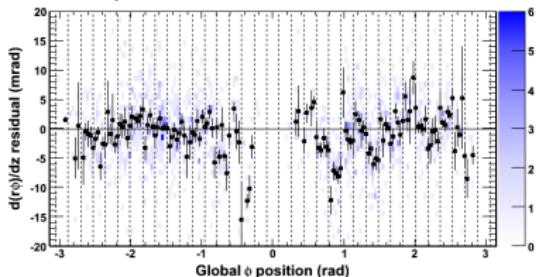
ME+3/2 after $r\phi = \phi_y - \phi_z$ alignment



ME+3/2 after global adjustment only



ME+3/2 after $r\phi = \phi_y - \phi_z$ alignment



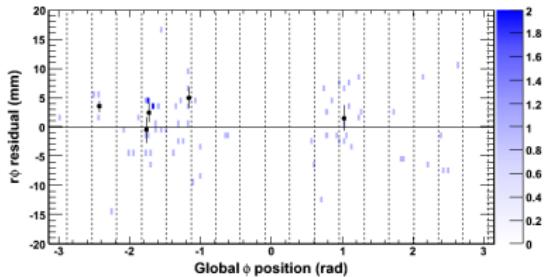
Map plots

Jim Pivarski 82/21

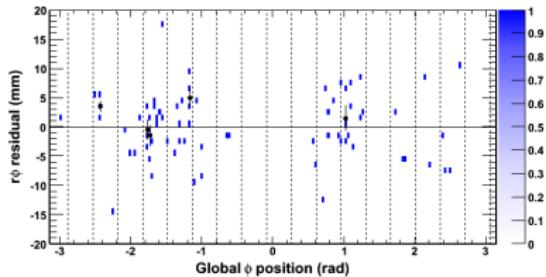


before (left) and after (right) individual chamber alignment

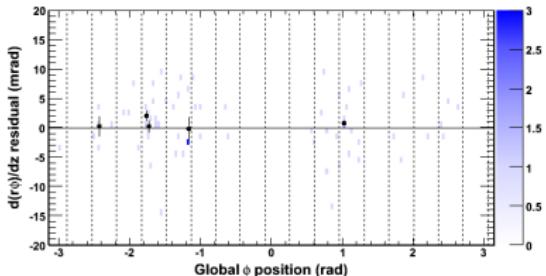
ME+4/1 after global adjustment only



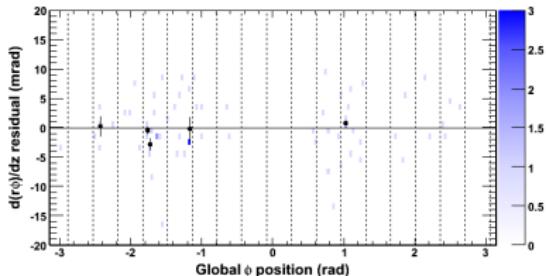
ME+4/1 after $r\phi=0_y - \phi_z$ alignment



ME+4/1 after global adjustment only



ME+4/1 after $r\phi=0_y - \phi_z$ alignment



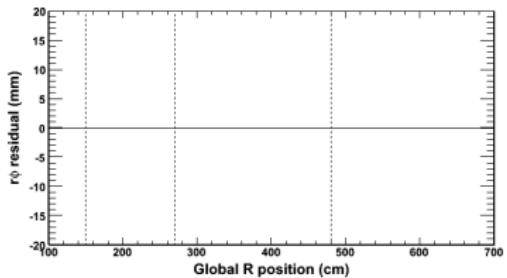
Map plots

Jim Pivarski 83/21

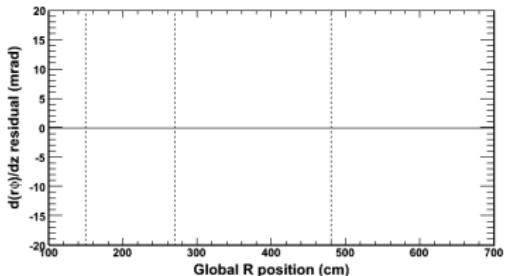
before (left) and after (right) individual chamber alignment



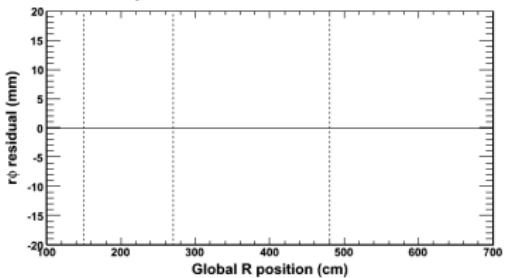
ME-1, ch 1 after global adjustment only



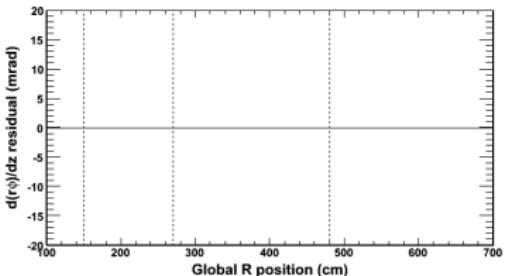
ME-1, ch 1 after global adjustment only



ME-1, ch 1 after $r_\phi = \phi_y - \phi_z$ alignment



ME-1, ch 1 after $r_\phi = \phi_y - \phi_z$ alignment



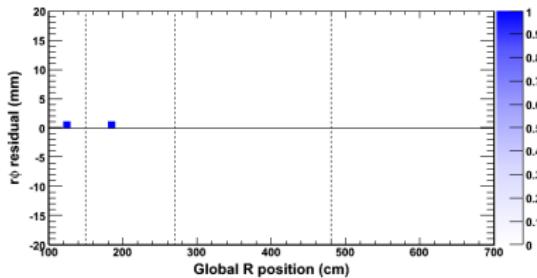
Map plots

Jim Pivarski 84/21

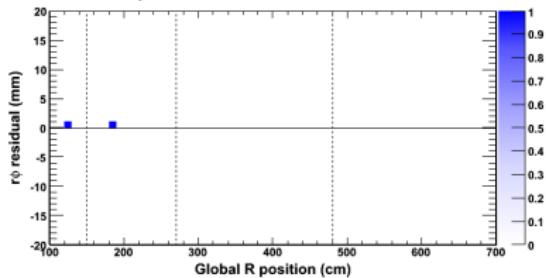


before (left) and after (right) individual chamber alignment

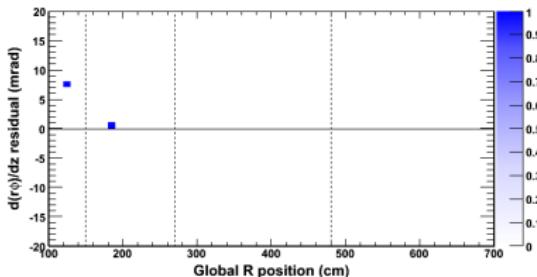
ME-1, ch 2 after global adjustment only



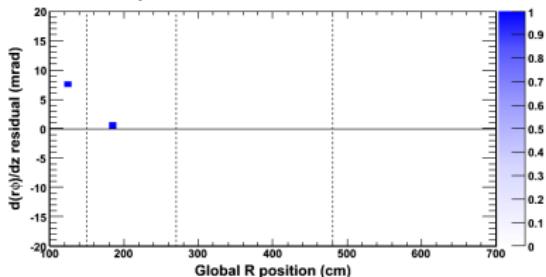
ME-1, ch 2 after $r_\phi - \phi_y - \phi_z$ alignment



ME-1, ch 2 after global adjustment only



ME-1, ch 2 after $r_\phi - \phi_y - \phi_z$ alignment



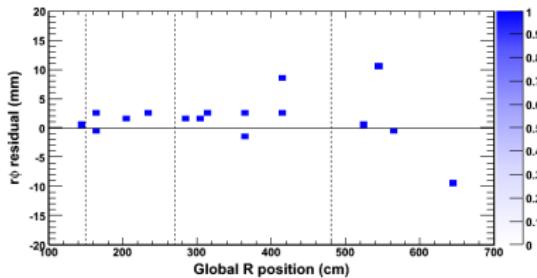
Map plots

Jim Pivarski 85/21

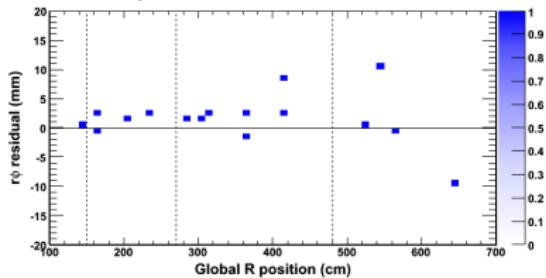


before (left) and after (right) individual chamber alignment

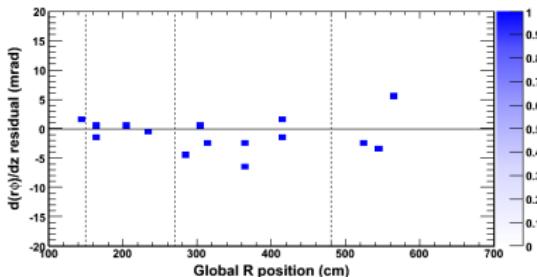
ME-1, ch 3 after global adjustment only



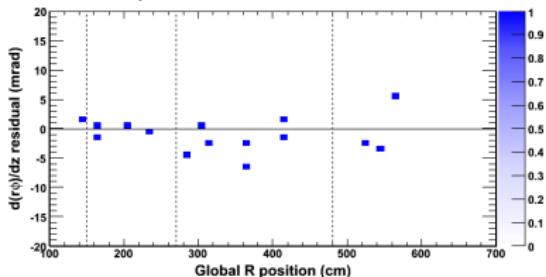
ME-1, ch 3 after $r_\phi - \phi_y - \phi_z$ alignment



ME-1, ch 3 after global adjustment only



ME-1, ch 3 after $r_\phi - \phi_y - \phi_z$ alignment



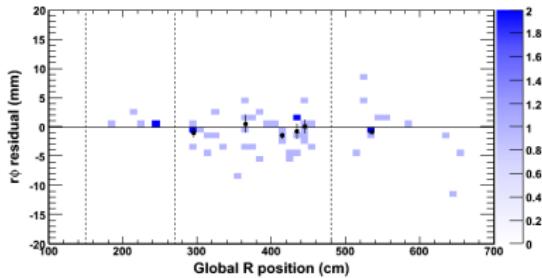
Map plots

Jim Pivarski 86/21

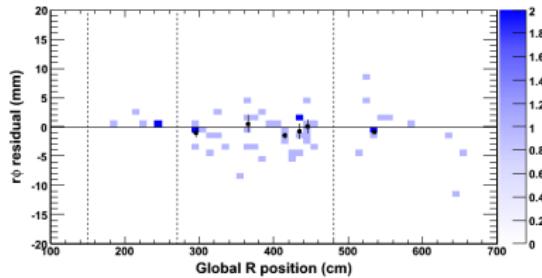


before (left) and after (right) individual chamber alignment

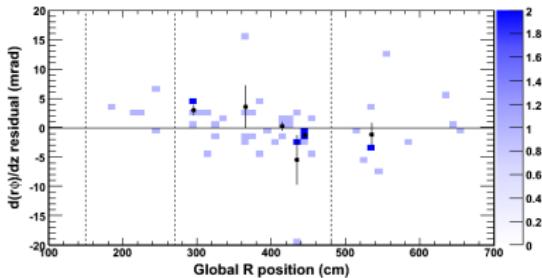
ME-1, ch 4 after global adjustment only



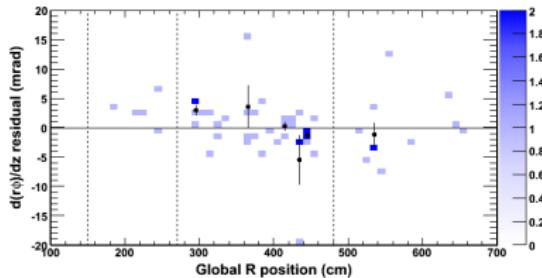
ME-1, ch 4 after $r_\phi = \phi_y - \phi_z$ alignment



ME-1, ch 4 after global adjustment only



ME-1, ch 4 after $r_\phi = \phi_y - \phi_z$ alignment



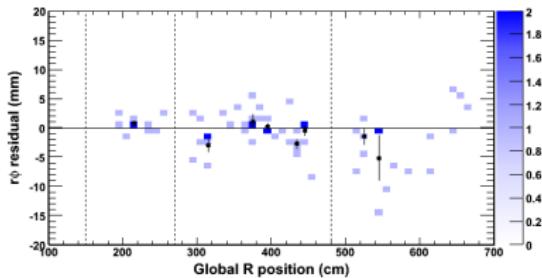
Map plots

Jim Pivarski 87/21

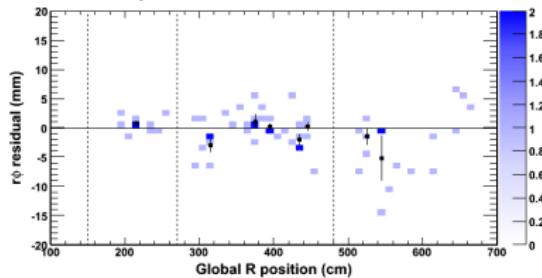


before (left) and after (right) individual chamber alignment

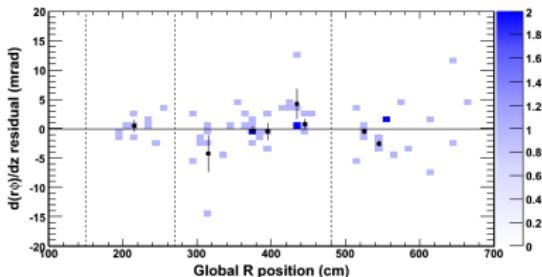
ME-1, ch 5 after global adjustment only



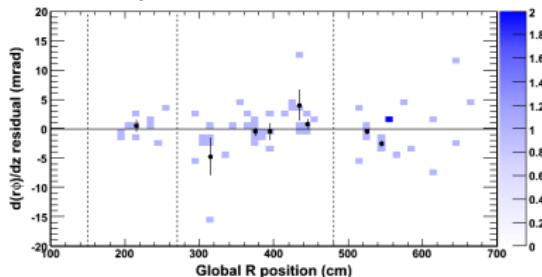
ME-1, ch 5 after $r_\phi = \phi_y - \phi_z$ alignment



ME-1, ch 5 after global adjustment only



ME-1, ch 5 after $r_\phi = \phi_y - \phi_z$ alignment



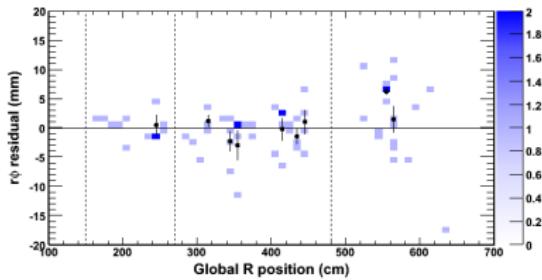
Map plots

Jim Pivarski 88/21

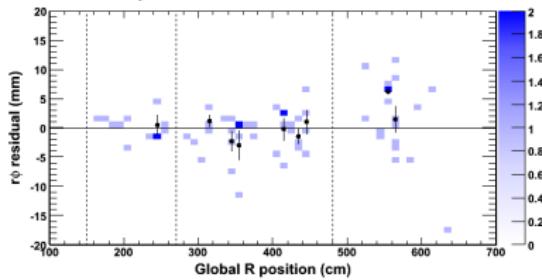


before (left) and after (right) individual chamber alignment

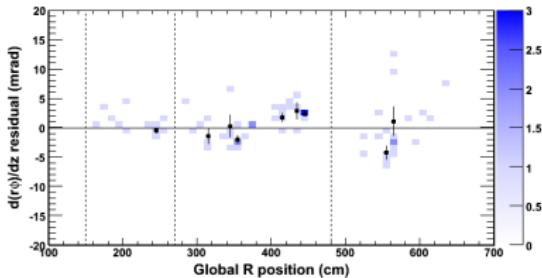
ME-1, ch 6 after global adjustment only



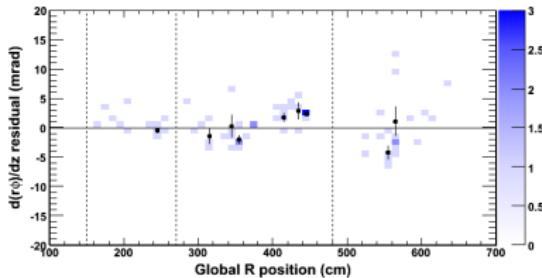
ME-1, ch 6 after $r_\phi - \theta_y - \theta_z$ alignment



ME-1, ch 6 after global adjustment only



ME-1, ch 6 after $r_\phi - \theta_y - \theta_z$ alignment



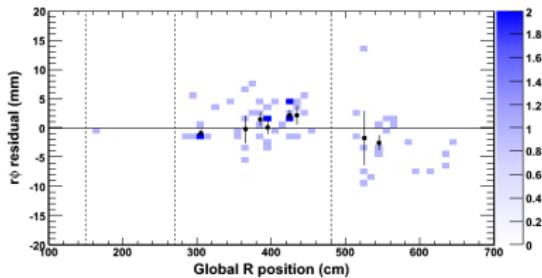
Map plots

Jim Pivarski 89/21

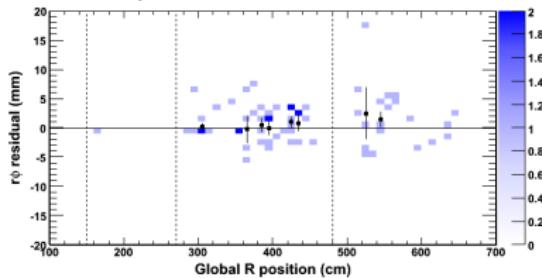


before (left) and after (right) individual chamber alignment

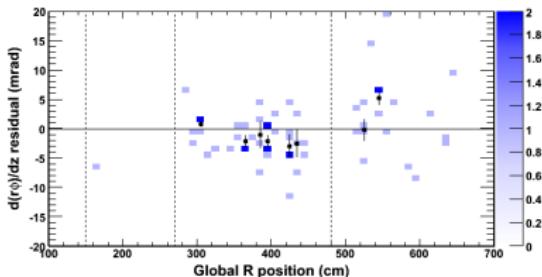
ME-1, ch 7 after global adjustment only



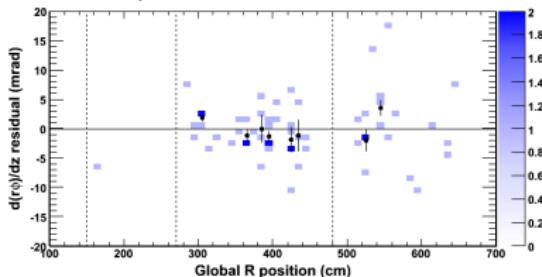
ME-1, ch 7 after $r_\phi = \phi_y - \phi_z$ alignment



ME-1, ch 7 after global adjustment only



ME-1, ch 7 after $r_\phi = \phi_y - \phi_z$ alignment



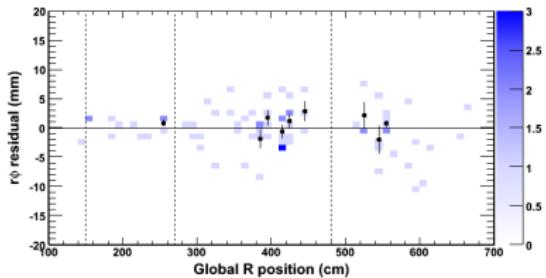
Map plots

Jim Pivarski 90/21

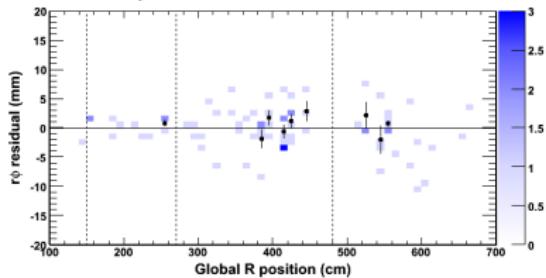


before (left) and after (right) individual chamber alignment

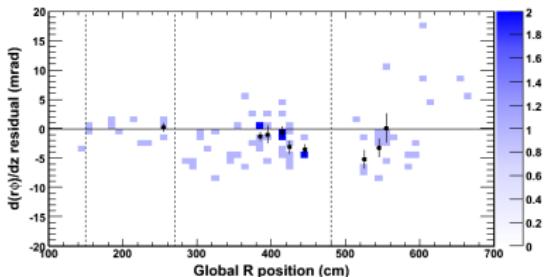
ME-1, ch 8 after global adjustment only



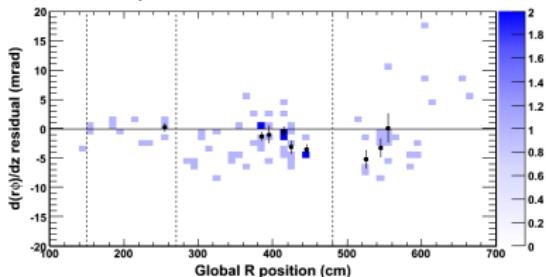
ME-1, ch 8 after $r_\phi = \phi_y - \phi_z$ alignment



ME-1, ch 8 after global adjustment only



ME-1, ch 8 after $r_\phi = \phi_y - \phi_z$ alignment



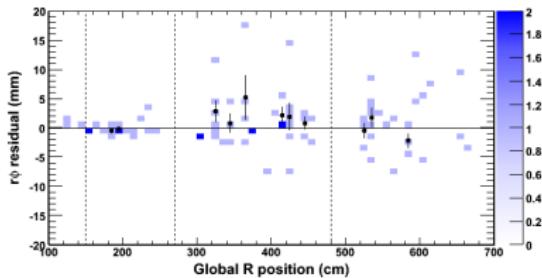
Map plots

Jim Pivarski 91/21

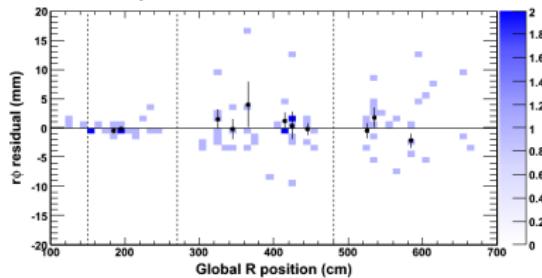


before (left) and after (right) individual chamber alignment

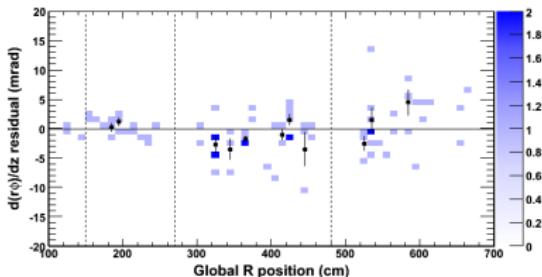
ME-1, ch 9 after global adjustment only



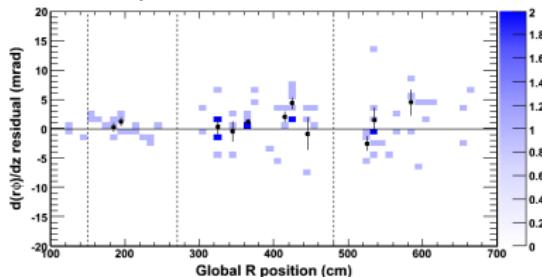
ME-1, ch 9 after $r_\phi = \phi_y - \phi_z$ alignment



ME-1, ch 9 after global adjustment only



ME-1, ch 9 after $r_\phi = \phi_y - \phi_z$ alignment



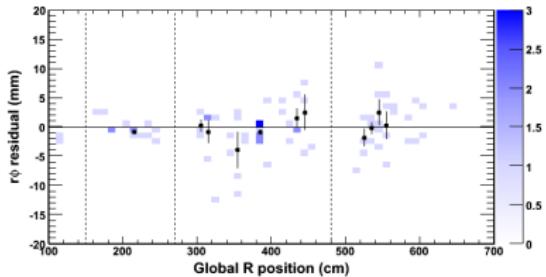
Map plots

Jim Pivarski 92/21

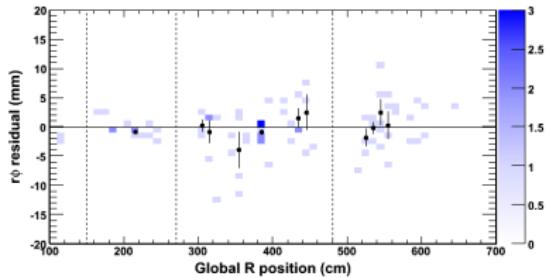


before (left) and after (right) individual chamber alignment

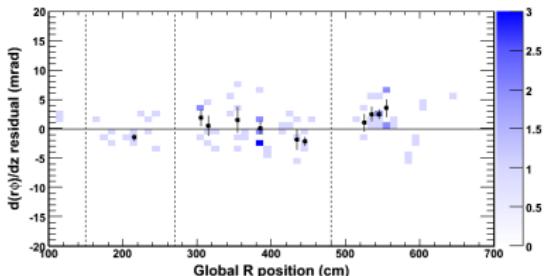
ME-1, ch 10 after global adjustment only



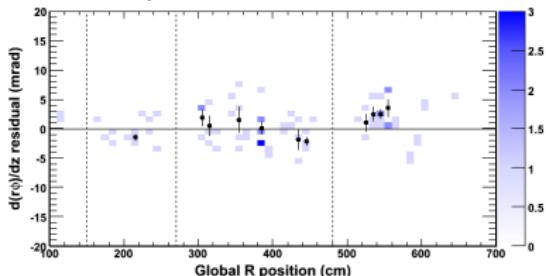
ME-1, ch 10 after $r\phi\phi_y - \phi_z$ alignment



ME-1, ch 10 after global adjustment only



ME-1, ch 10 after $r\phi\phi_y - \phi_z$ alignment



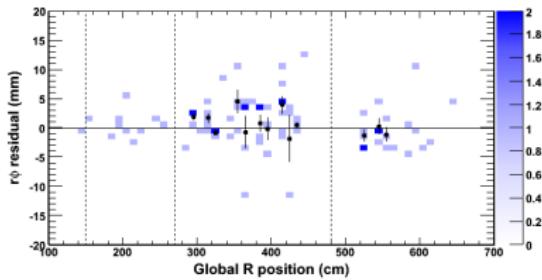
Map plots

Jim Pivarski 93/21

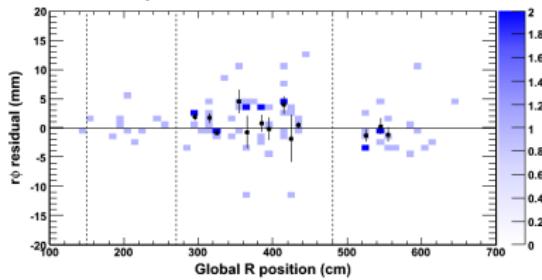


before (left) and after (right) individual chamber alignment

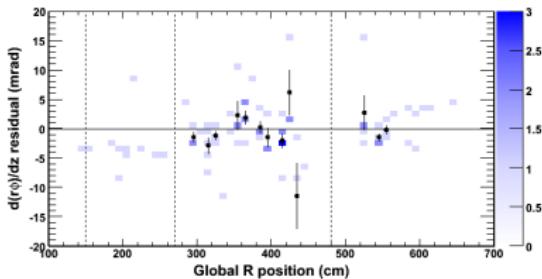
ME-1, ch 11 after global adjustment only



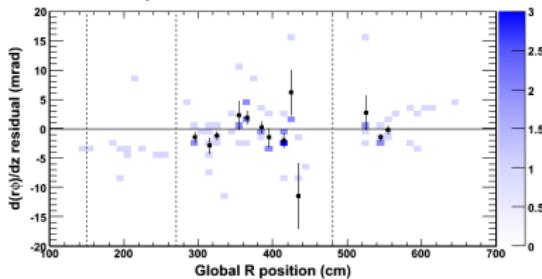
ME-1, ch 11 after $r\phi\theta\phi_y - \phi_z$ alignment



ME-1, ch 11 after global adjustment only



ME-1, ch 11 after $r\phi\theta\phi_y - \phi_z$ alignment



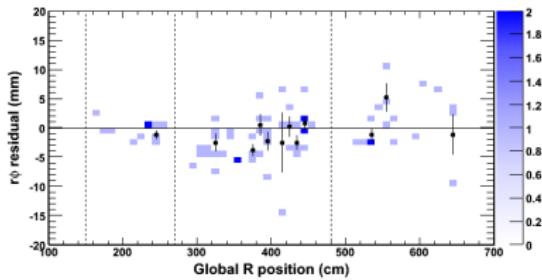
Map plots

Jim Pivarski 94/21

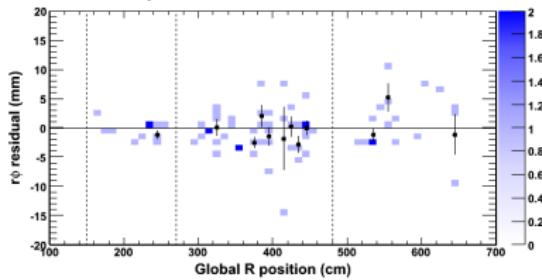


before (left) and after (right) individual chamber alignment

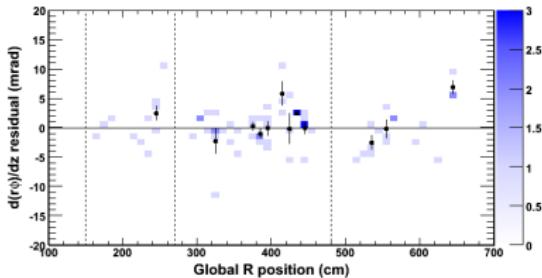
ME-1, ch 12 after global adjustment only



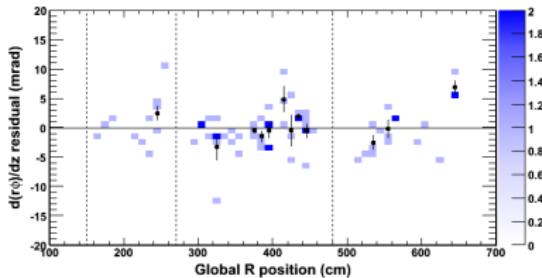
ME-1, ch 12 after $r\phi\rightarrow 0_y - \phi_z$ alignment



ME-1, ch 12 after global adjustment only



ME-1, ch 12 after $r\phi\rightarrow 0_y - \phi_z$ alignment



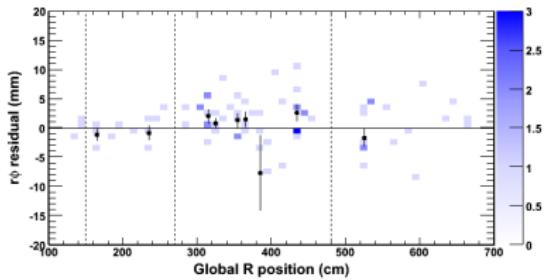
Map plots

Jim Pivarski 95/21

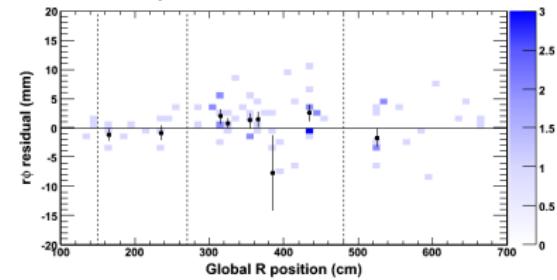


before (left) and after (right) individual chamber alignment

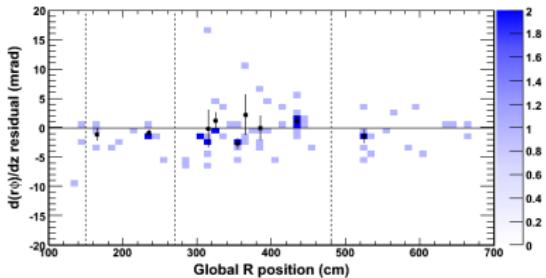
ME-1, ch 13 after global adjustment only



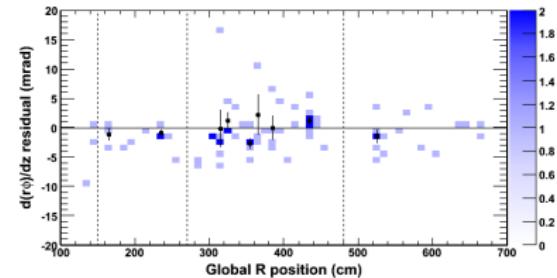
ME-1, ch 13 after $r\phi\phi_y\phi_z$ alignment



ME-1, ch 13 after global adjustment only



ME-1, ch 13 after $r\phi\phi_y\phi_z$ alignment



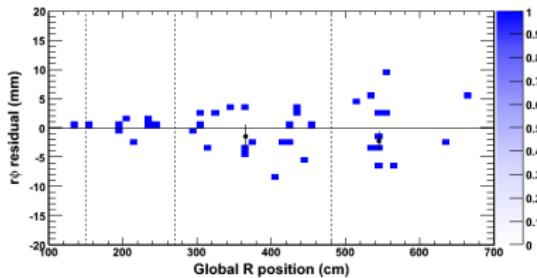
Map plots

Jim Pivarski 96/21

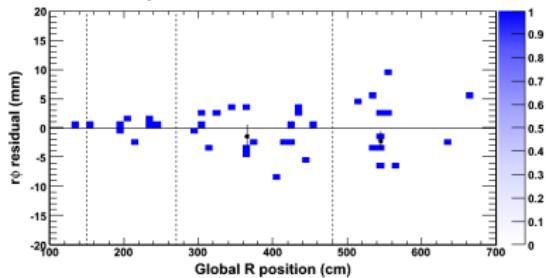


before (left) and after (right) individual chamber alignment

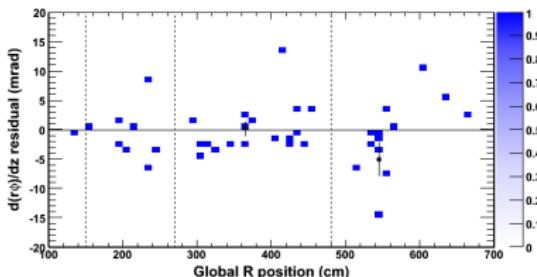
ME-1, ch 14 after global adjustment only



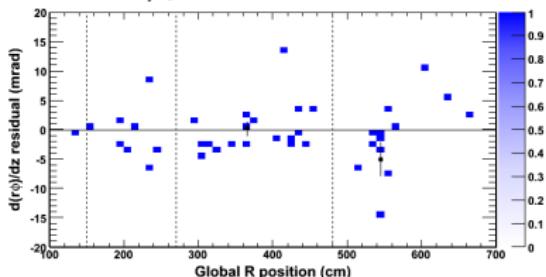
ME-1, ch 14 after $r\phi-\phi_y-\phi_z$ alignment



ME-1, ch 14 after global adjustment only



ME-1, ch 14 after $r\phi-\phi_y-\phi_z$ alignment



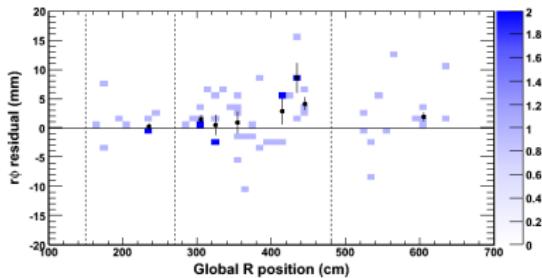
Map plots

Jim Pivarski 97/21

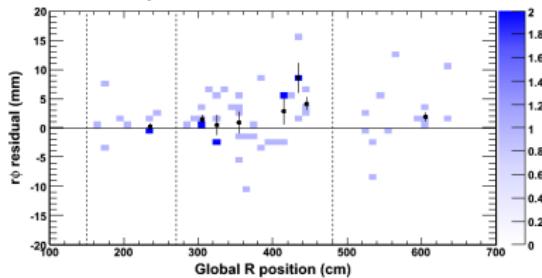


before (left) and after (right) individual chamber alignment

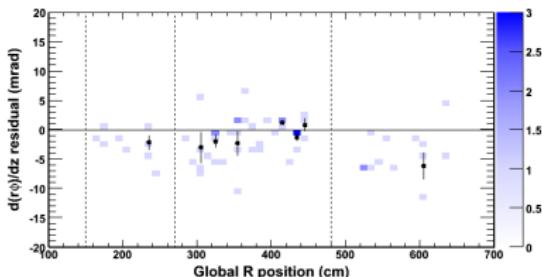
ME-1, ch 15 after global adjustment only



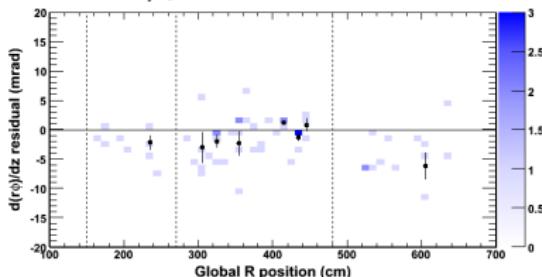
ME-1, ch 15 after $r\phi-\phi_y-\phi_z$ alignment



ME-1, ch 15 after global adjustment only



ME-1, ch 15 after $r\phi-\phi_y-\phi_z$ alignment



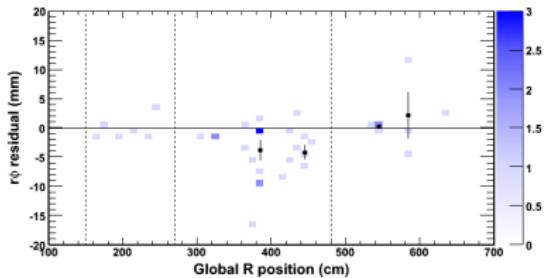
Map plots

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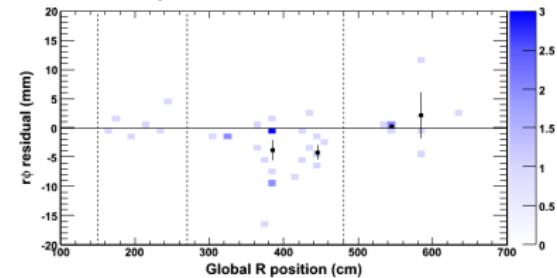


before (left) and after (right) individual chamber alignment

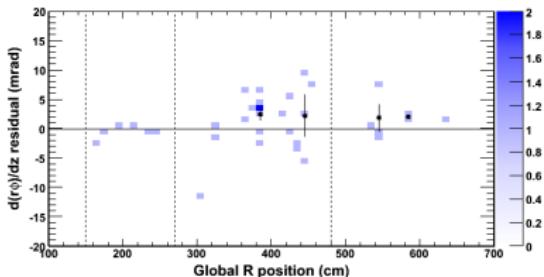
ME-1, ch 16 after global adjustment only



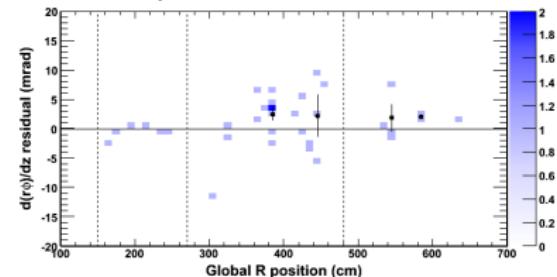
ME-1, ch 16 after $r\phi-\phi_y-\phi_z$ alignment



ME-1, ch 16 after global adjustment only



ME-1, ch 16 after $r\phi-\phi_y-\phi_z$ alignment



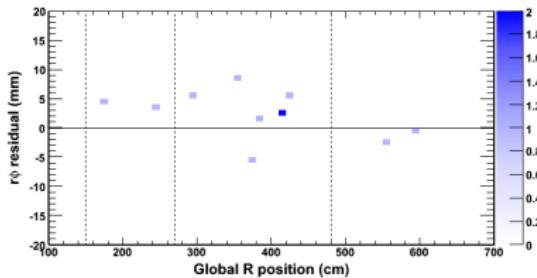
Map plots

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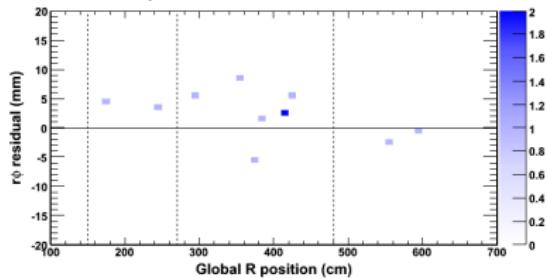


before (left) and after (right) individual chamber alignment

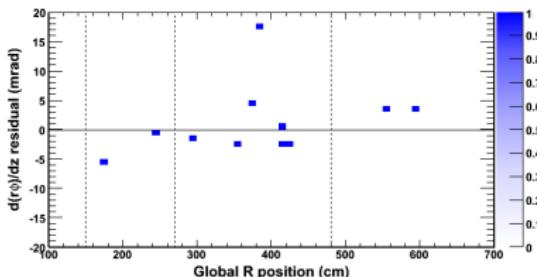
ME-1, ch 17 after global adjustment only



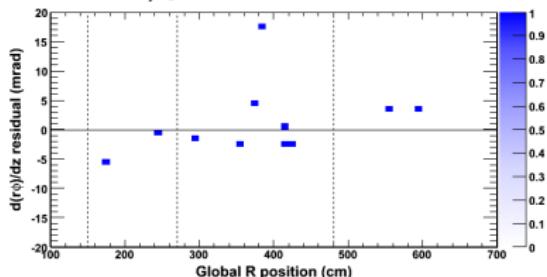
ME-1, ch 17 after $r\phi\rightarrow 0$, $\phi\rightarrow z$ alignment



ME-1, ch 17 after global adjustment only



ME-1, ch 17 after $r\phi\rightarrow 0$, $\phi\rightarrow z$ alignment



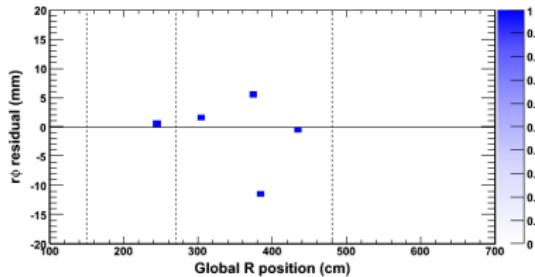
Map plots

Jim Pivarski 100/21

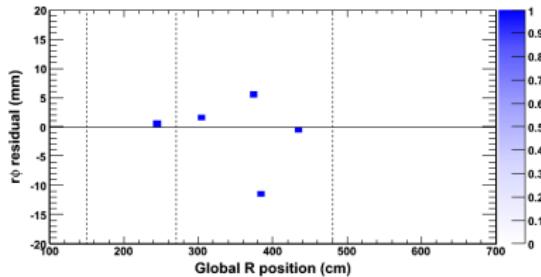


before (left) and after (right) individual chamber alignment

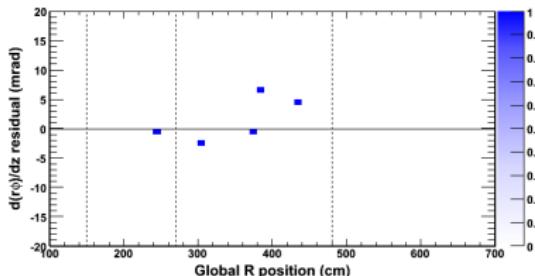
ME-1, ch 18 after global adjustment only



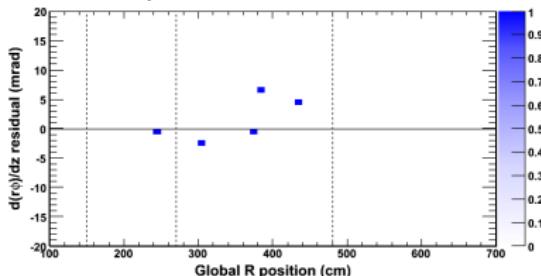
ME-1, ch 18 after $r\phi\text{-}\phi_y\text{-}\phi_z$ alignment



ME-1, ch 18 after global adjustment only



ME-1, ch 18 after $r\phi\text{-}\phi_y\text{-}\phi_z$ alignment



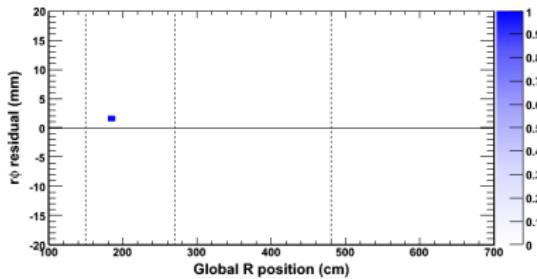
Map plots

Jim Pivarski 101/21

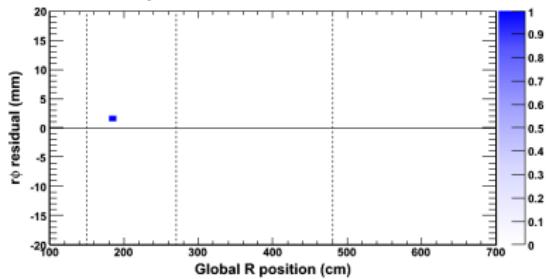


before (left) and after (right) individual chamber alignment

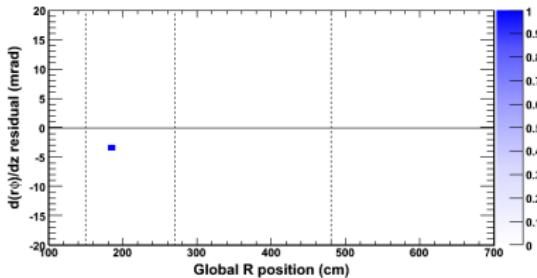
ME-1, ch 19 after global adjustment only



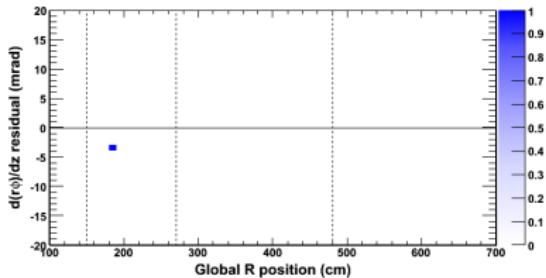
ME-1, ch 19 after $r\phi-\phi_y-\phi_z$ alignment



ME-1, ch 19 after global adjustment only



ME-1, ch 19 after $r\phi-\phi_y-\phi_z$ alignment



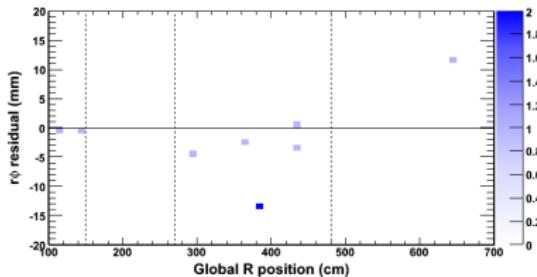
Map plots

Jim Pivarski 102/21

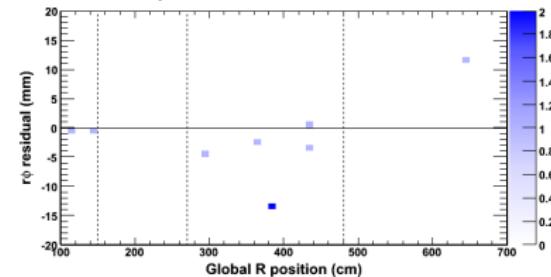


before (left) and after (right) individual chamber alignment

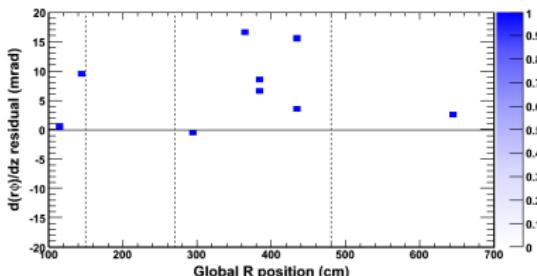
ME-1, ch 20 after global adjustment only



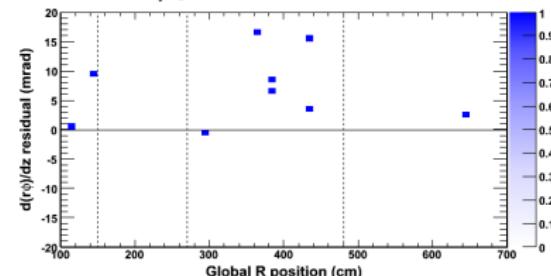
ME-1, ch 20 after $r_\phi - \phi_y - \phi_z$ alignment



ME-1, ch 20 after global adjustment only



ME-1, ch 20 after $r_\phi - \phi_y - \phi_z$ alignment



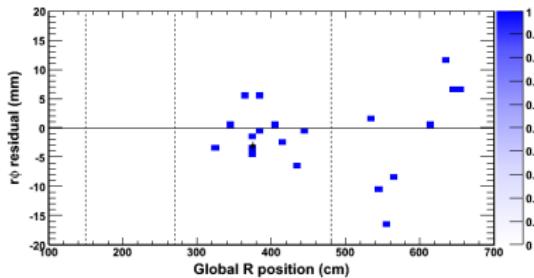
Map plots

Jim Pivarski 103/21

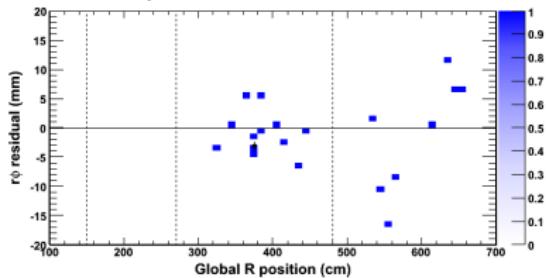


before (left) and after (right) individual chamber alignment

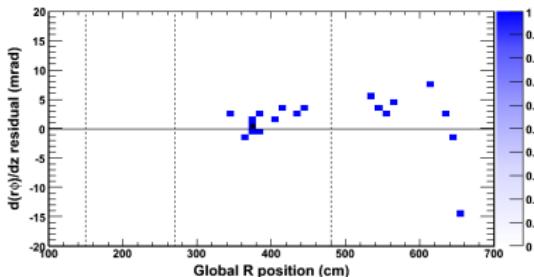
ME-1, ch 21 after global adjustment only



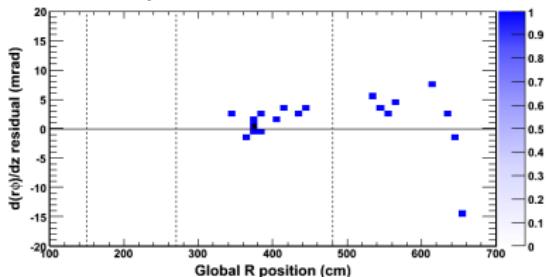
ME-1, ch 21 after $r\phi-\phi_y-\phi_z$ alignment



ME-1, ch 21 after global adjustment only



ME-1, ch 21 after $r\phi-\phi_y-\phi_z$ alignment



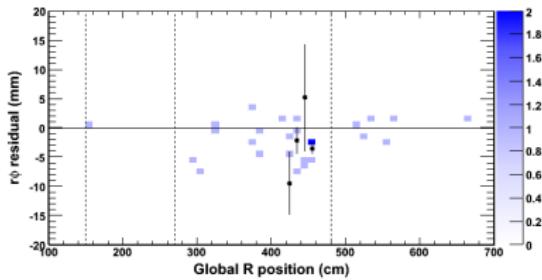
Map plots

Jim Pivarski 104/21

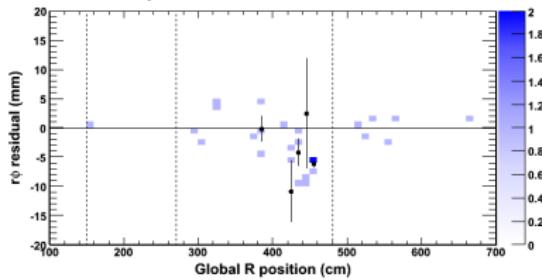


before (left) and after (right) individual chamber alignment

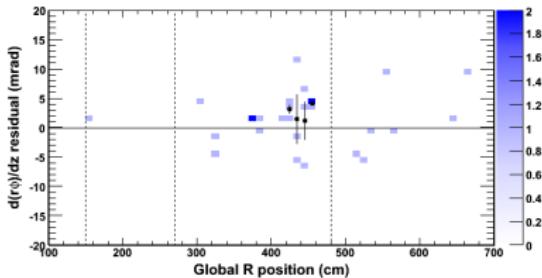
ME-1, ch 22 after global adjustment only



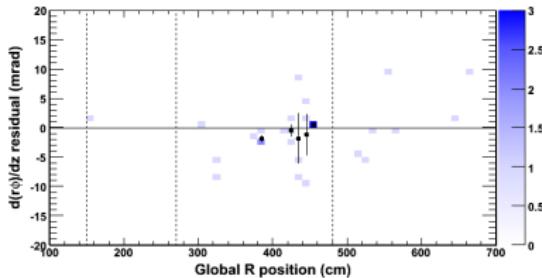
ME-1, ch 22 after $r\phi-\phi_y-\phi_z$ alignment



ME-1, ch 22 after global adjustment only



ME-1, ch 22 after $r\phi-\phi_y-\phi_z$ alignment



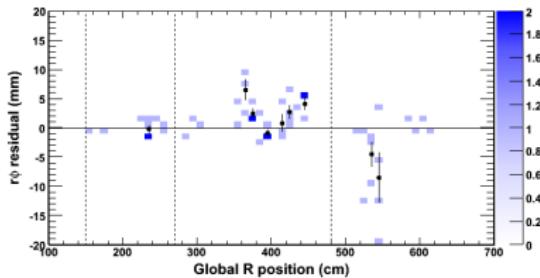
Map plots

Jim Pivarski 105/21

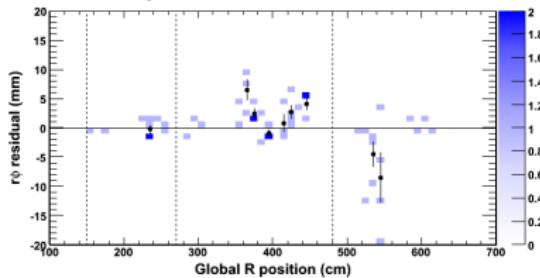


before (left) and after (right) individual chamber alignment

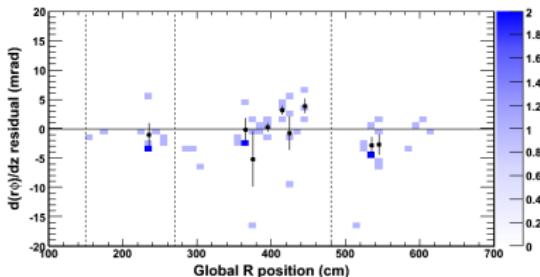
ME-1, ch 23 after global adjustment only



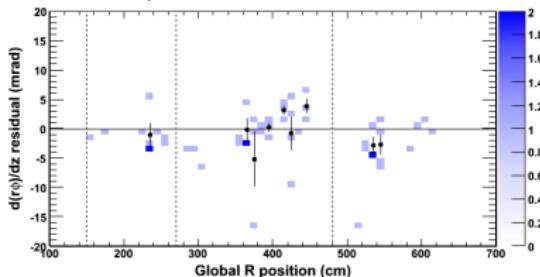
ME-1, ch 23 after $r\phi\phi\rightarrow 0_z$ alignment



ME-1, ch 23 after global adjustment only



ME-1, ch 23 after $r\phi\phi\rightarrow 0_z$ alignment



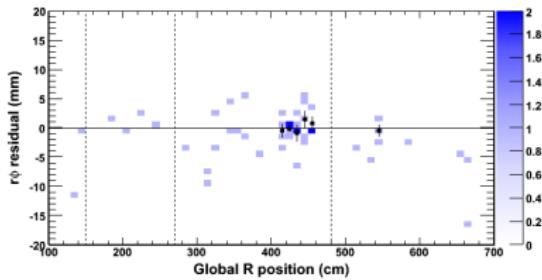
Map plots

Jim Pivarski 106/21

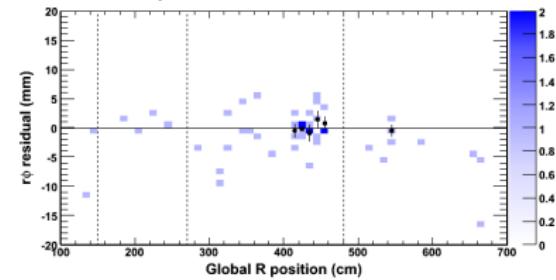


before (left) and after (right) individual chamber alignment

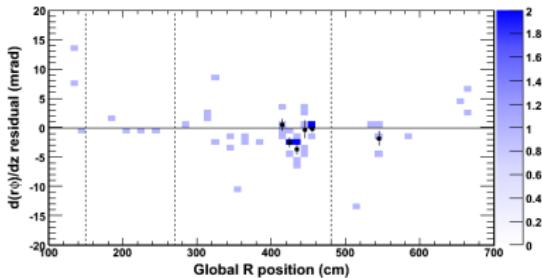
ME-1, ch 24 after global adjustment only



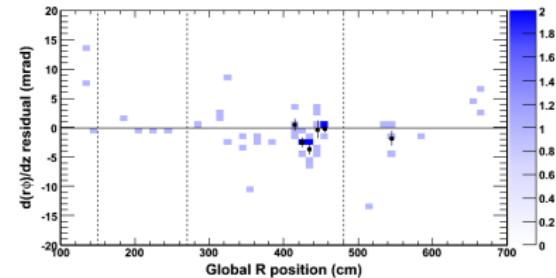
ME-1, ch 24 after $r\phi\phi_y\phi_z$ alignment



ME-1, ch 24 after global adjustment only



ME-1, ch 24 after $r\phi\phi_y\phi_z$ alignment



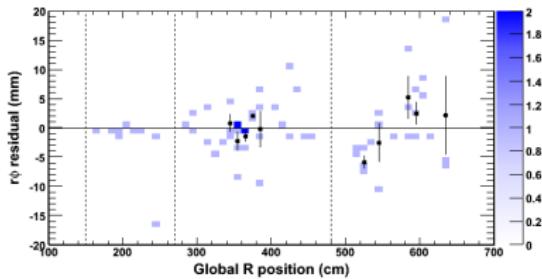
Map plots

Jim Pivarski 107/21

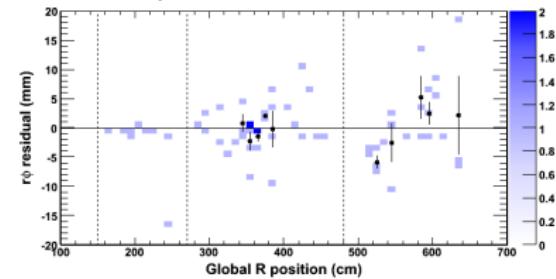


before (left) and after (right) individual chamber alignment

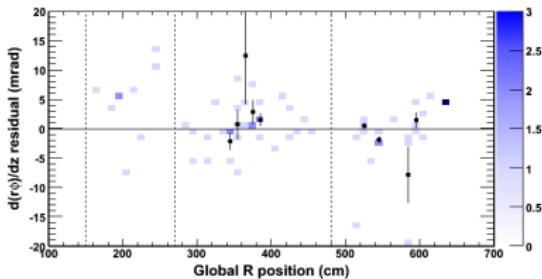
ME-1, ch 25 after global adjustment only



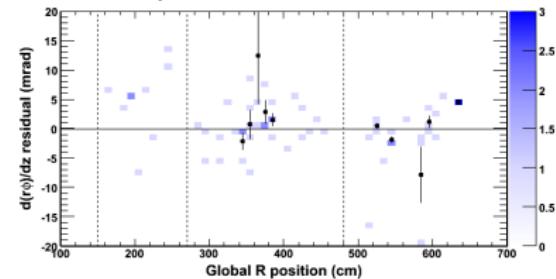
ME-1, ch 25 after $r\phi\phi\rightarrow 0_z$ alignment



ME-1, ch 25 after global adjustment only



ME-1, ch 25 after $r\phi\phi\rightarrow 0_z$ alignment



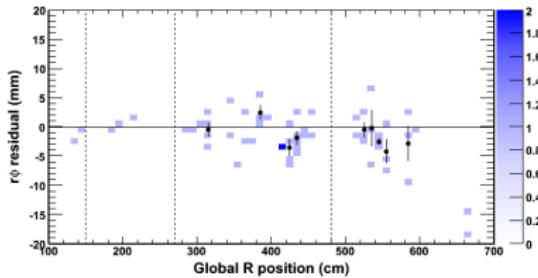
Map plots

Jim Pivarski 108/21

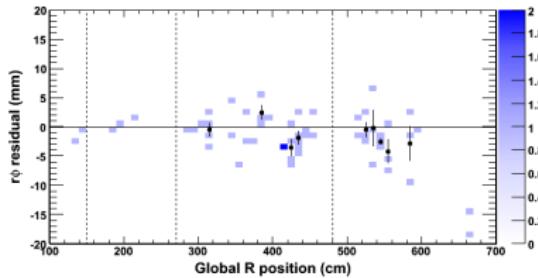


before (left) and after (right) individual chamber alignment

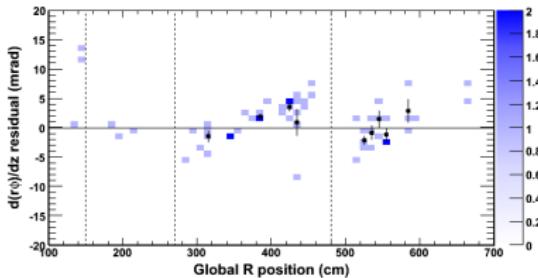
ME-1, ch 26 after global adjustment only



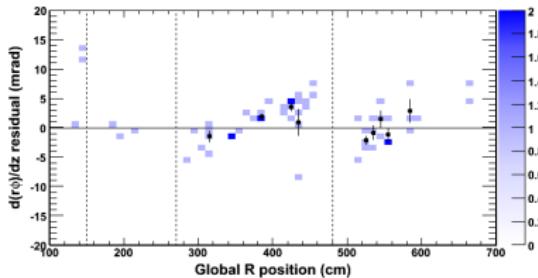
ME-1, ch 26 after $r\phi-\phi_y-\phi_z$ alignment



ME-1, ch 26 after global adjustment only



ME-1, ch 26 after $r\phi-\phi_y-\phi_z$ alignment



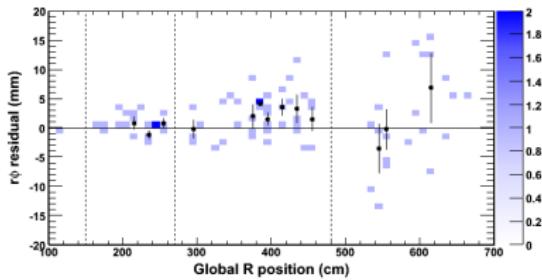
Map plots

Jim Pivarski 109/21

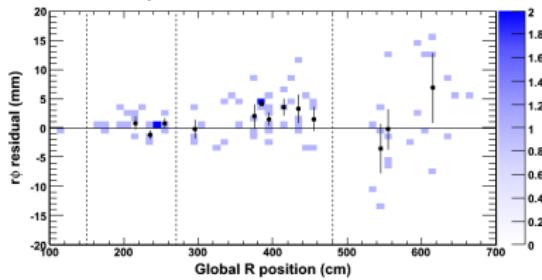


before (left) and after (right) individual chamber alignment

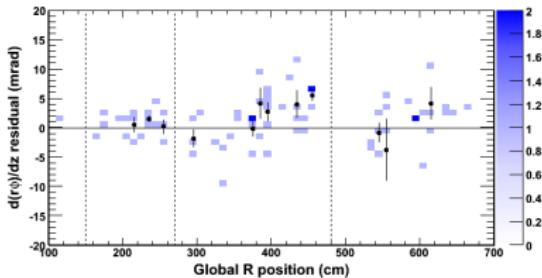
ME-1, ch 27 after global adjustment only



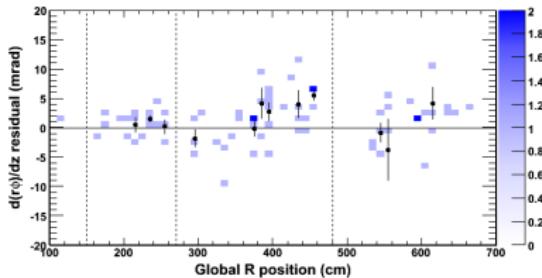
ME-1, ch 27 after $r_\phi - \phi_0 - \phi_z$ alignment



ME-1, ch 27 after global adjustment only



ME-1, ch 27 after $r_\phi - \phi_0 - \phi_z$ alignment



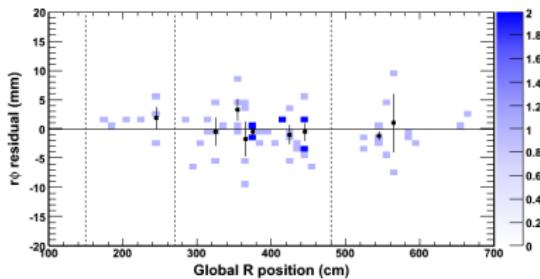
Map plots

Jim Pivarski 110/21

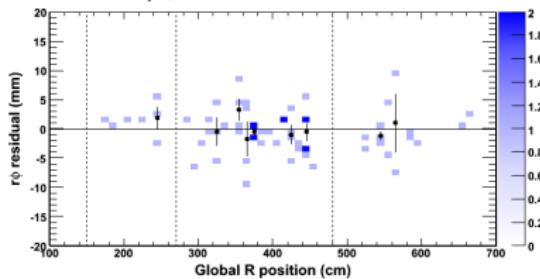


before (left) and after (right) individual chamber alignment

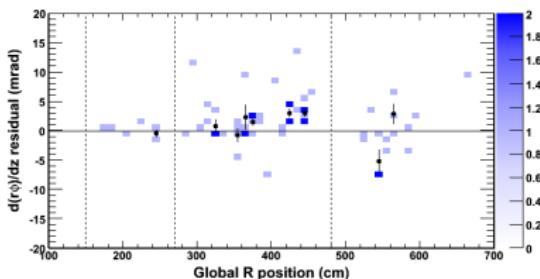
ME-1, ch 28 after global adjustment only



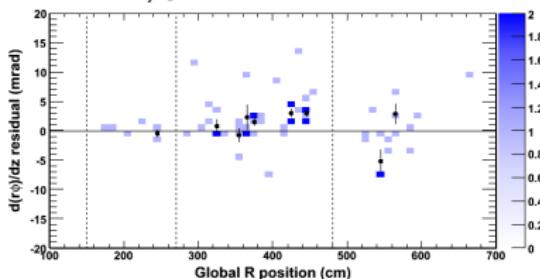
ME-1, ch 28 after $r\phi\phi_y\phi_z$ alignment



ME-1, ch 28 after global adjustment only



ME-1, ch 28 after $r\phi\phi_y\phi_z$ alignment



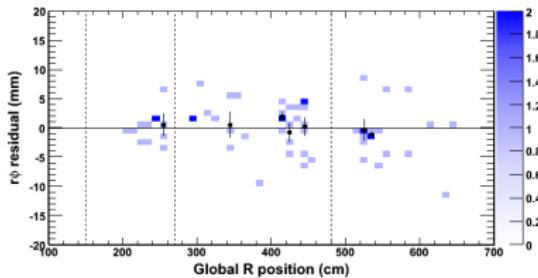
Map plots

Jim Pivarski 111/21

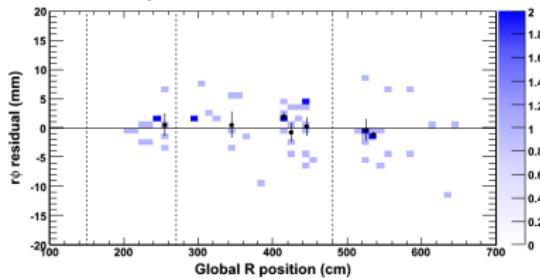


before (left) and after (right) individual chamber alignment

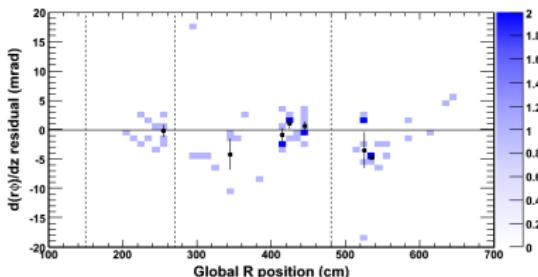
ME-1, ch 29 after global adjustment only



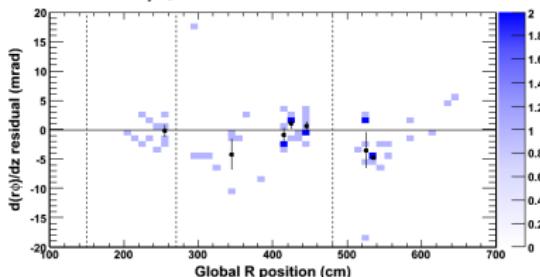
ME-1, ch 29 after $r\phi\phi\rightarrow 0_z$ alignment



ME-1, ch 29 after global adjustment only



ME-1, ch 29 after $r\phi\phi\rightarrow 0_z$ alignment



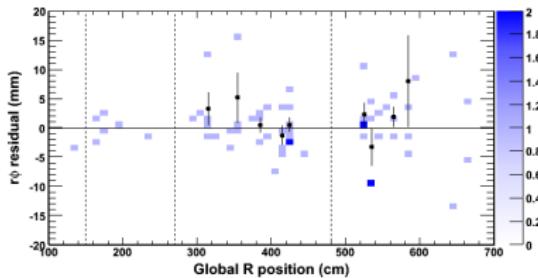
Map plots

Jim Pivarski 112/21

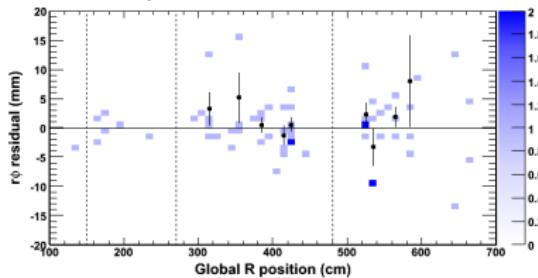


before (left) and after (right) individual chamber alignment

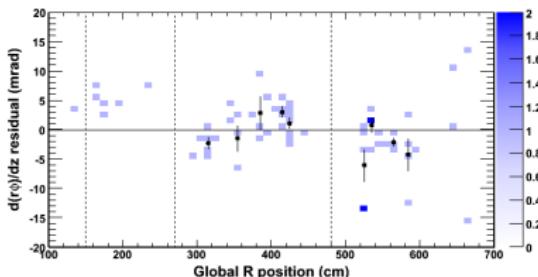
ME-1, ch 30 after global adjustment only



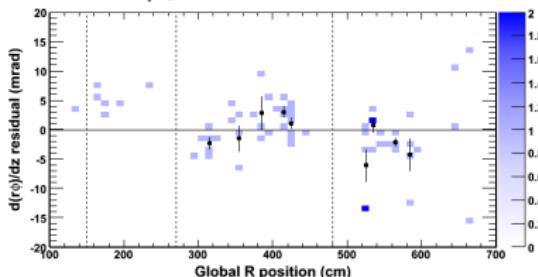
ME-1, ch 30 after $r\phi-\phi_y-\phi_z$ alignment



ME-1, ch 30 after global adjustment only



ME-1, ch 30 after $r\phi-\phi_y-\phi_z$ alignment



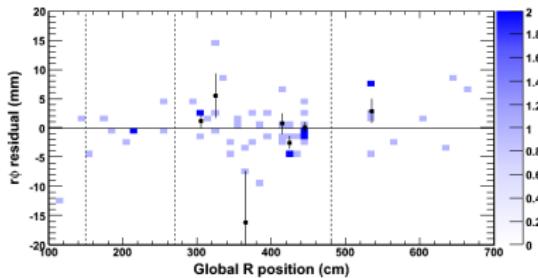
Map plots

Jim Pivarski 113/21

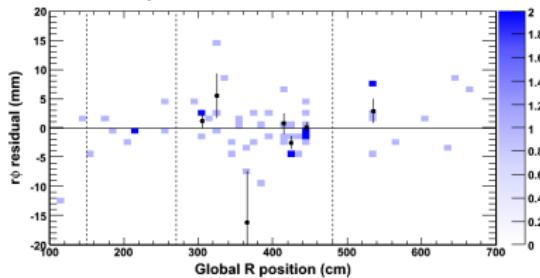


before (left) and after (right) individual chamber alignment

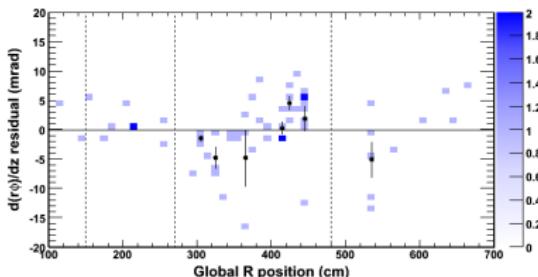
ME-1, ch 31 after global adjustment only



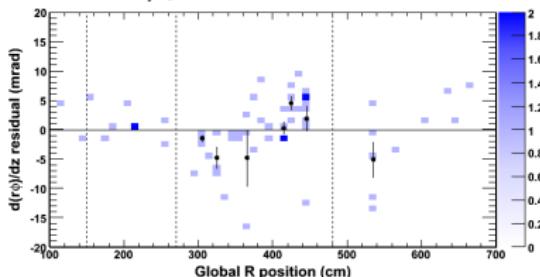
ME-1, ch 31 after $r\phi\phi_y\phi_z$ alignment



ME-1, ch 31 after global adjustment only



ME-1, ch 31 after $r\phi\phi_y\phi_z$ alignment



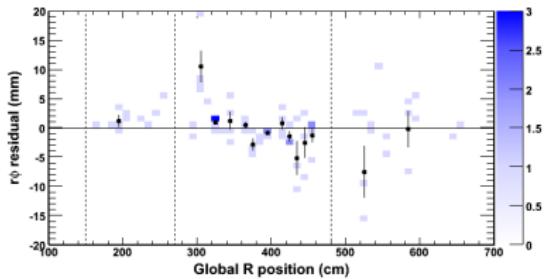
Map plots

Jim Pivarski 114/21

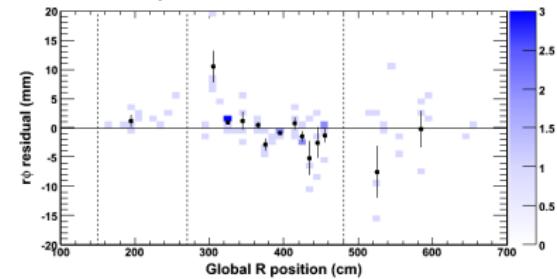


before (left) and after (right) individual chamber alignment

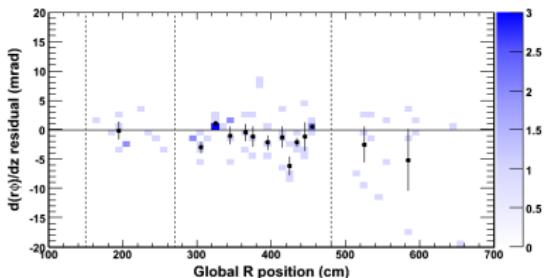
ME-1, ch 32 after global adjustment only



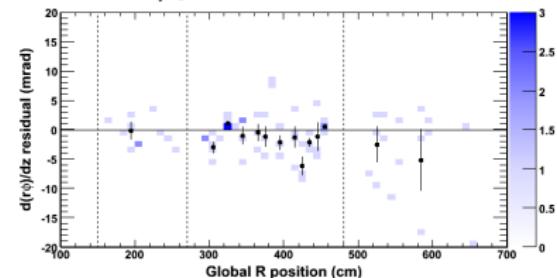
ME-1, ch 32 after $r\phi-\phi_y-\phi_z$ alignment



ME-1, ch 32 after global adjustment only



ME-1, ch 32 after $r\phi-\phi_y-\phi_z$ alignment



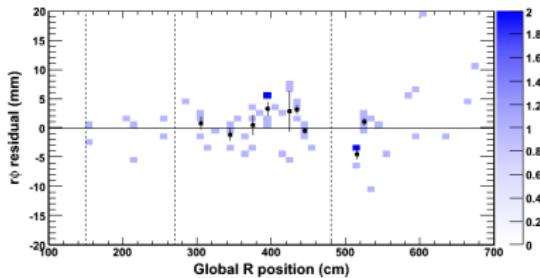
Map plots

Jim Pivarski 115/21

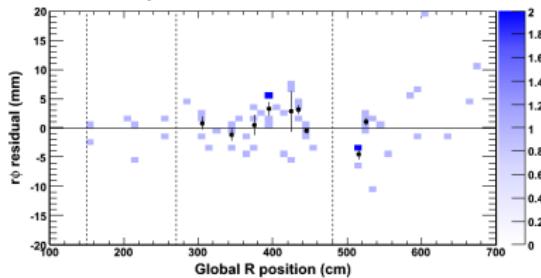


before (left) and after (right) individual chamber alignment

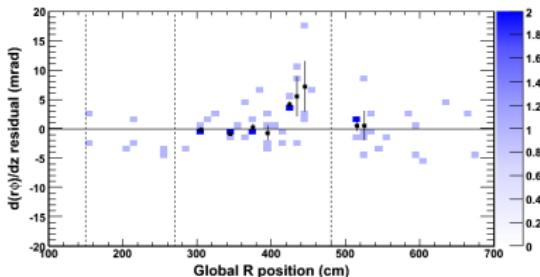
ME-1, ch 33 after global adjustment only



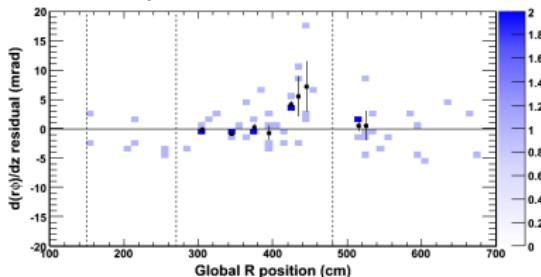
ME-1, ch 33 after $r\phi-\phi_y-\phi_z$ alignment



ME-1, ch 33 after global adjustment only



ME-1, ch 33 after $r\phi-\phi_y-\phi_z$ alignment



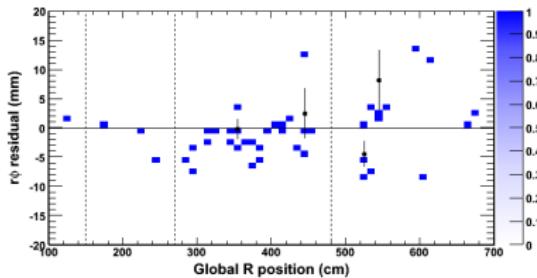
Map plots

Jim Pivarski 116/21

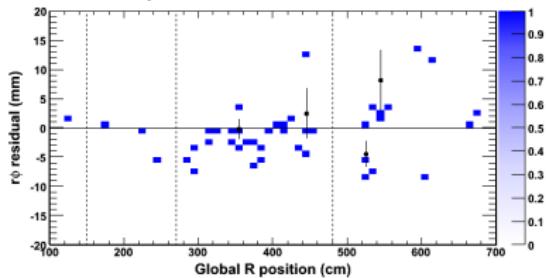


before (left) and after (right) individual chamber alignment

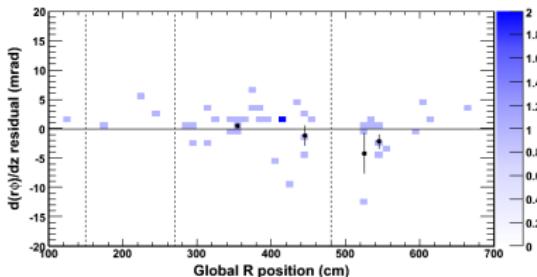
ME-1, ch 34 after global adjustment only



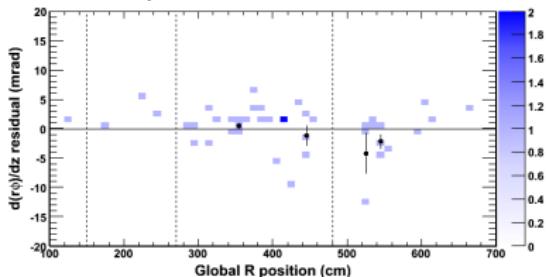
ME-1, ch 34 after $r\phi-\phi_y-\phi_z$ alignment



ME-1, ch 34 after global adjustment only



ME-1, ch 34 after $r\phi-\phi_y-\phi_z$ alignment



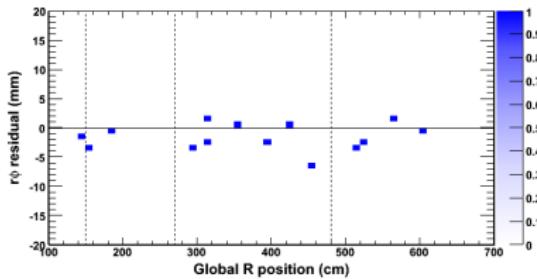
Map plots

Jim Pivarski 117/21

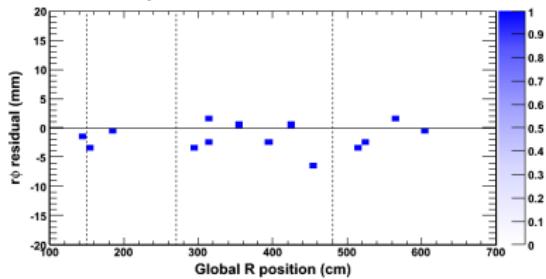


before (left) and after (right) individual chamber alignment

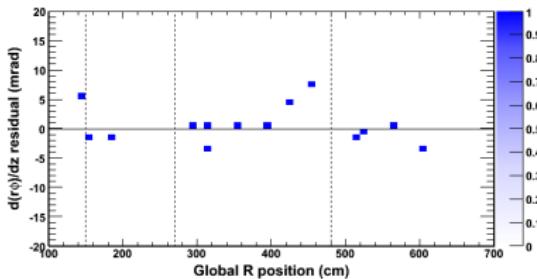
ME-1, ch 35 after global adjustment only



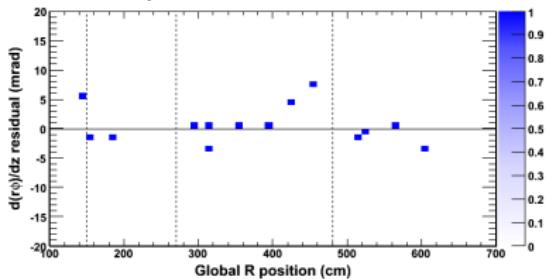
ME-1, ch 35 after $r\phi-\phi_y-\phi_z$ alignment



ME-1, ch 35 after global adjustment only



ME-1, ch 35 after $r\phi-\phi_y-\phi_z$ alignment



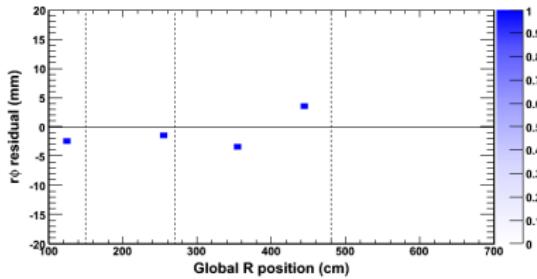
Map plots

Jim Pivarski 118/21

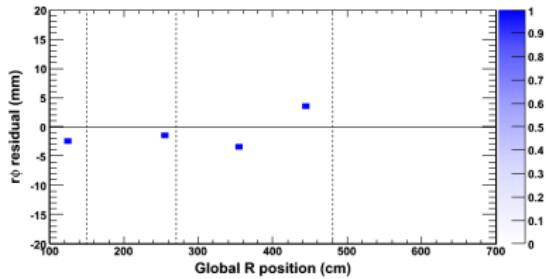


before (left) and after (right) individual chamber alignment

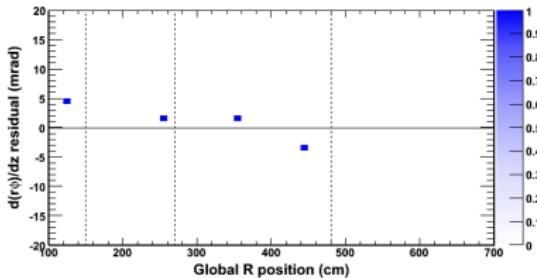
ME-1, ch 36 after global adjustment only



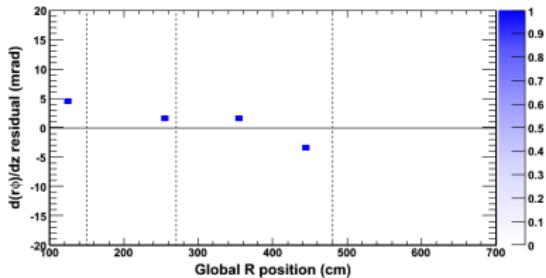
ME-1, ch 36 after $r\phi\phi_y\phi_z$ alignment



ME-1, ch 36 after global adjustment only



ME-1, ch 36 after $r\phi\phi_y\phi_z$ alignment



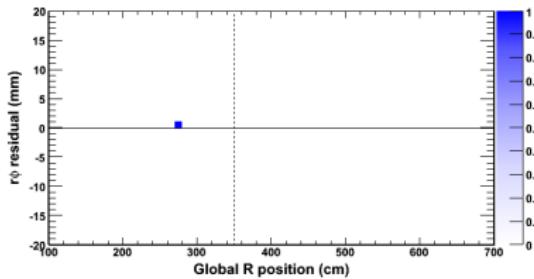
Map plots

Jim Pivarski 119/21

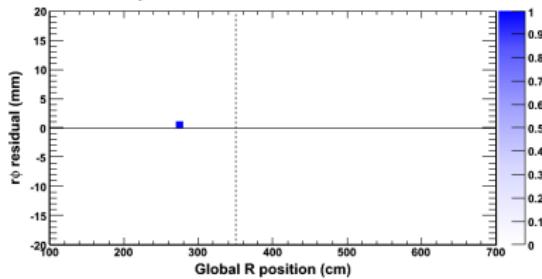


before (left) and after (right) individual chamber alignment

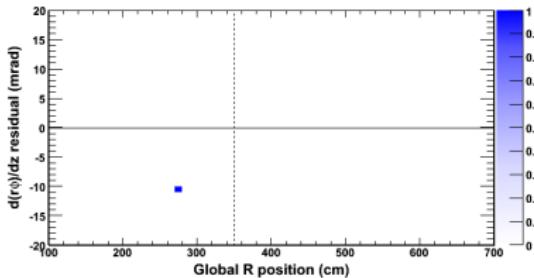
ME-2, ch 1 after global adjustment only



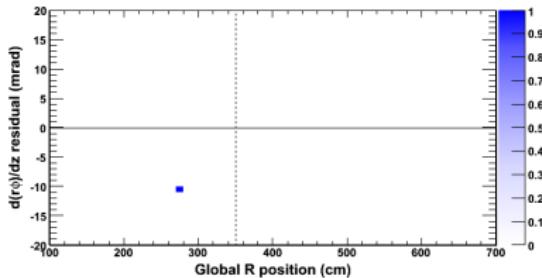
ME-2, ch 1 after $r_\phi = \phi_y - \phi_z$ alignment



ME-2, ch 1 after global adjustment only



ME-2, ch 1 after $r_\phi = \phi_y - \phi_z$ alignment



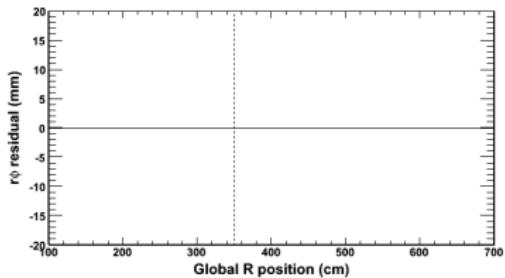
Map plots

Jim Pivarski 120/21

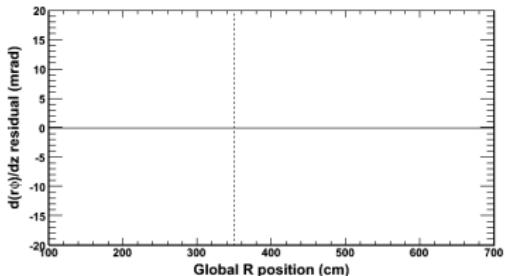
before (left) and after (right) individual chamber alignment



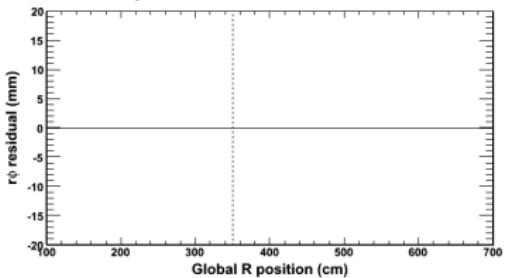
ME-2, ch 2 after global adjustment only



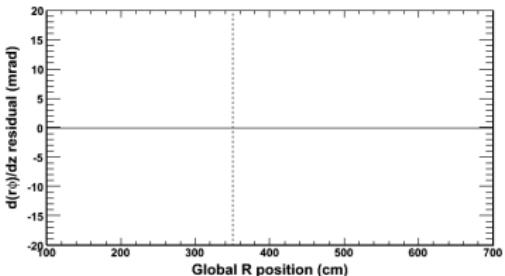
ME-2, ch 2 after global adjustment only



ME-2, ch 2 after $r_\phi = \phi_y - \phi_z$ alignment



ME-2, ch 2 after $r_\phi = \phi_y - \phi_z$ alignment



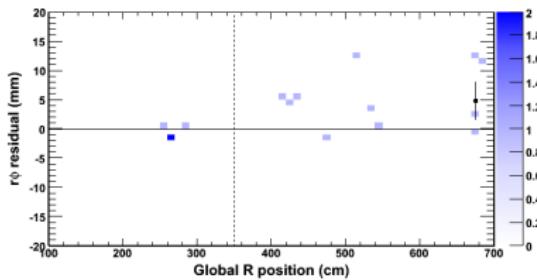
Map plots

Jim Pivarski 121/21

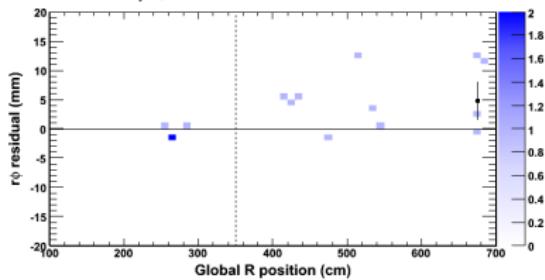


before (left) and after (right) individual chamber alignment

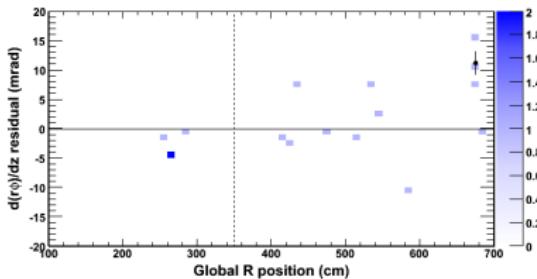
ME-2, ch 3 after global adjustment only



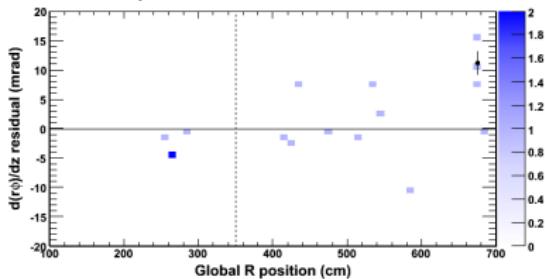
ME-2, ch 3 after $r_\phi - \phi_y - \phi_z$ alignment



ME-2, ch 3 after global adjustment only



ME-2, ch 3 after $r_\phi - \phi_y - \phi_z$ alignment



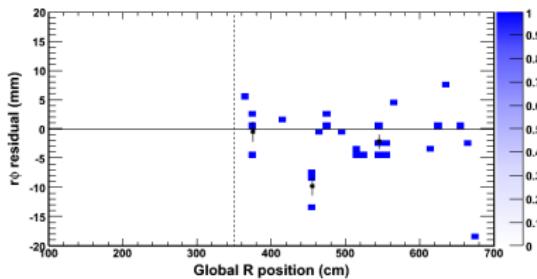
Map plots

Jim Pivarski 122/21

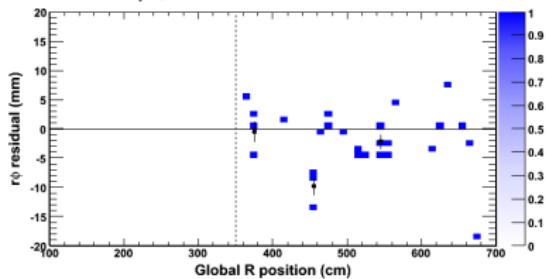


before (left) and after (right) individual chamber alignment

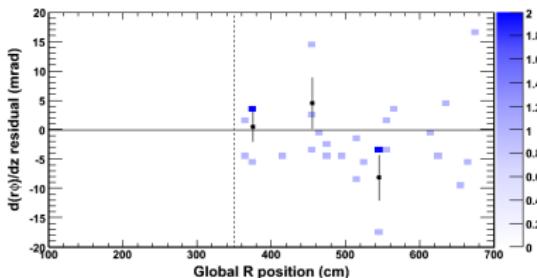
ME-2, ch 4 after global adjustment only



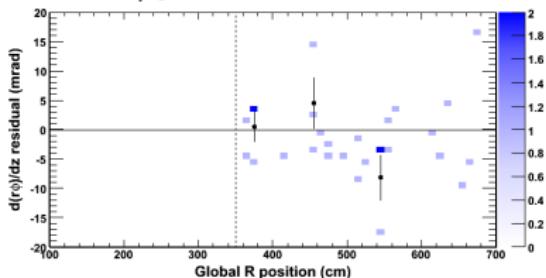
ME-2, ch 4 after $r_\phi - \phi_y - \phi_z$ alignment



ME-2, ch 4 after global adjustment only



ME-2, ch 4 after $r_\phi - \phi_y - \phi_z$ alignment



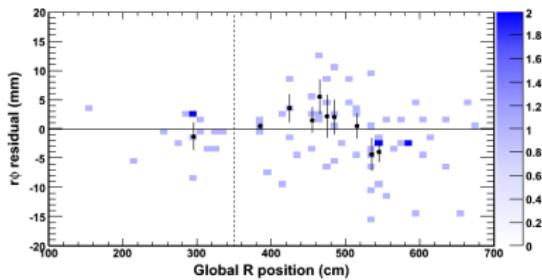
Map plots

Jim Pivarski 123/21

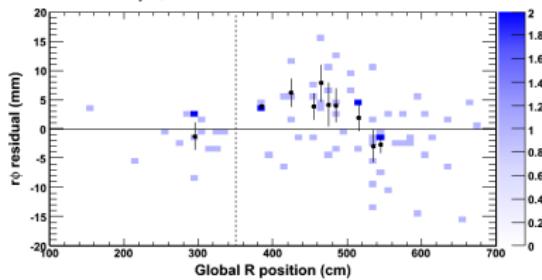


before (left) and after (right) individual chamber alignment

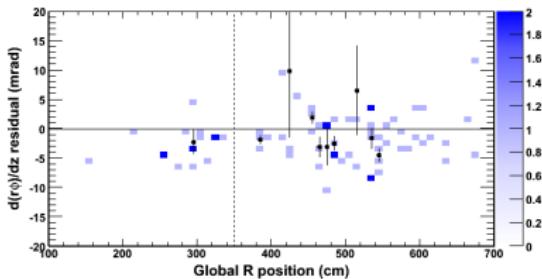
ME-2, ch 5 after global adjustment only



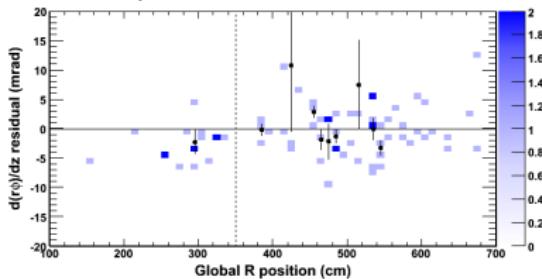
ME-2, ch 5 after $r_\phi = \phi_y - \phi_z$ alignment



ME-2, ch 5 after global adjustment only



ME-2, ch 5 after $r_\phi = \phi_y - \phi_z$ alignment



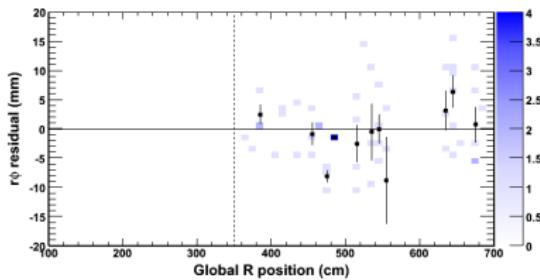
Map plots

Jim Pivarski 124/21

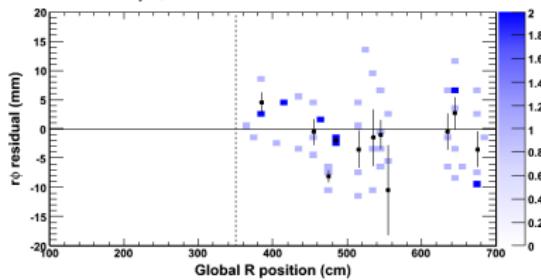


before (left) and after (right) individual chamber alignment

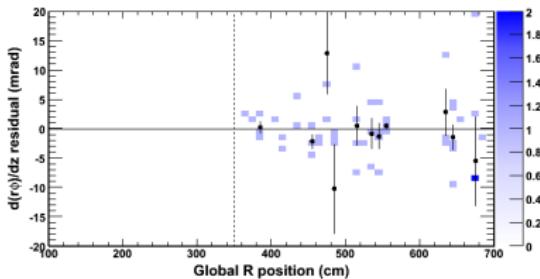
ME-2, ch 6 after global adjustment only



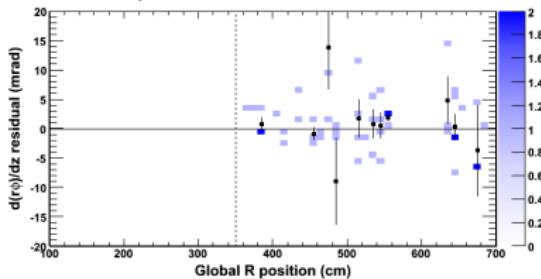
ME-2, ch 6 after $r_\phi = \phi_y - \phi_z$ alignment



ME-2, ch 6 after global adjustment only



ME-2, ch 6 after $r_\phi = \phi_y - \phi_z$ alignment



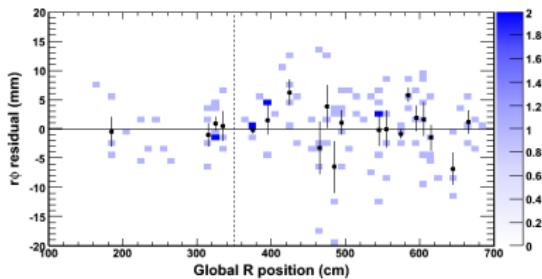
Map plots

Jim Pivarski 125/21

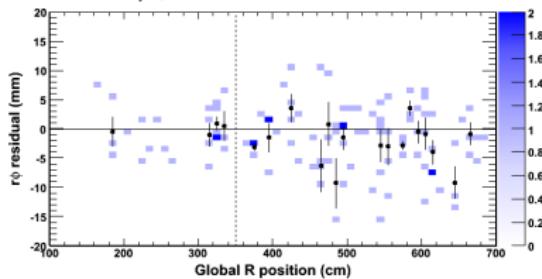


before (left) and after (right) individual chamber alignment

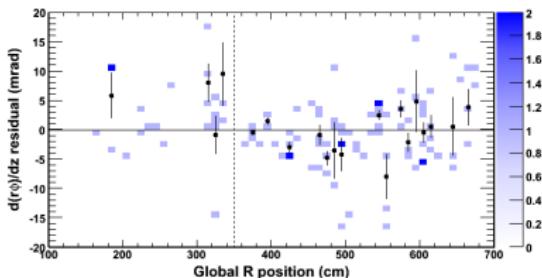
ME-2, ch 7 after global adjustment only



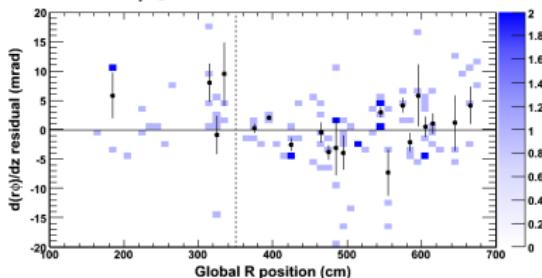
ME-2, ch 7 after $r_\phi = \phi_y - \phi_z$ alignment



ME-2, ch 7 after global adjustment only



ME-2, ch 7 after $r_\phi = \phi_y - \phi_z$ alignment



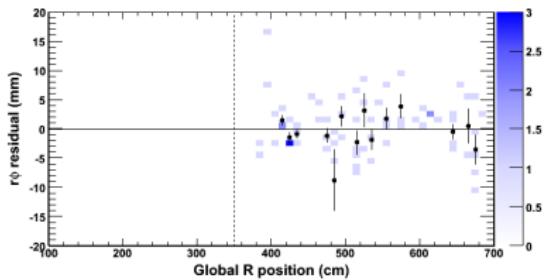
Map plots

Jim Pivarski 126/21

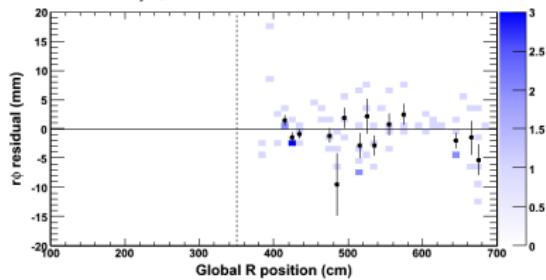


before (left) and after (right) individual chamber alignment

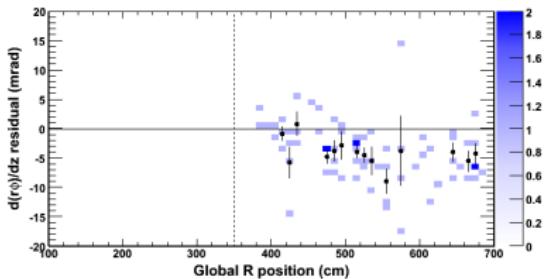
ME-2, ch 8 after global adjustment only



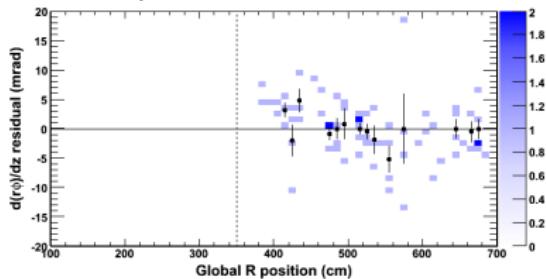
ME-2, ch 8 after $r_\phi = \phi_y - \phi_z$ alignment



ME-2, ch 8 after global adjustment only



ME-2, ch 8 after $r_\phi = \phi_y - \phi_z$ alignment



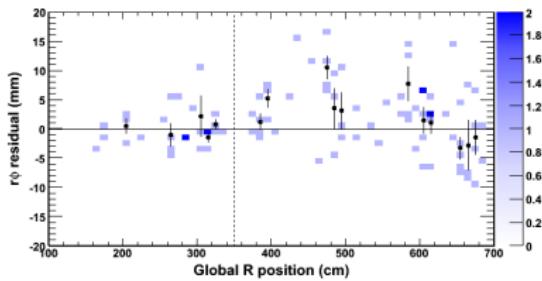
Map plots

Jim Pivarski 127/21

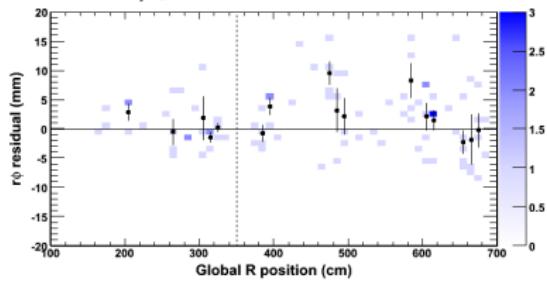


before (left) and after (right) individual chamber alignment

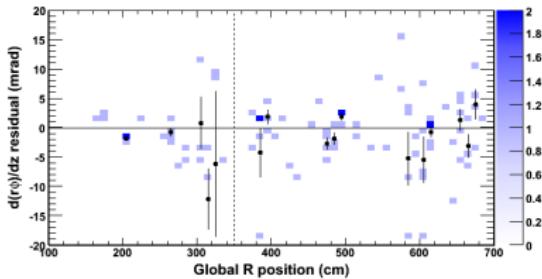
ME-2, ch 9 after global adjustment only



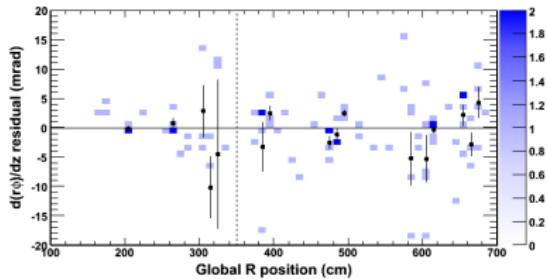
ME-2, ch 9 after $r_\phi - \phi_y - \phi_z$ alignment



ME-2, ch 9 after global adjustment only



ME-2, ch 9 after $r_\phi - \phi_y - \phi_z$ alignment



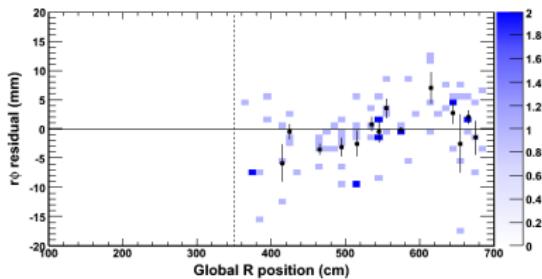
Map plots

Jim Pivarski 128/21

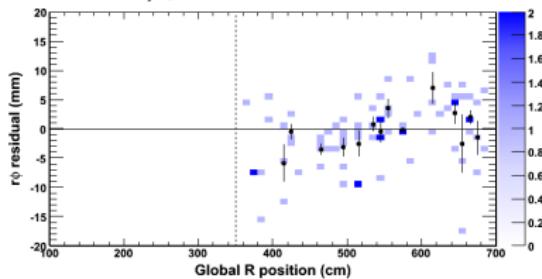


before (left) and after (right) individual chamber alignment

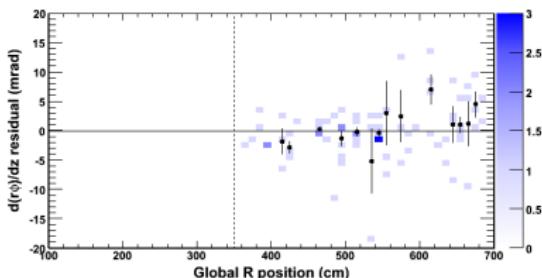
ME-2, ch 10 after global adjustment only



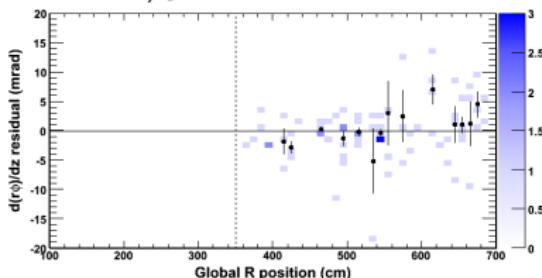
ME-2, ch 10 after $r\phi\phi_y\phi_z$ alignment



ME-2, ch 10 after global adjustment only



ME-2, ch 10 after $r\phi\phi_y\phi_z$ alignment



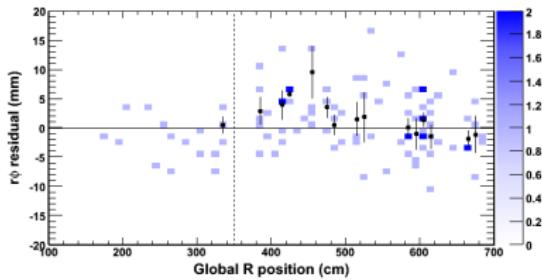
Map plots

Jim Pivarski 129/21

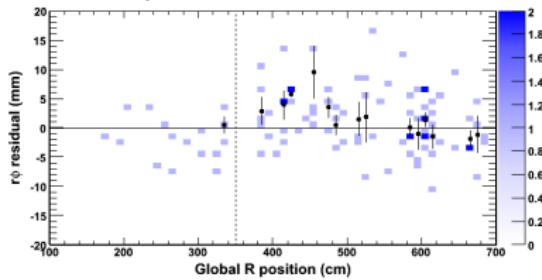


before (left) and after (right) individual chamber alignment

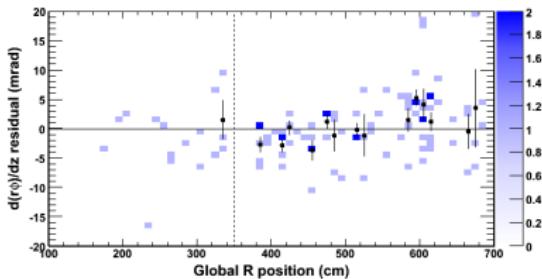
ME-2, ch 11 after global adjustment only



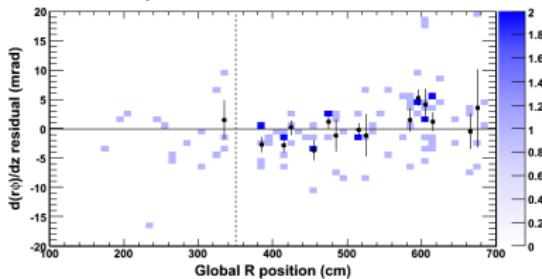
ME-2, ch 11 after $r\phi\phi_y - \phi_z$ alignment



ME-2, ch 11 after global adjustment only



ME-2, ch 11 after $r\phi\phi_y - \phi_z$ alignment



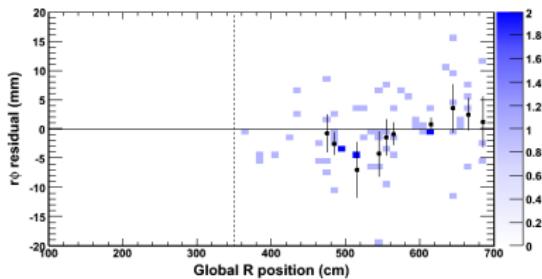
Map plots

Jim Pivarski 130/21

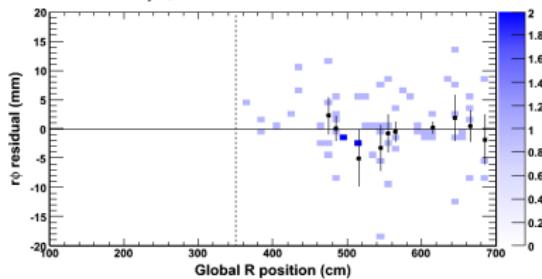


before (left) and after (right) individual chamber alignment

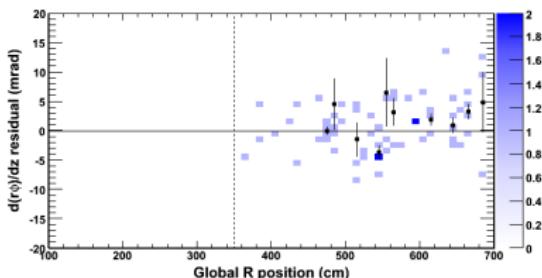
ME-2, ch 12 after global adjustment only



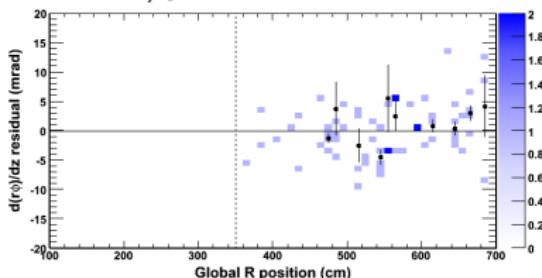
ME-2, ch 12 after $r\phi\rightarrow\phi$, $y\rightarrow z$ alignment



ME-2, ch 12 after global adjustment only



ME-2, ch 12 after $r\phi\rightarrow\phi$, $y\rightarrow z$ alignment



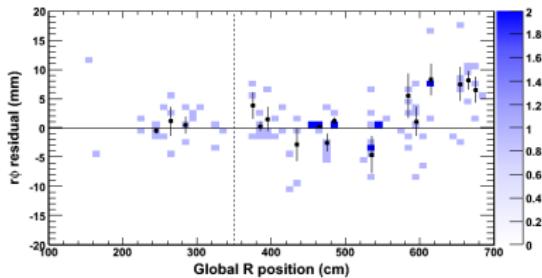
Map plots

Jim Pivarski 131/21

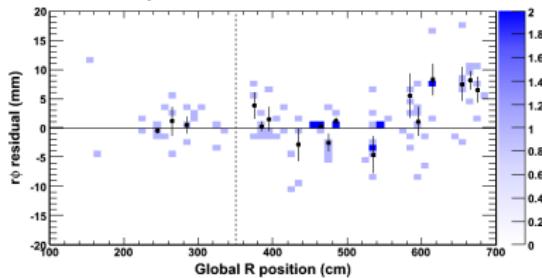


before (left) and after (right) individual chamber alignment

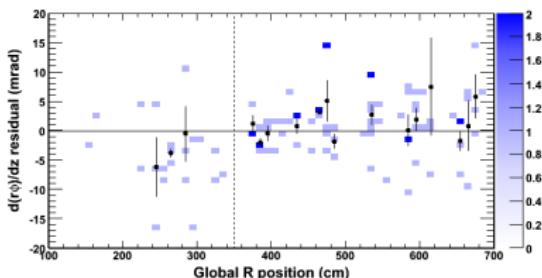
ME-2, ch 13 after global adjustment only



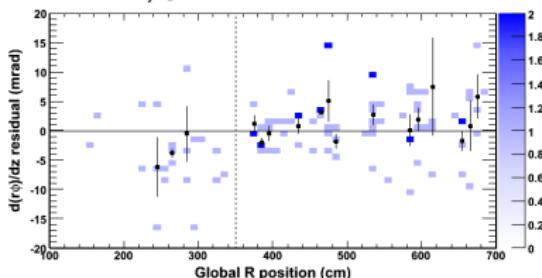
ME-2, ch 13 after $r_\phi - \phi_y - \phi_z$ alignment



ME-2, ch 13 after global adjustment only



ME-2, ch 13 after $r_\phi - \phi_y - \phi_z$ alignment



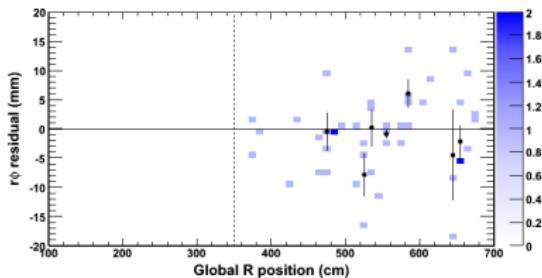
Map plots

Jim Pivarski 132/21

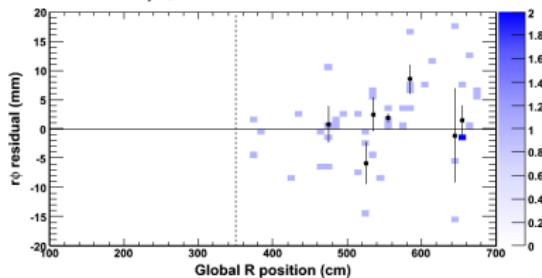


before (left) and after (right) individual chamber alignment

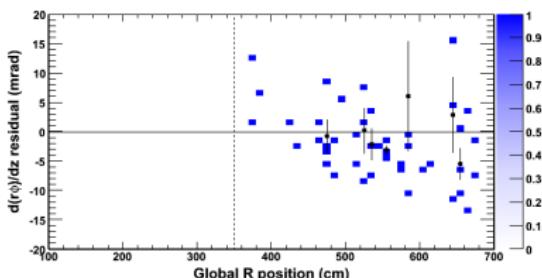
ME-2, ch 14 after global adjustment only



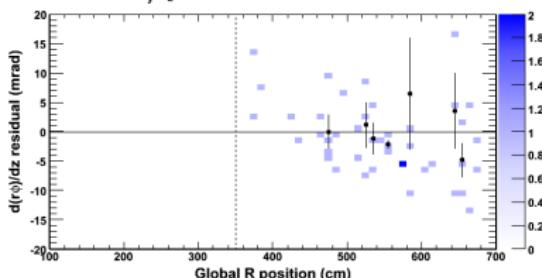
ME-2, ch 14 after $r\phi\phi_y\phi_z$ alignment



ME-2, ch 14 after global adjustment only



ME-2, ch 14 after $r\phi\phi_y\phi_z$ alignment



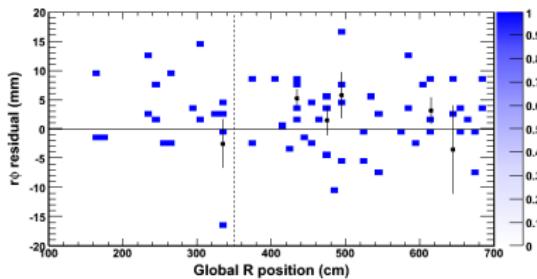
Map plots

Jim Pivarski 133/21

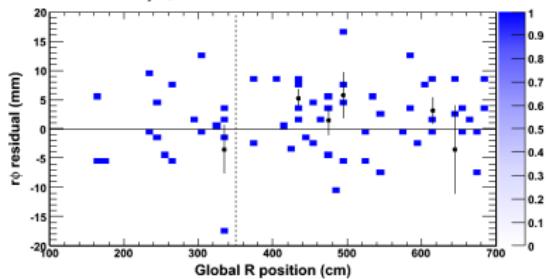


before (left) and after (right) individual chamber alignment

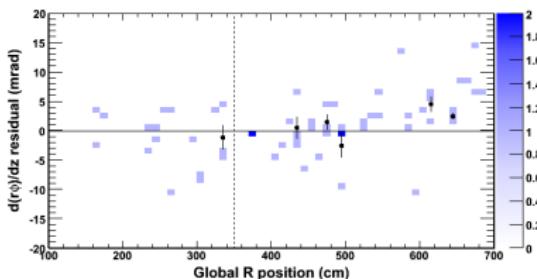
ME-2, ch 15 after global adjustment only



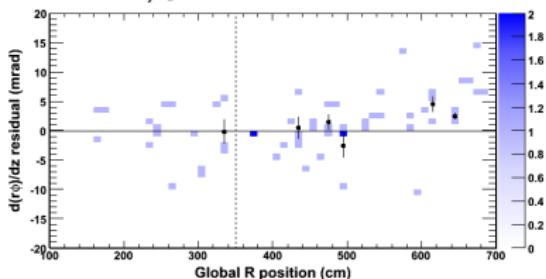
ME-2, ch 15 after $r_\phi - \phi_y - \phi_z$ alignment



ME-2, ch 15 after global adjustment only



ME-2, ch 15 after $r_\phi - \phi_y - \phi_z$ alignment



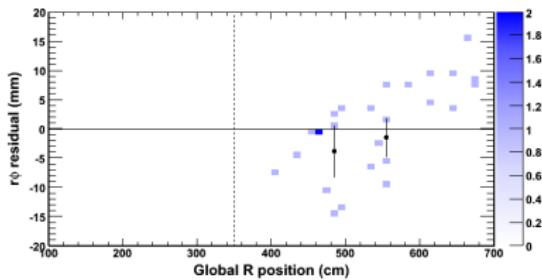
Map plots

Jim Pivarski 134/21

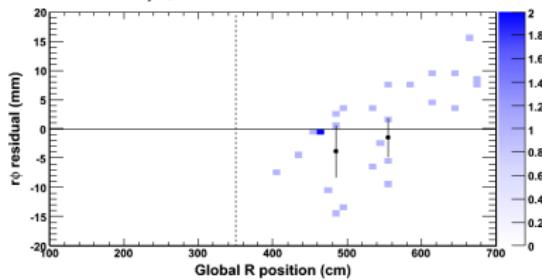


before (left) and after (right) individual chamber alignment

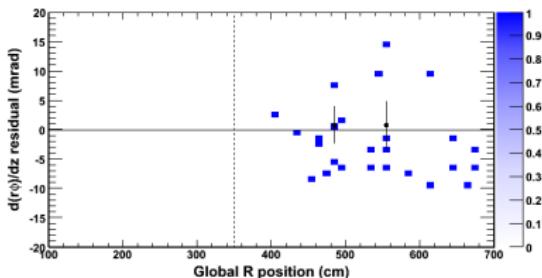
ME-2, ch 16 after global adjustment only



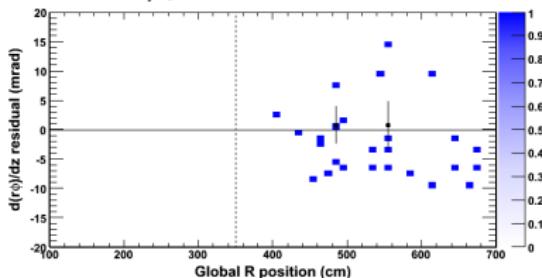
ME-2, ch 16 after $r\phi\rightarrow\phi\rightarrow z$ alignment



ME-2, ch 16 after global adjustment only



ME-2, ch 16 after $r\phi\rightarrow\phi\rightarrow z$ alignment



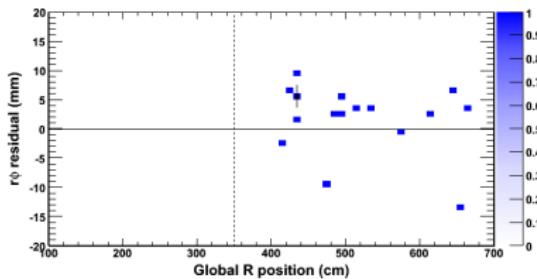
Map plots

Jim Pivarski 135/21

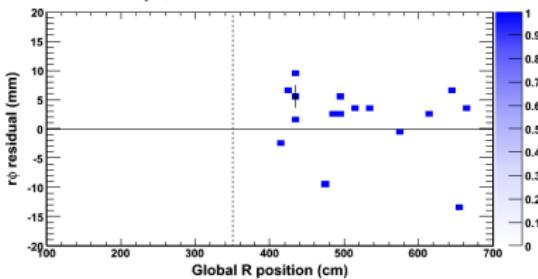


before (left) and after (right) individual chamber alignment

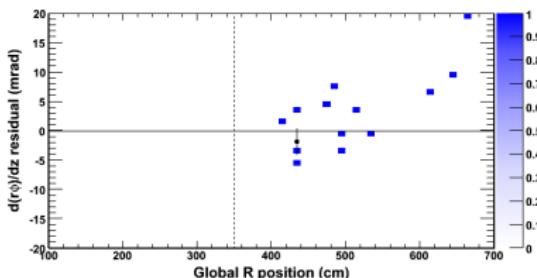
ME-2, ch 17 after global adjustment only



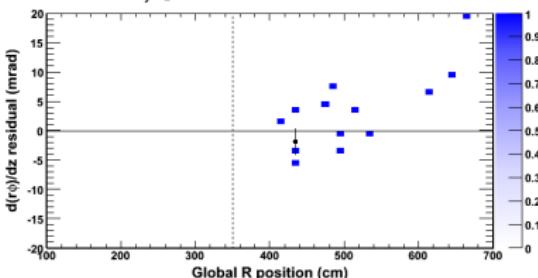
ME-2, ch 17 after $r\phi\text{-}\phi_y\text{-}\phi_z$ alignment



ME-2, ch 17 after global adjustment only



ME-2, ch 17 after $r\phi\text{-}\phi_y\text{-}\phi_z$ alignment



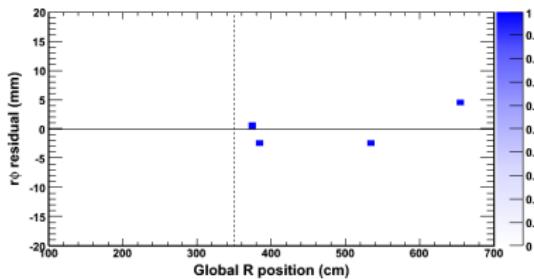
Map plots

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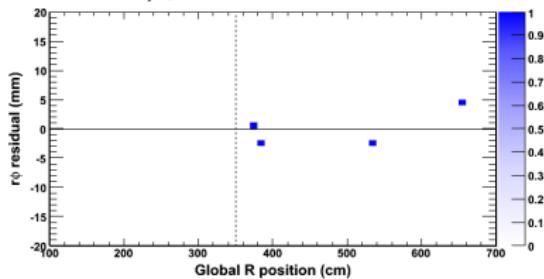


before (left) and after (right) individual chamber alignment

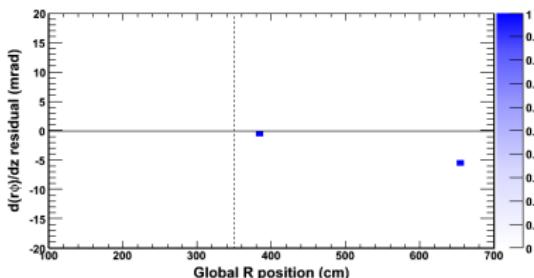
ME-2, ch 18 after global adjustment only



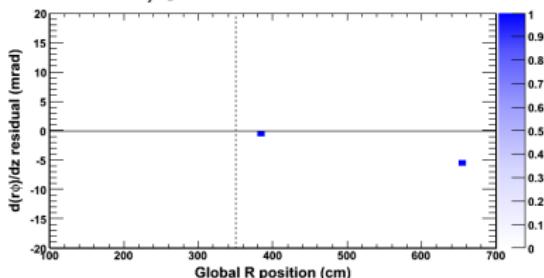
ME-2, ch 18 after $r\phi\phi_y\phi_z$ alignment



ME-2, ch 18 after global adjustment only



ME-2, ch 18 after $r\phi\phi_y\phi_z$ alignment



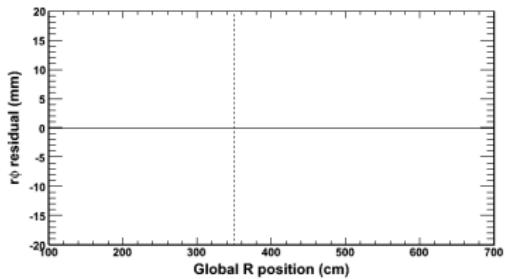
Map plots

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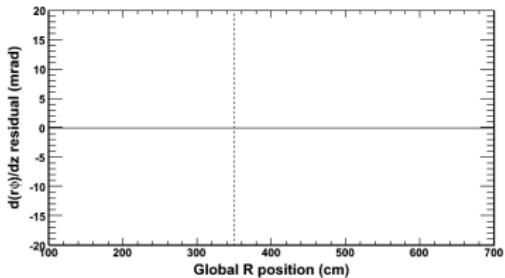
before (left) and after (right) individual chamber alignment



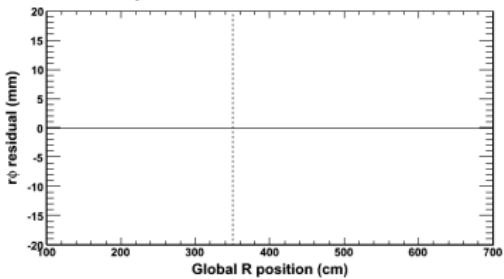
ME-3, ch 1 after global adjustment only



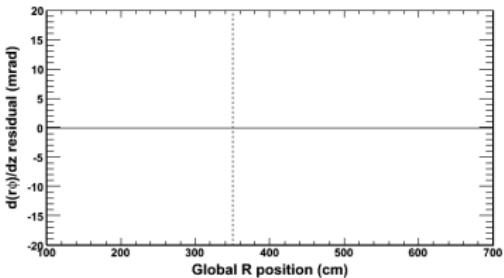
ME-3, ch 1 after global adjustment only



ME-3, ch 1 after $r_\phi = \phi_y - \phi_z$ alignment



ME-3, ch 1 after $r_\phi = \phi_y - \phi_z$ alignment



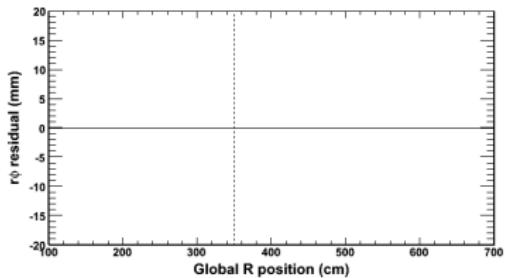
Map plots

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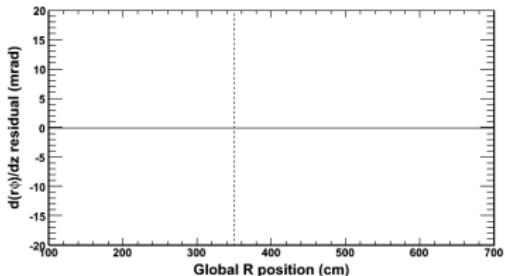
before (left) and after (right) individual chamber alignment



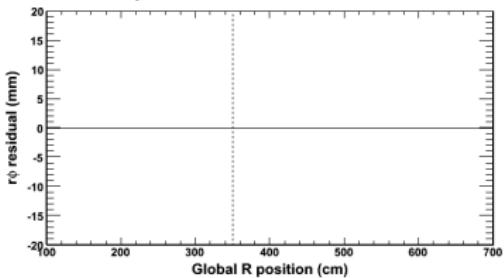
ME-3, ch 2 after global adjustment only



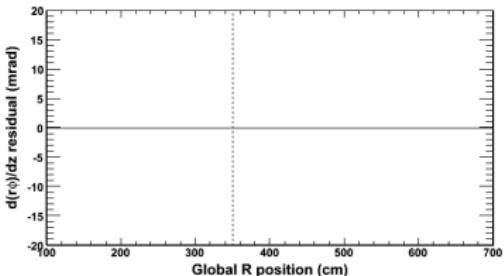
ME-3, ch 2 after global adjustment only



ME-3, ch 2 after $r_\phi - \phi_y - \phi_z$ alignment



ME-3, ch 2 after $r_\phi - \phi_y - \phi_z$ alignment



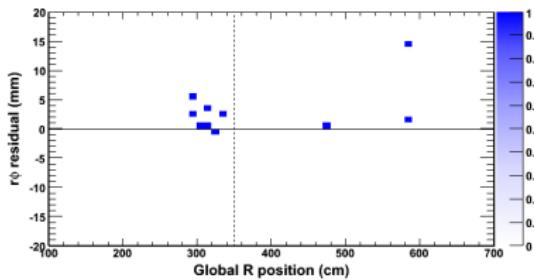
Map plots

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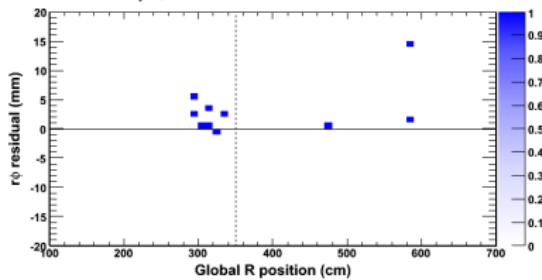


before (left) and after (right) individual chamber alignment

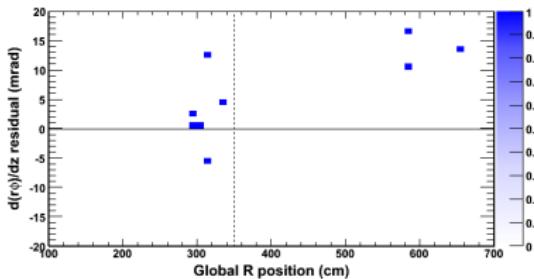
ME-3, ch 3 after global adjustment only



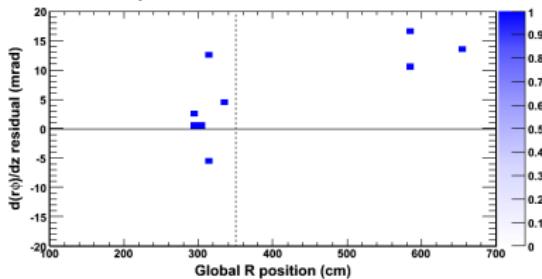
ME-3, ch 3 after $r_\phi - \phi_y - \phi_z$ alignment



ME-3, ch 3 after global adjustment only



ME-3, ch 3 after $r_\phi - \phi_y - \phi_z$ alignment



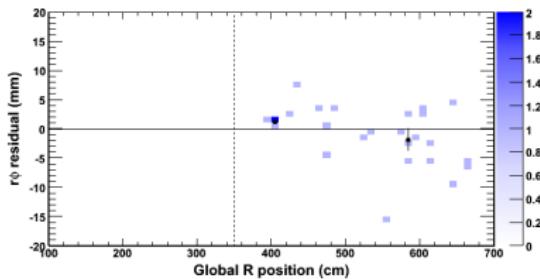
Map plots

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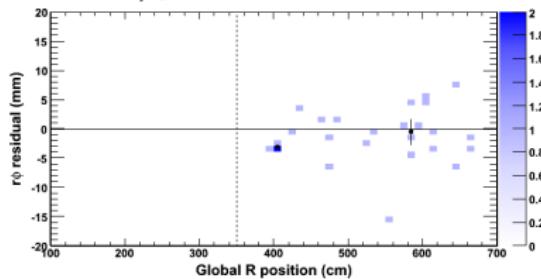


before (left) and after (right) individual chamber alignment

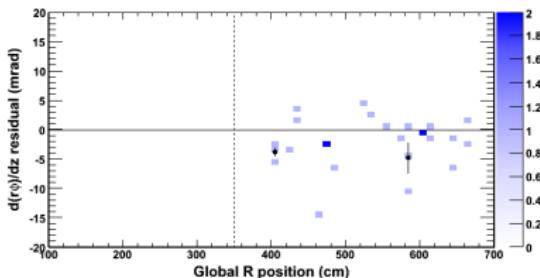
ME-3, ch 4 after global adjustment only



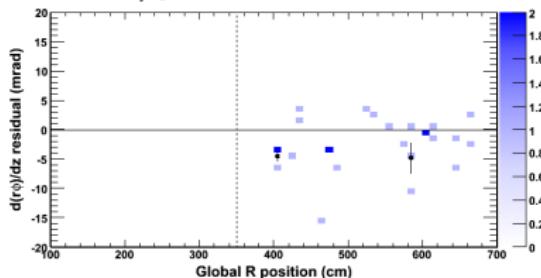
ME-3, ch 4 after $r_\phi = \phi_y - \phi_z$ alignment



ME-3, ch 4 after global adjustment only



ME-3, ch 4 after $r_\phi = \phi_y - \phi_z$ alignment



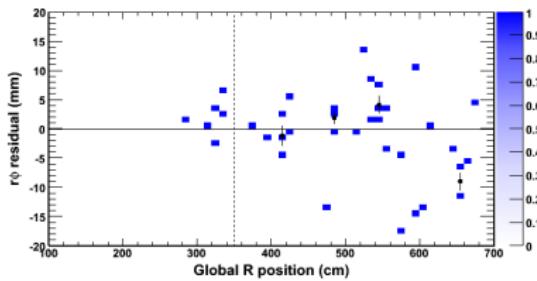
Map plots

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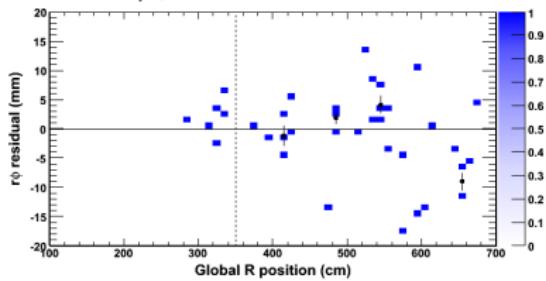


before (left) and after (right) individual chamber alignment

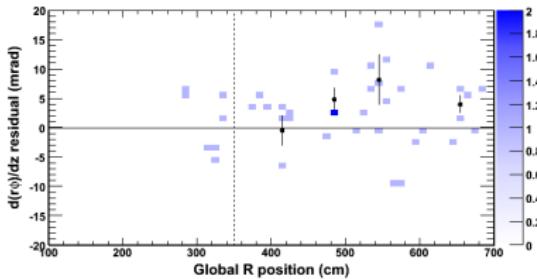
ME-3, ch 5 after global adjustment only



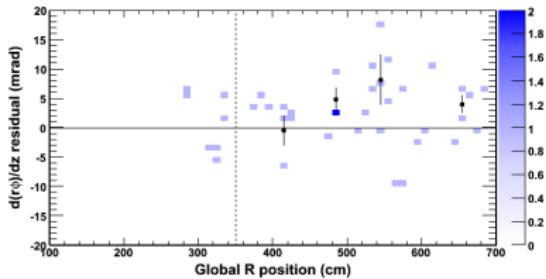
ME-3, ch 5 after $r_\phi - \phi_y - \phi_z$ alignment



ME-3, ch 5 after global adjustment only



ME-3, ch 5 after $r_\phi - \phi_y - \phi_z$ alignment



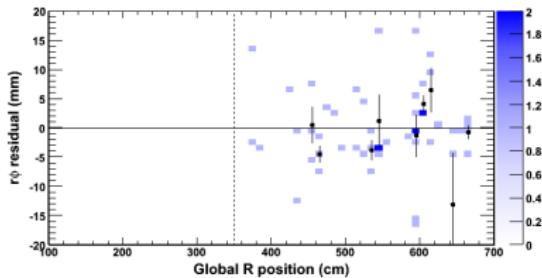
Map plots

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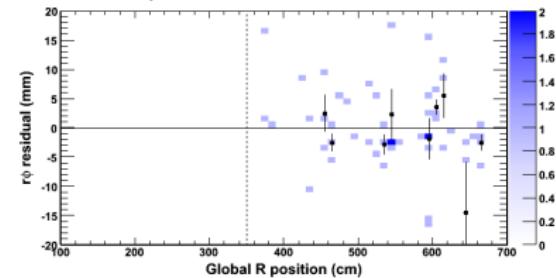


before (left) and after (right) individual chamber alignment

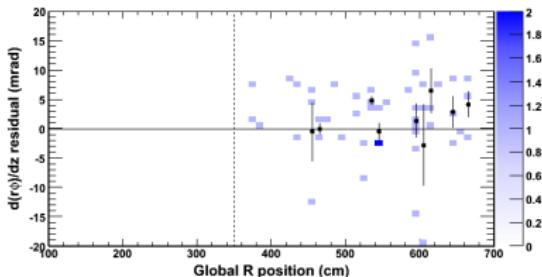
ME-3, ch 6 after global adjustment only



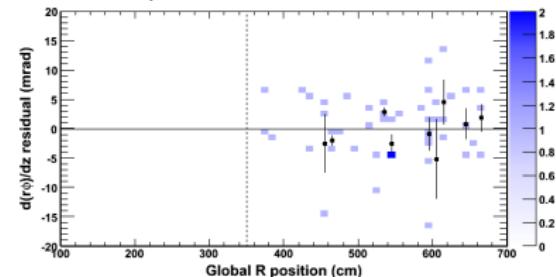
ME-3, ch 6 after $r_\phi - \phi_y - \phi_z$ alignment



ME-3, ch 6 after global adjustment only



ME-3, ch 6 after $r_\phi - \phi_y - \phi_z$ alignment



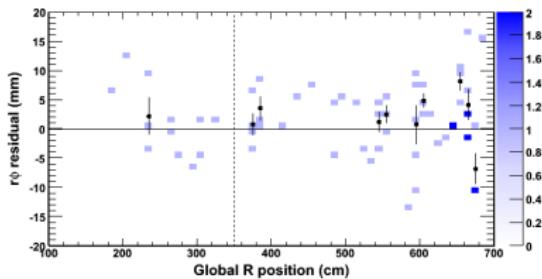
Map plots

Jim Pivarski 143/21

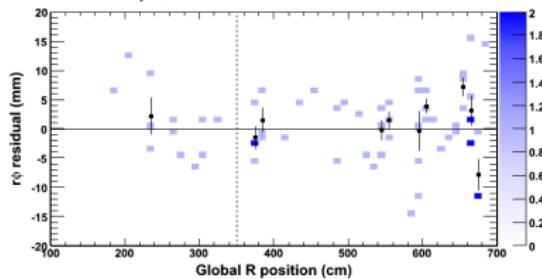


before (left) and after (right) individual chamber alignment

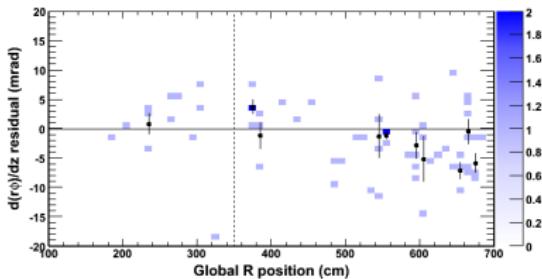
ME-3, ch 7 after global adjustment only



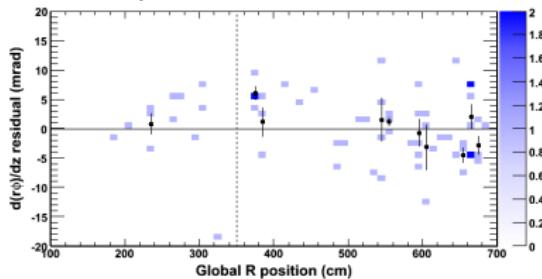
ME-3, ch 7 after $r_\phi - \phi_y - \phi_z$ alignment



ME-3, ch 7 after global adjustment only



ME-3, ch 7 after $r_\phi - \phi_y - \phi_z$ alignment



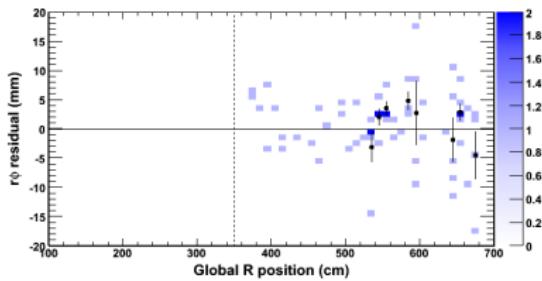
Map plots

Jim Pivarski 144/21

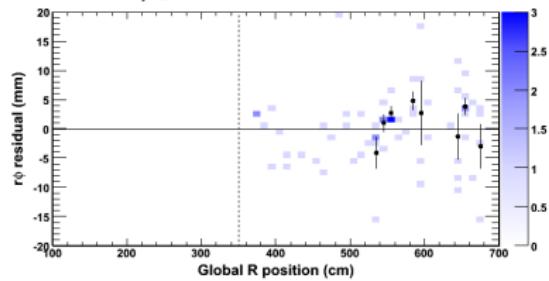


before (left) and after (right) individual chamber alignment

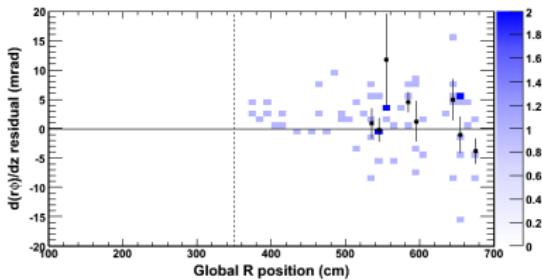
ME-3, ch 8 after global adjustment only



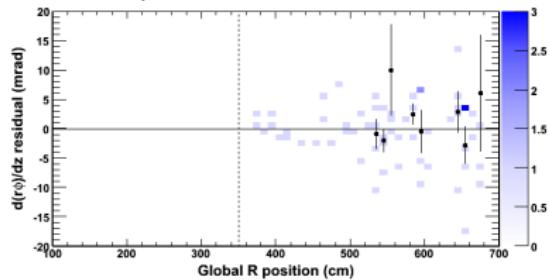
ME-3, ch 8 after $r_\phi - \phi_y - \phi_z$ alignment



ME-3, ch 8 after global adjustment only



ME-3, ch 8 after $r_\phi - \phi_y - \phi_z$ alignment



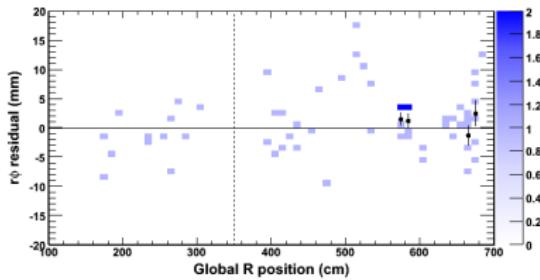
Map plots

Jim Pivarski 145/21

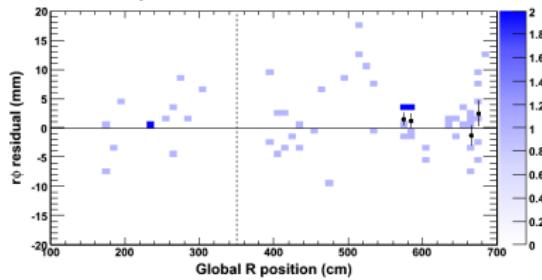


before (left) and after (right) individual chamber alignment

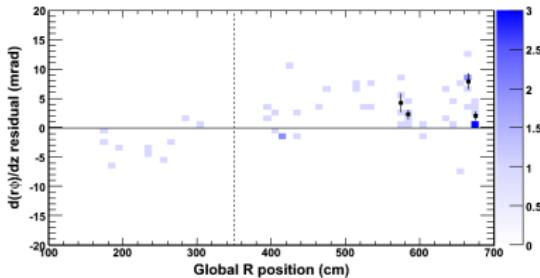
ME-3, ch 9 after global adjustment only



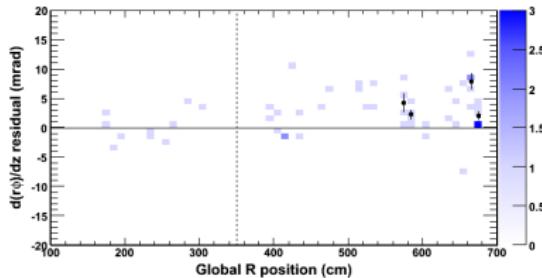
ME-3, ch 9 after $r_\phi = \phi_y - \phi_z$ alignment



ME-3, ch 9 after global adjustment only



ME-3, ch 9 after $r_\phi = \phi_y - \phi_z$ alignment



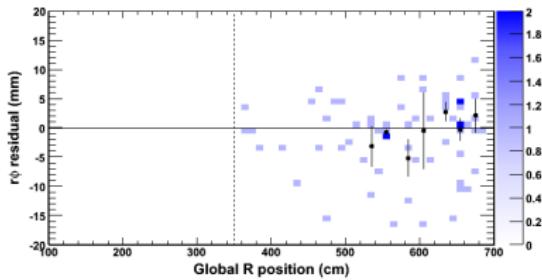
Map plots

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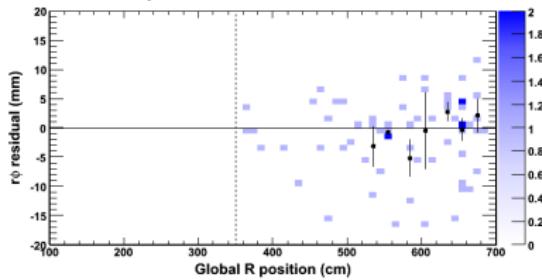


before (left) and after (right) individual chamber alignment

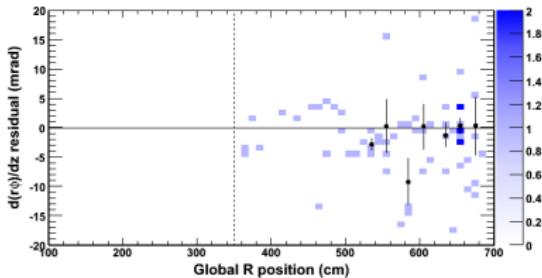
ME-3, ch 10 after global adjustment only



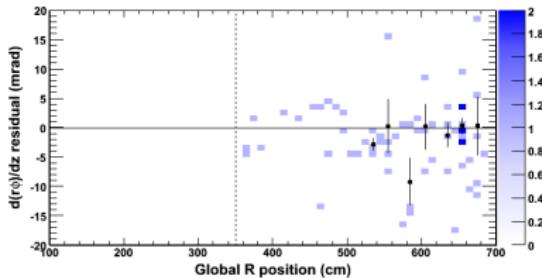
ME-3, ch 10 after $r\phi\phi_y\phi_z$ alignment



ME-3, ch 10 after global adjustment only



ME-3, ch 10 after $r\phi\phi_y\phi_z$ alignment



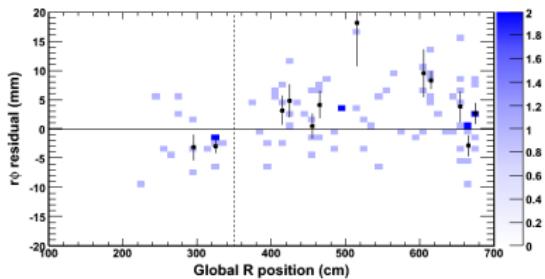
Map plots

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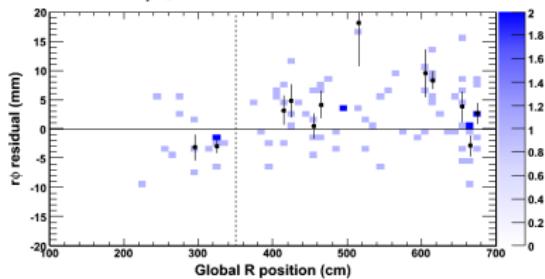


before (left) and after (right) individual chamber alignment

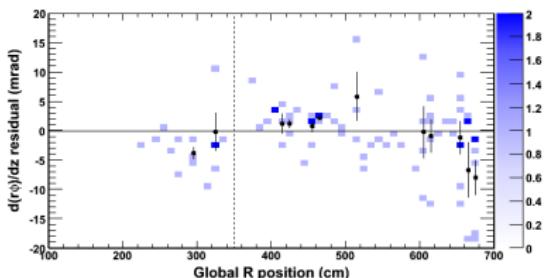
ME-3, ch 11 after global adjustment only



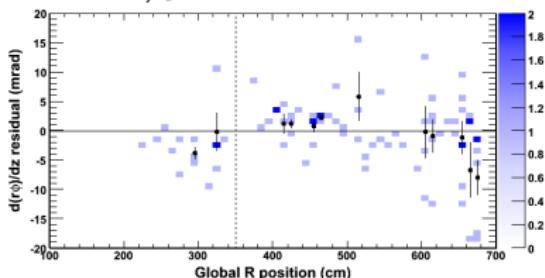
ME-3, ch 11 after $r\hat{\phi}-\hat{\theta}_y-\hat{\theta}_z$ alignment



ME-3, ch 11 after global adjustment only



ME-3, ch 11 after $r\hat{\phi}-\hat{\theta}_y-\hat{\theta}_z$ alignment



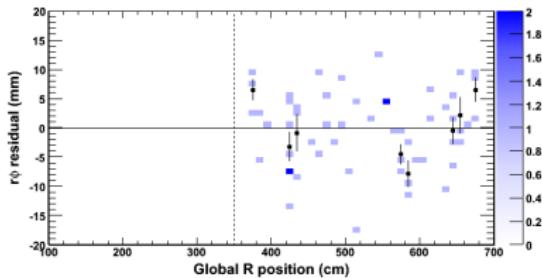
Map plots

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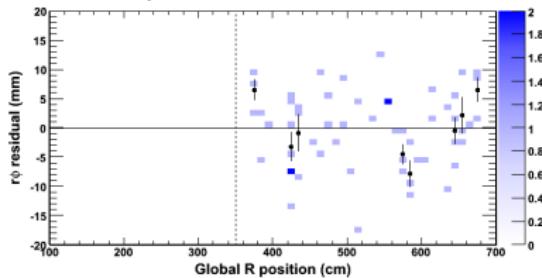


before (left) and after (right) individual chamber alignment

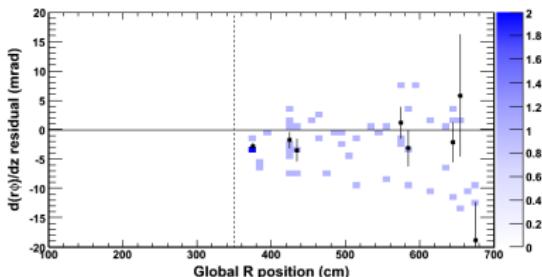
ME-3, ch 12 after global adjustment only



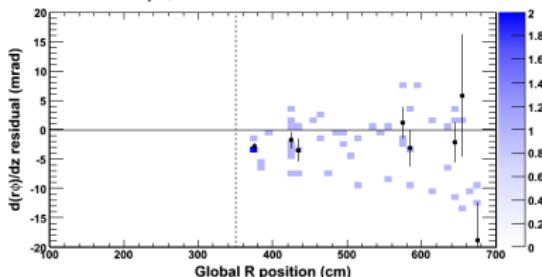
ME-3, ch 12 after $r\phi\rightarrow 0_y\rightarrow 0_z$ alignment



ME-3, ch 12 after global adjustment only



ME-3, ch 12 after $r\phi\rightarrow 0_y\rightarrow 0_z$ alignment



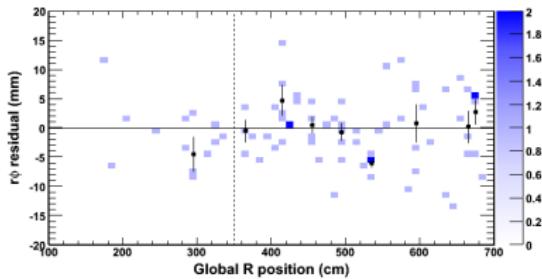
Map plots

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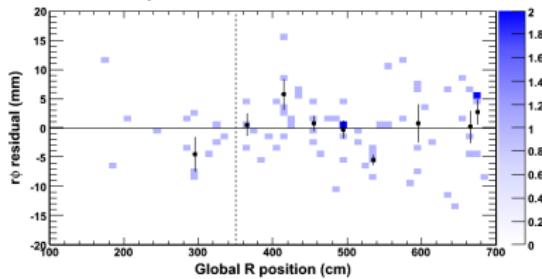


before (left) and after (right) individual chamber alignment

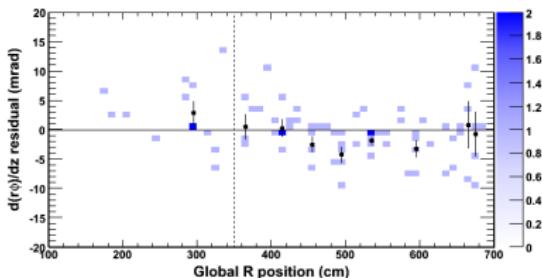
ME-3, ch 13 after global adjustment only



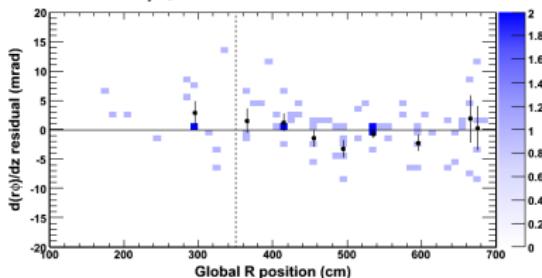
ME-3, ch 13 after $r\phi\phi\rightarrow 0_z$ alignment



ME-3, ch 13 after global adjustment only



ME-3, ch 13 after $r\phi\phi\rightarrow 0_z$ alignment



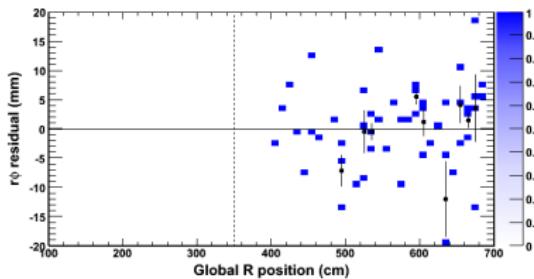
Map plots

Jim Pivarski 150/21

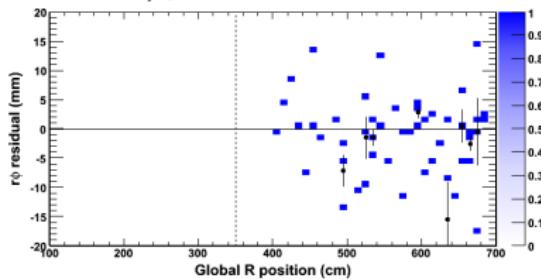


before (left) and after (right) individual chamber alignment

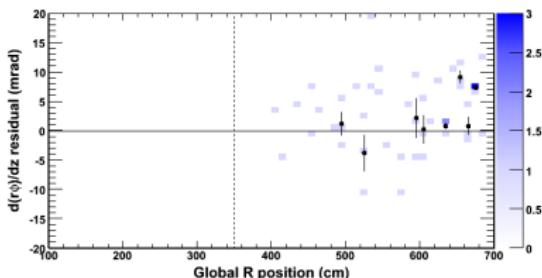
ME-3, ch 14 after global adjustment only



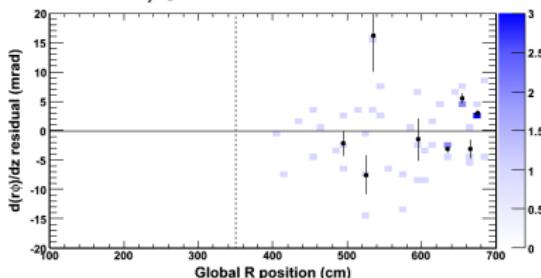
ME-3, ch 14 after $r\phi\phi_y\phi_z$ alignment



ME-3, ch 14 after global adjustment only



ME-3, ch 14 after $r\phi\phi_y\phi_z$ alignment



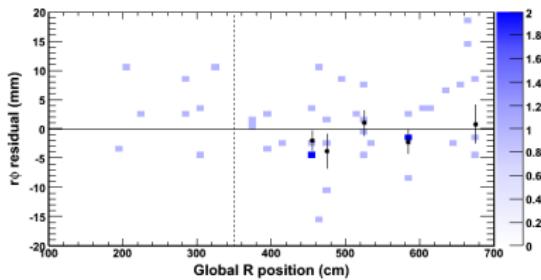
Map plots

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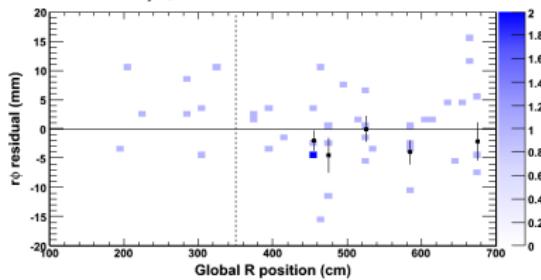


before (left) and after (right) individual chamber alignment

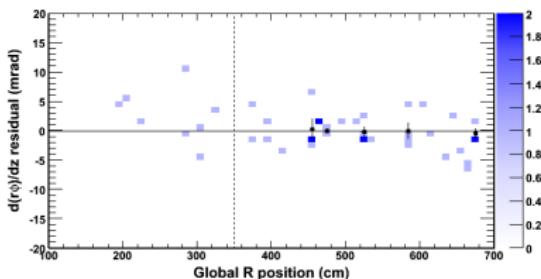
ME-3, ch 15 after global adjustment only



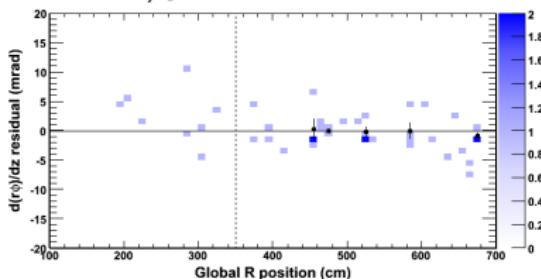
ME-3, ch 15 after $r\phi\phi_y\phi_z$ alignment



ME-3, ch 15 after global adjustment only



ME-3, ch 15 after $r\phi\phi_y\phi_z$ alignment



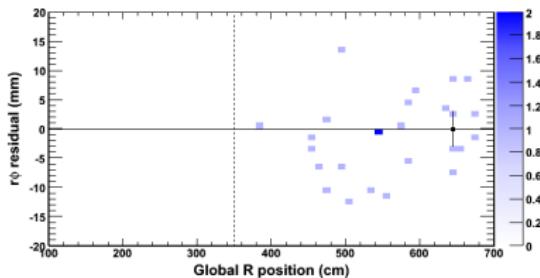
Map plots

Jim Pivarski 152/21

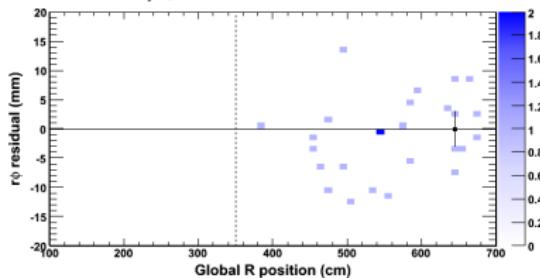


before (left) and after (right) individual chamber alignment

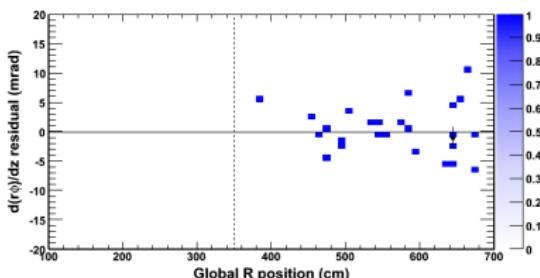
ME-3, ch 16 after global adjustment only



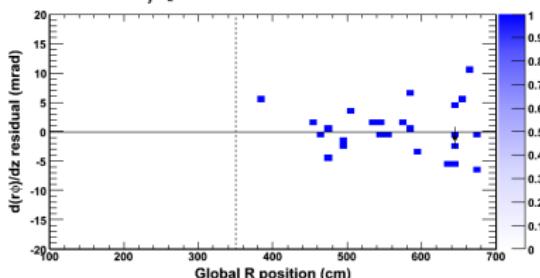
ME-3, ch 16 after $r\phi\phi\rightarrow\phi_z$ alignment



ME-3, ch 16 after global adjustment only



ME-3, ch 16 after $r\phi\phi\rightarrow\phi_z$ alignment



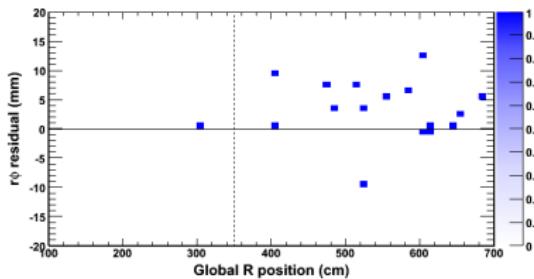
Map plots

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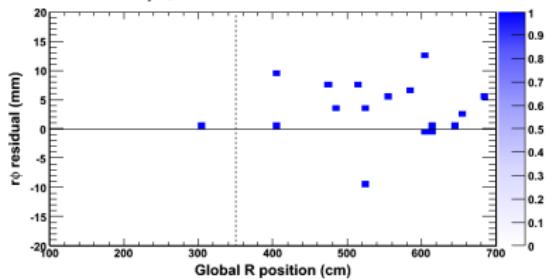


before (left) and after (right) individual chamber alignment

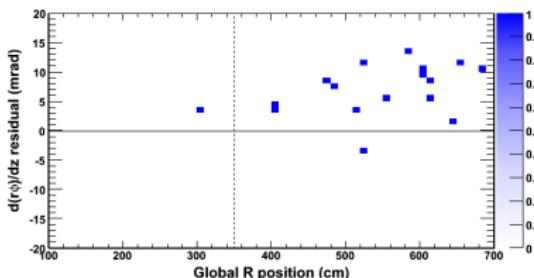
ME-3, ch 17 after global adjustment only



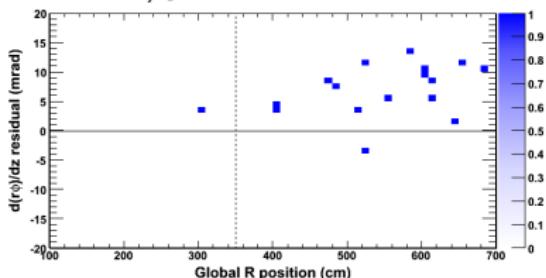
ME-3, ch 17 after $r\phi\phi_y\phi_z$ alignment



ME-3, ch 17 after global adjustment only



ME-3, ch 17 after $r\phi\phi_y\phi_z$ alignment



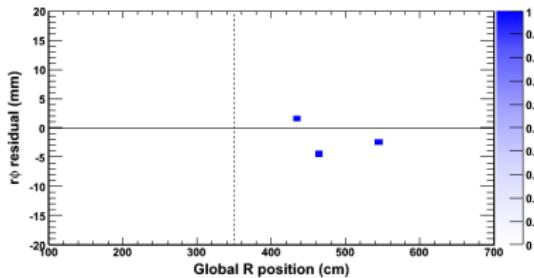
Map plots

Jim Pivarski 154/21

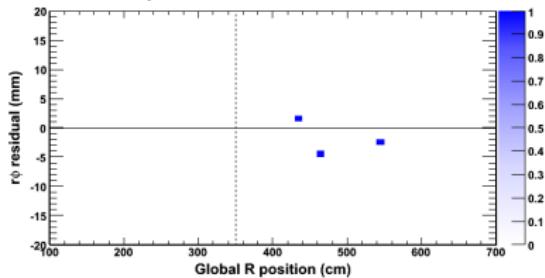


before (left) and after (right) individual chamber alignment

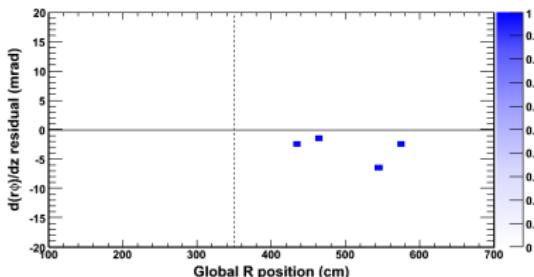
ME-3, ch 18 after global adjustment only



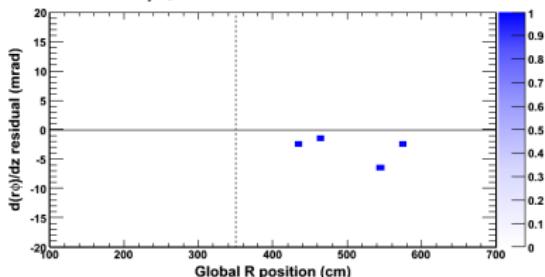
ME-3, ch 18 after $r_\phi - \phi_y - \phi_z$ alignment



ME-3, ch 18 after global adjustment only



ME-3, ch 18 after $r_\phi - \phi_y - \phi_z$ alignment



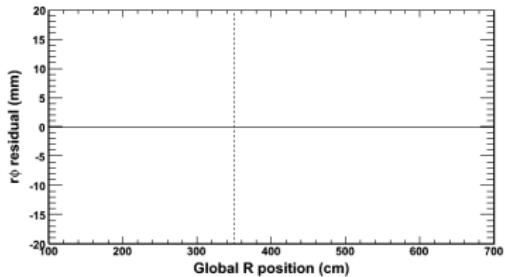
Map plots

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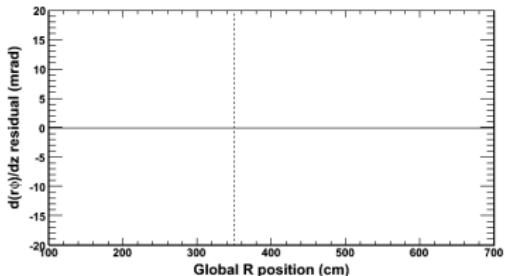
before (left) and after (right) individual chamber alignment



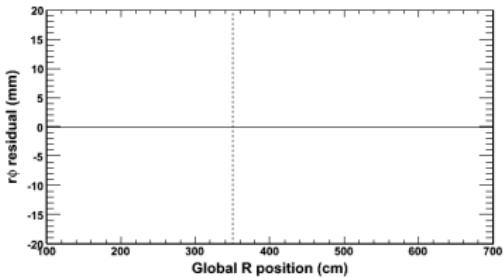
ME-4, ch 1 after global adjustment only



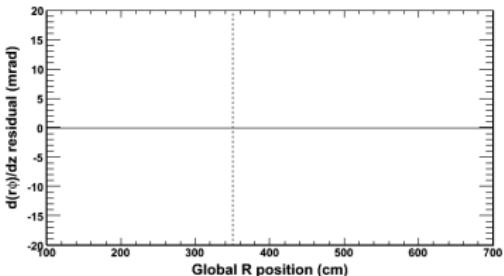
ME-4, ch 1 after global adjustment only



ME-4, ch 1 after $r_\phi = \phi_y - \phi_z$ alignment



ME-4, ch 1 after $r_\phi = \phi_y - \phi_z$ alignment



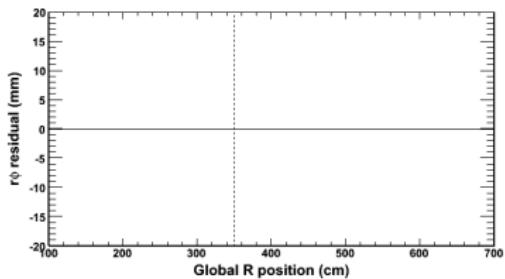
Map plots

Jim Pivarski 156/21

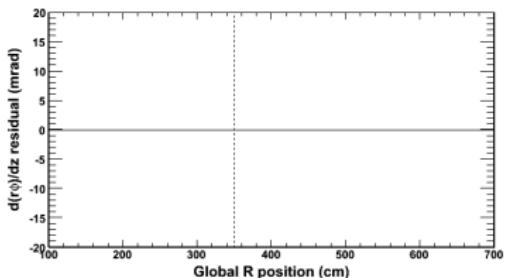
before (left) and after (right) individual chamber alignment



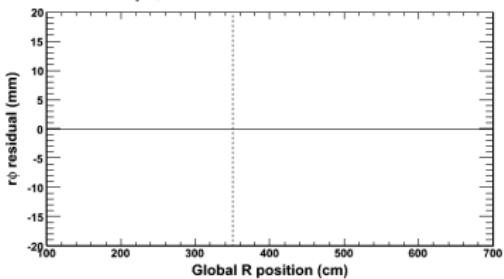
ME-4, ch 2 after global adjustment only



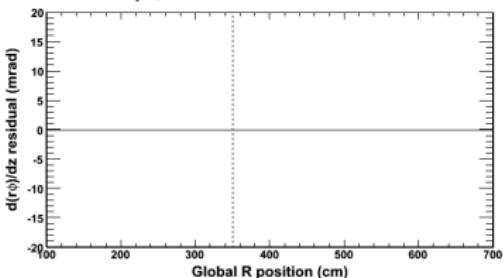
ME-4, ch 2 after global adjustment only



ME-4, ch 2 after $r_\phi = \phi_y - \phi_z$ alignment



ME-4, ch 2 after $r_\phi = \phi_y - \phi_z$ alignment



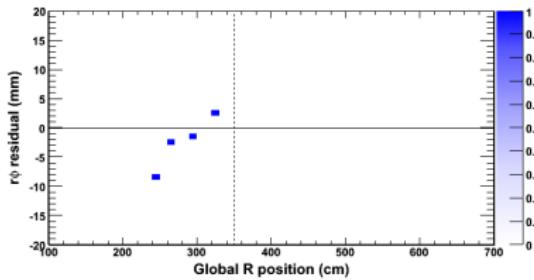
Map plots

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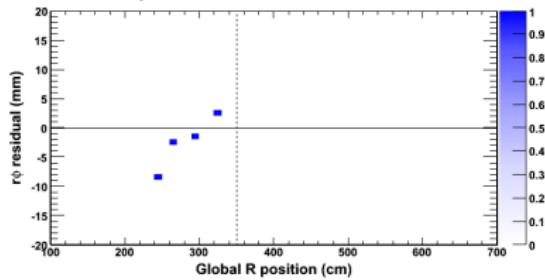


before (left) and after (right) individual chamber alignment

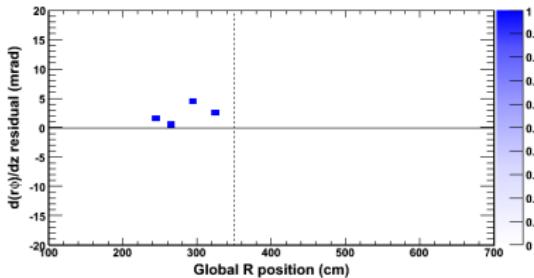
ME-4, ch 3 after global adjustment only



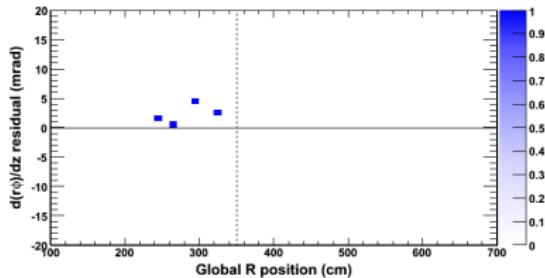
ME-4, ch 3 after $r_\phi - \phi_y - \phi_z$ alignment



ME-4, ch 3 after global adjustment only



ME-4, ch 3 after $r_\phi - \phi_y - \phi_z$ alignment



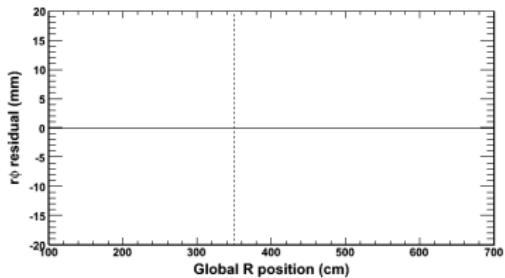
Map plots

Jim Pivarski 158/21

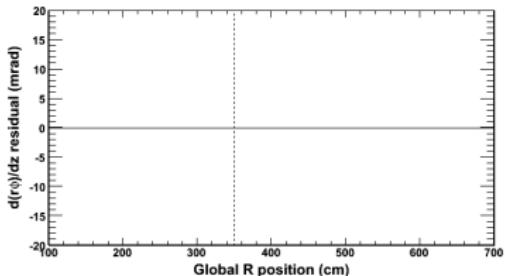


before (left) and after (right) individual chamber alignment

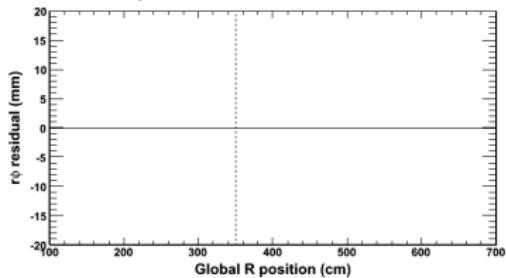
ME-4, ch 4 after global adjustment only



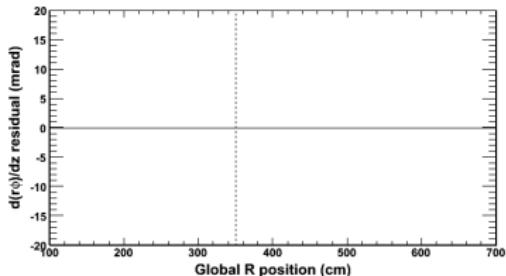
ME-4, ch 4 after global adjustment only



ME-4, ch 4 after $r_\phi - \phi_y - \phi_z$ alignment



ME-4, ch 4 after $r_\phi - \phi_y - \phi_z$ alignment



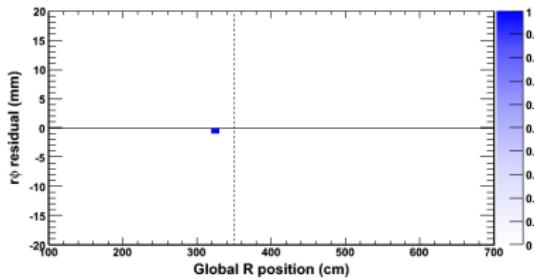
Map plots

Jim Pivarski 159/21

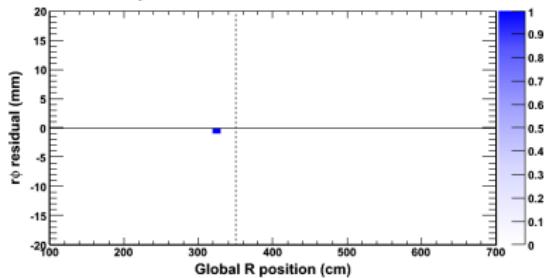


before (left) and after (right) individual chamber alignment

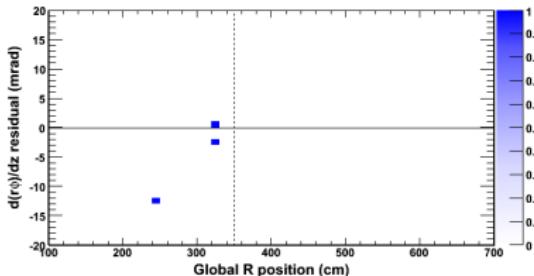
ME-4, ch 5 after global adjustment only



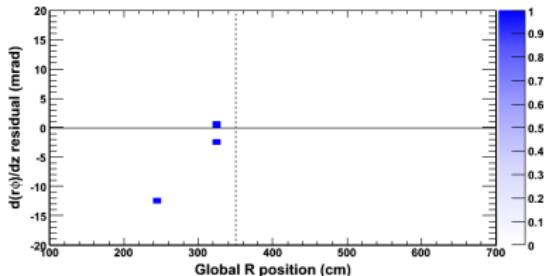
ME-4, ch 5 after $r_\phi - \phi_y - \phi_z$ alignment



ME-4, ch 5 after global adjustment only



ME-4, ch 5 after $r_\phi - \phi_y - \phi_z$ alignment



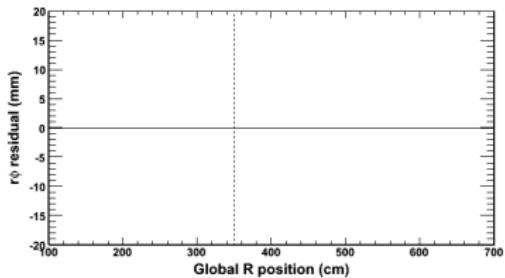
Map plots

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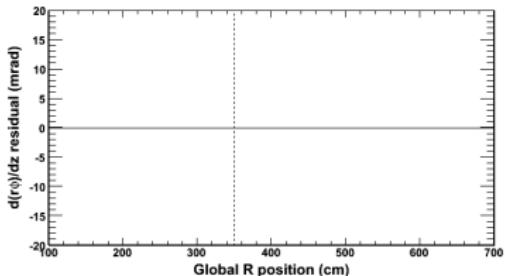
before (left) and after (right) individual chamber alignment



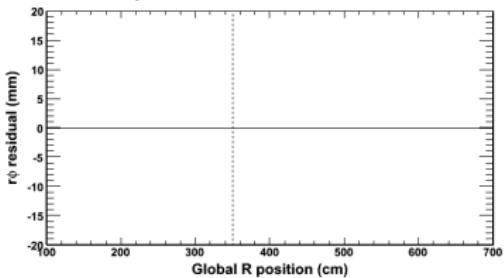
ME-4, ch 6 after global adjustment only



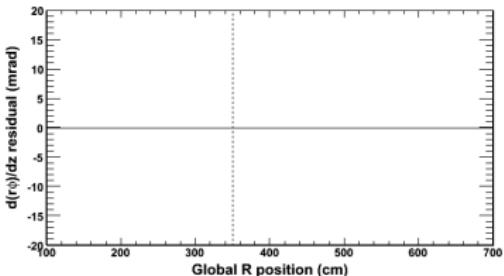
ME-4, ch 6 after global adjustment only



ME-4, ch 6 after $r_\phi = \phi_y - \phi_z$ alignment



ME-4, ch 6 after $r_\phi = \phi_y - \phi_z$ alignment



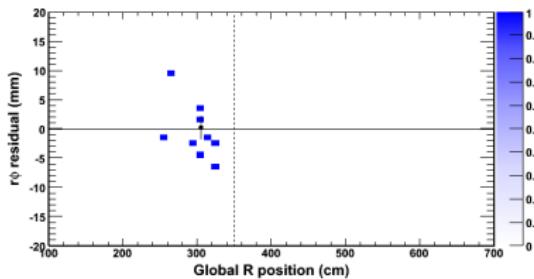
Map plots

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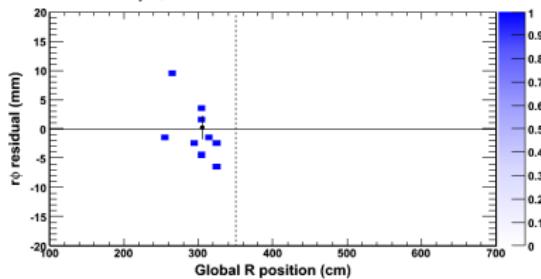


before (left) and after (right) individual chamber alignment

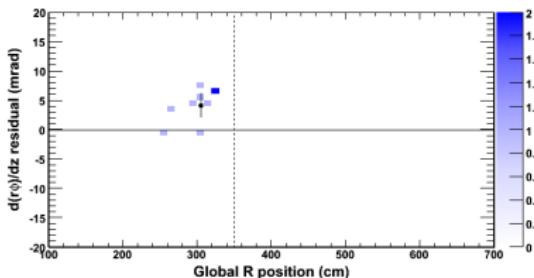
ME-4, ch 7 after global adjustment only



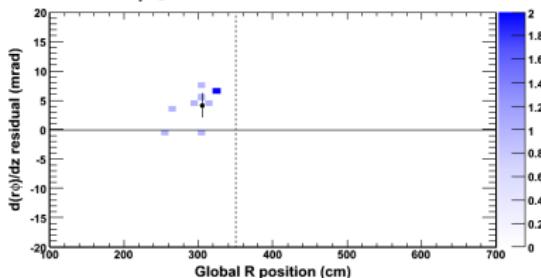
ME-4, ch 7 after $r_\phi - \phi_y - \phi_z$ alignment



ME-4, ch 7 after global adjustment only



ME-4, ch 7 after $r_\phi - \phi_y - \phi_z$ alignment



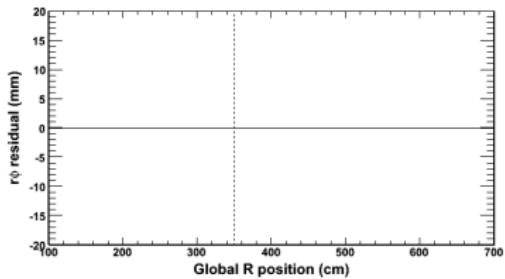
Map plots

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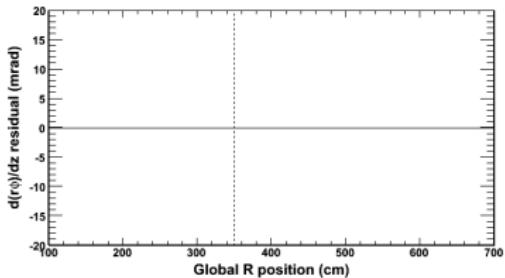
before (left) and after (right) individual chamber alignment



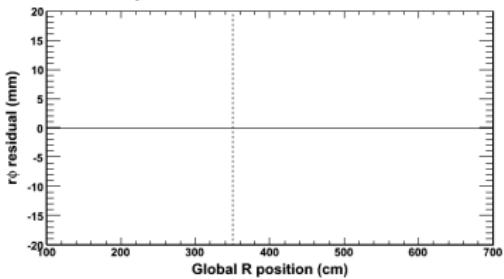
ME-4, ch 8 after global adjustment only



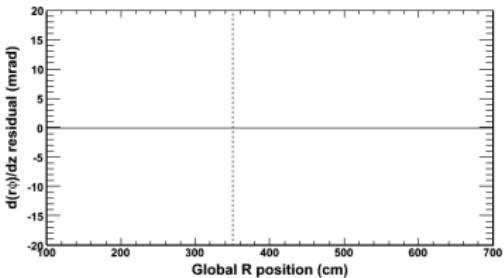
ME-4, ch 8 after global adjustment only



ME-4, ch 8 after $r_\phi = \phi_y - \phi_z$ alignment



ME-4, ch 8 after $r_\phi = \phi_y - \phi_z$ alignment



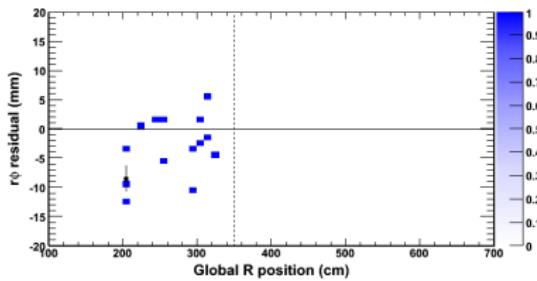
Map plots

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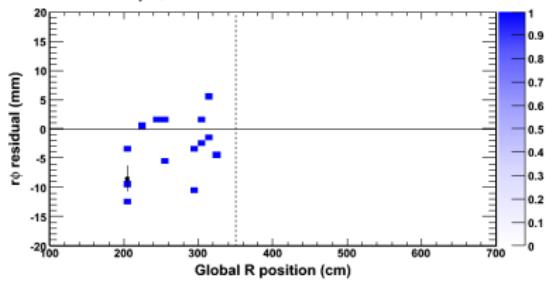


before (left) and after (right) individual chamber alignment

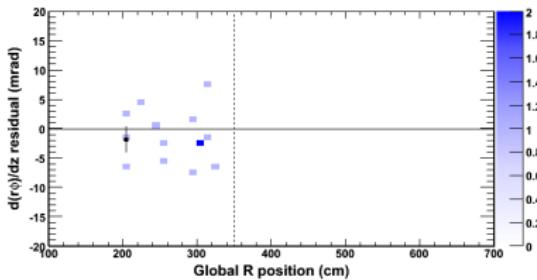
ME-4, ch 9 after global adjustment only



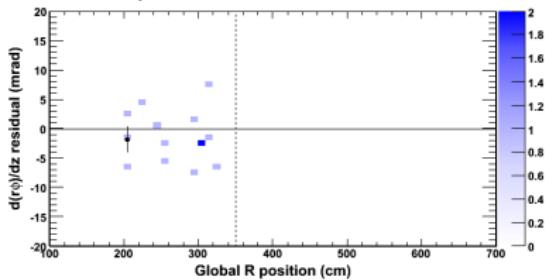
ME-4, ch 9 after $r_\phi = \phi_y - \phi_z$ alignment



ME-4, ch 9 after global adjustment only



ME-4, ch 9 after $r_\phi = \phi_y - \phi_z$ alignment



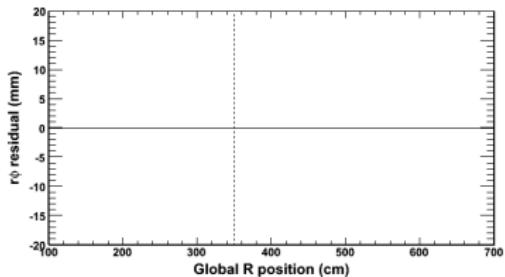
Map plots

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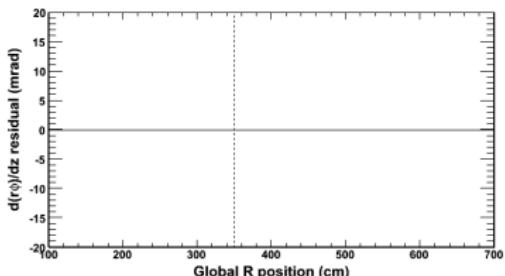
before (left) and after (right) individual chamber alignment



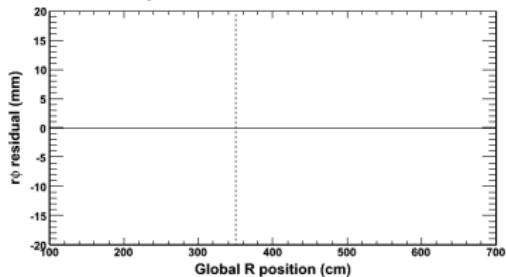
ME-4, ch 10 after global adjustment only



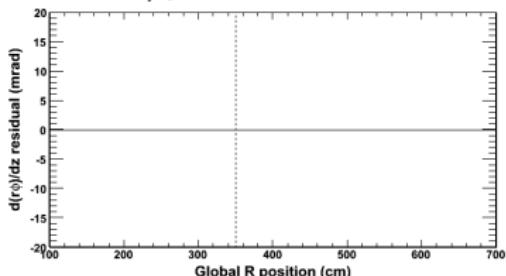
ME-4, ch 10 after global adjustment only



ME-4, ch 10 after $r\phi\phi\rightarrow\phi_z$ alignment

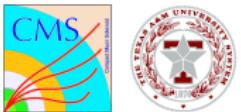


ME-4, ch 10 after $r\phi\phi\rightarrow\phi_z$ alignment



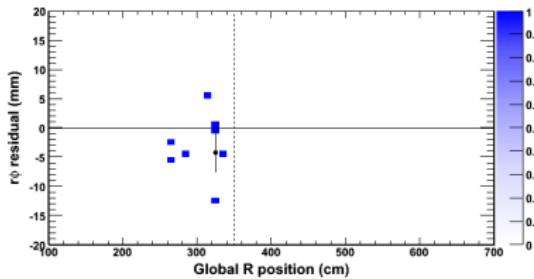
Map plots

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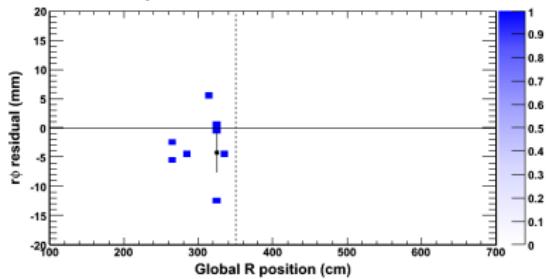


before (left) and after (right) individual chamber alignment

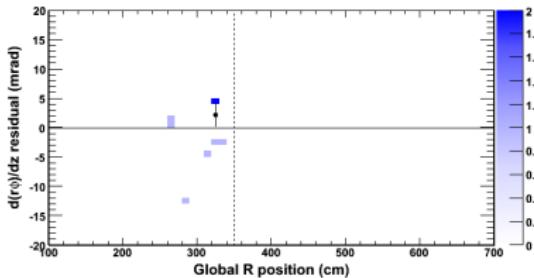
ME-4, ch 11 after global adjustment only



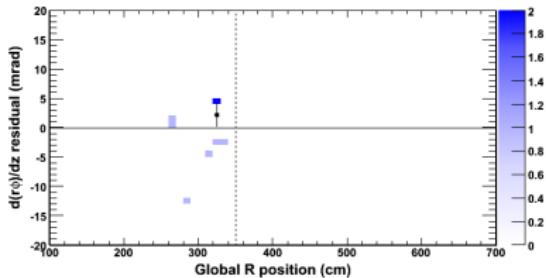
ME-4, ch 11 after $r\phi-\theta_y-\phi_z$ alignment



ME-4, ch 11 after global adjustment only



ME-4, ch 11 after $r\phi-\theta_y-\phi_z$ alignment



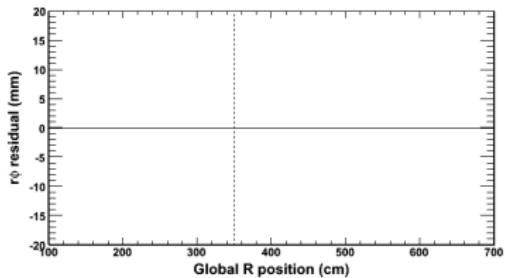
Map plots

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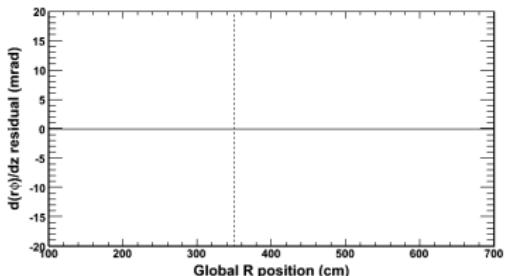
before (left) and after (right) individual chamber alignment



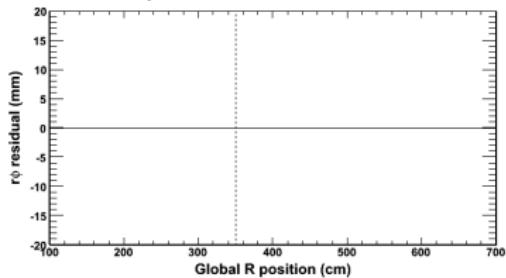
ME-4, ch 12 after global adjustment only



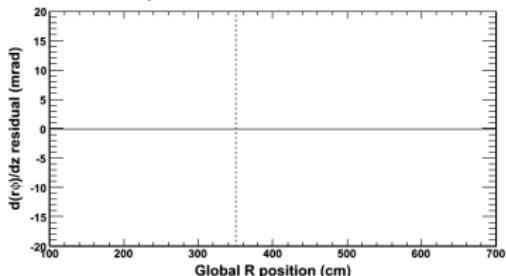
ME-4, ch 12 after global adjustment only



ME-4, ch 12 after $r\phi\phi_y\phi_z$ alignment

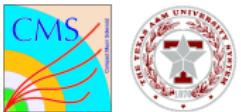


ME-4, ch 12 after $r\phi\phi_y\phi_z$ alignment



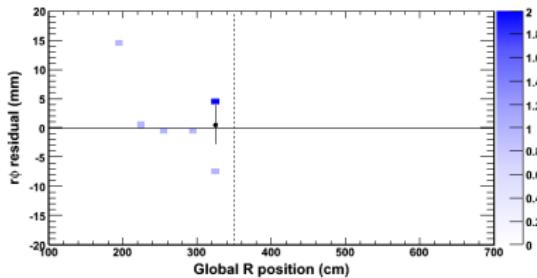
Map plots

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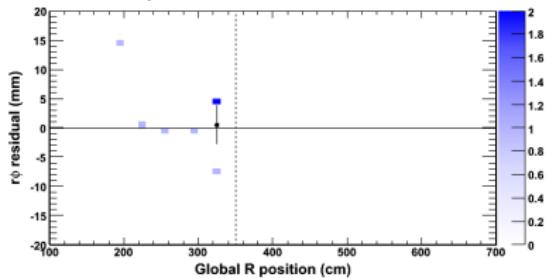


before (left) and after (right) individual chamber alignment

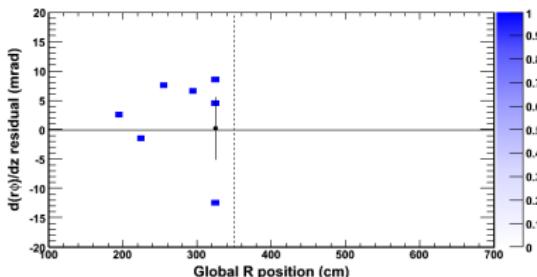
ME-4, ch 13 after global adjustment only



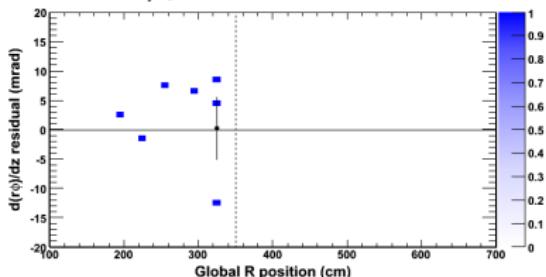
ME-4, ch 13 after $r\phi\phi\rightarrow\phi_z$ alignment



ME-4, ch 13 after global adjustment only



ME-4, ch 13 after $r\phi\phi\rightarrow\phi_z$ alignment



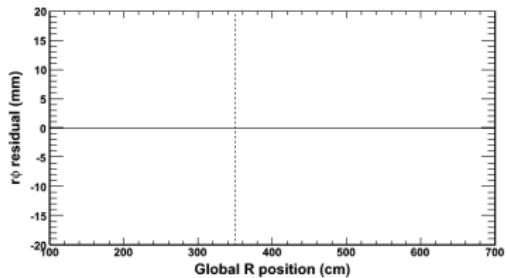
Map plots

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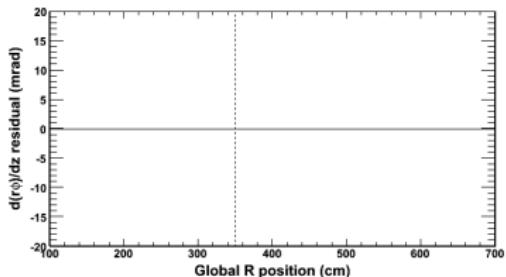
before (left) and after (right) individual chamber alignment



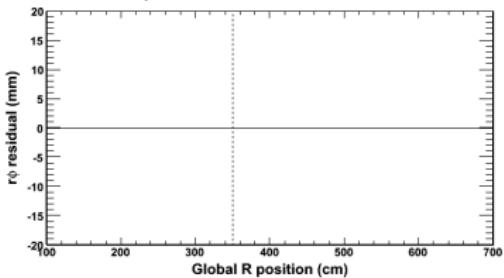
ME-4, ch 14 after global adjustment only



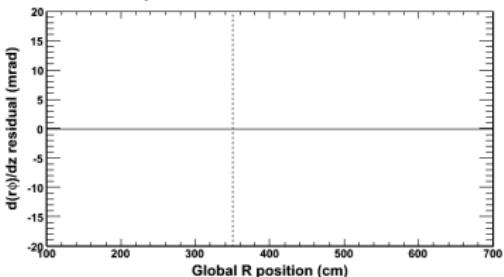
ME-4, ch 14 after global adjustment only



ME-4, ch 14 after $r\phi\phi_y\phi_z$ alignment



ME-4, ch 14 after $r\phi\phi_y\phi_z$ alignment



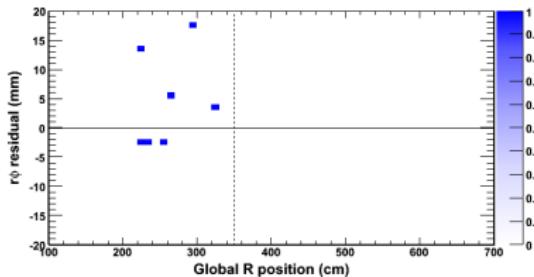
Map plots

Jim Pivarski 169/21

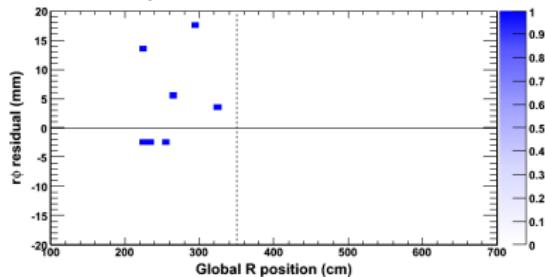


before (left) and after (right) individual chamber alignment

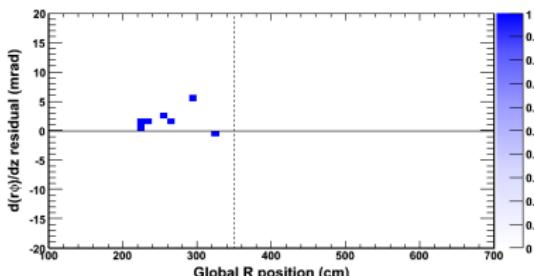
ME-4, ch 15 after global adjustment only



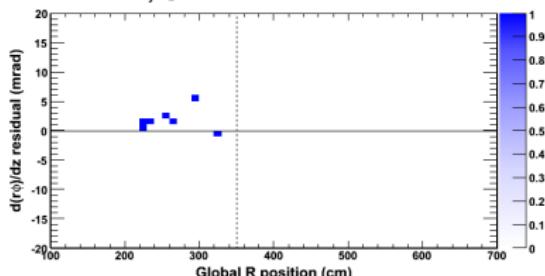
ME-4, ch 15 after $r\phi\phi_y\phi_z$ alignment



ME-4, ch 15 after global adjustment only



ME-4, ch 15 after $r\phi\phi_y\phi_z$ alignment



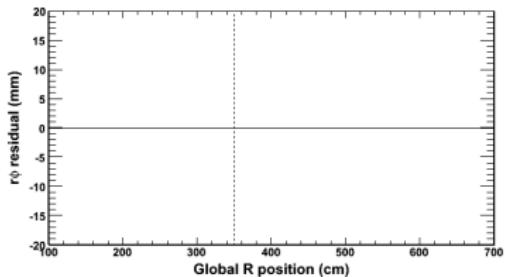
Map plots

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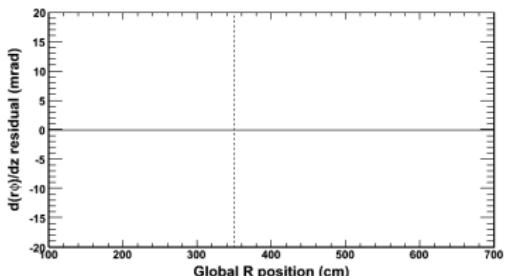
before (left) and after (right) individual chamber alignment



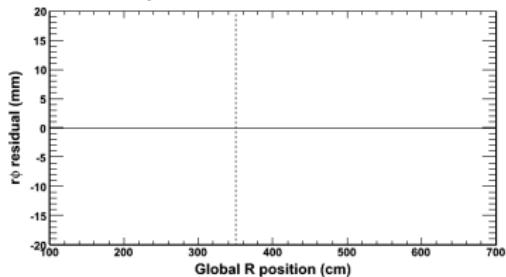
ME-4, ch 16 after global adjustment only



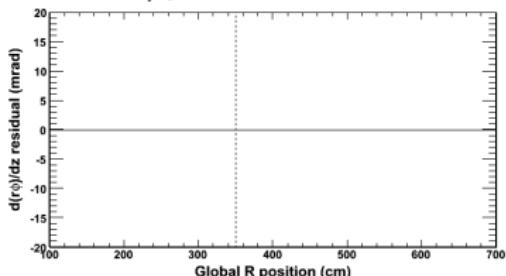
ME-4, ch 16 after global adjustment only



ME-4, ch 16 after $r\phi\sim\theta_y\sim\theta_z$ alignment



ME-4, ch 16 after $r\phi\sim\theta_y\sim\theta_z$ alignment



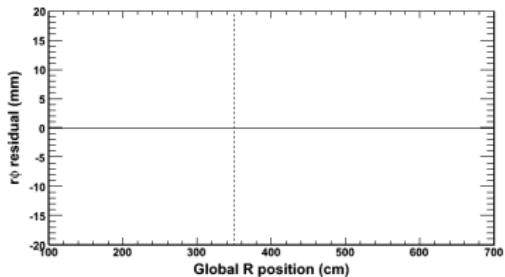
Map plots

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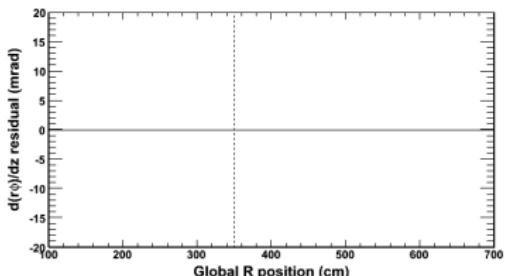
before (left) and after (right) individual chamber alignment



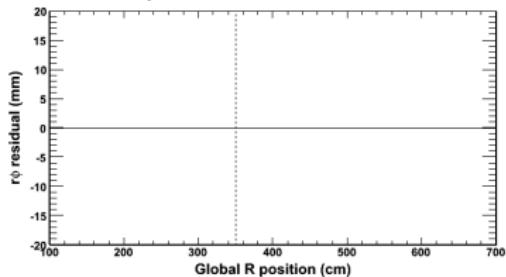
ME-4, ch 17 after global adjustment only



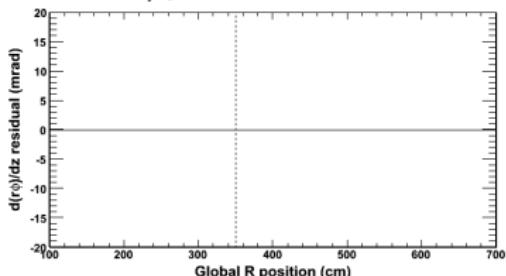
ME-4, ch 17 after global adjustment only



ME-4, ch 17 after $r\phi\sim\theta_y\sim\theta_z$ alignment



ME-4, ch 17 after $r\phi\sim\theta_y\sim\theta_z$ alignment



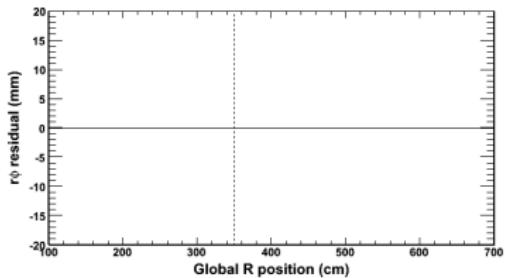
Map plots

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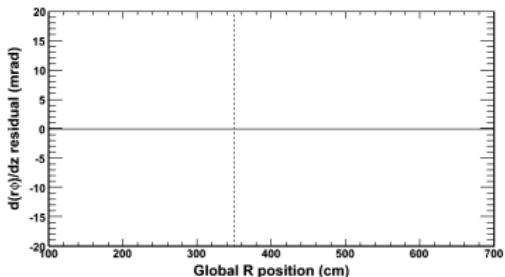
before (left) and after (right) individual chamber alignment



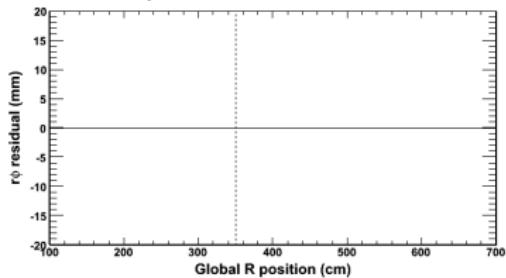
ME-4, ch 18 after global adjustment only



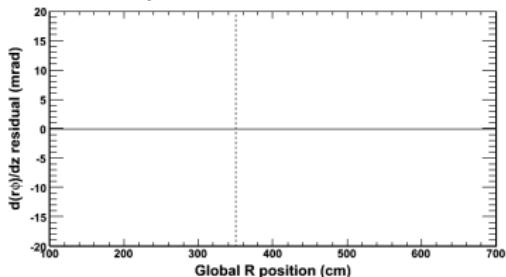
ME-4, ch 18 after global adjustment only



ME-4, ch 18 after $r\phi\phi_y\phi_z$ alignment



ME-4, ch 18 after $r\phi\phi_y\phi_z$ alignment



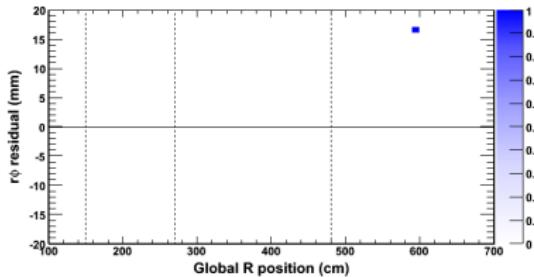
Map plots

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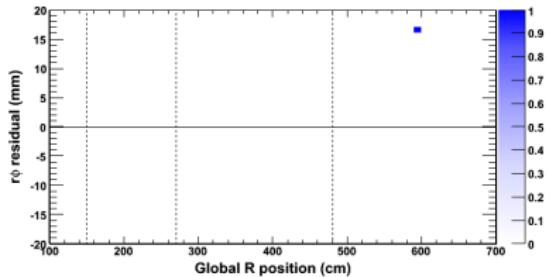


before (left) and after (right) individual chamber alignment

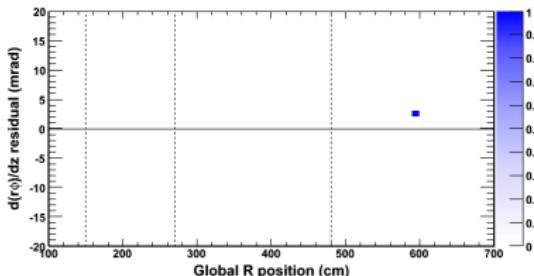
ME+1, ch 1 after global adjustment only



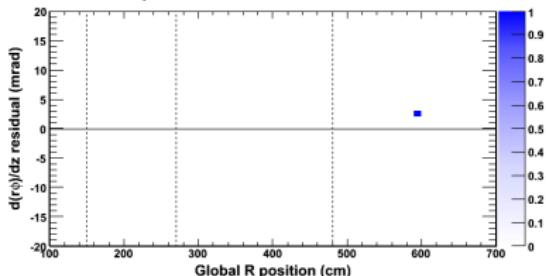
ME+1, ch 1 after $r_\theta=0, -\phi_z$ alignment



ME+1, ch 1 after global adjustment only



ME+1, ch 1 after $r_\theta=0, -\phi_z$ alignment



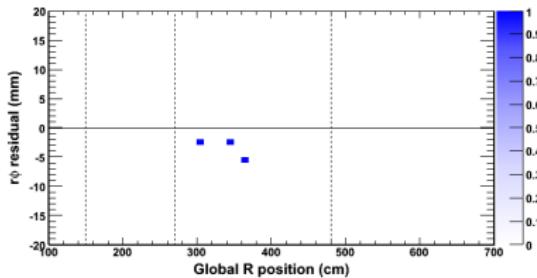
Map plots

Jim Pivarski 174/21

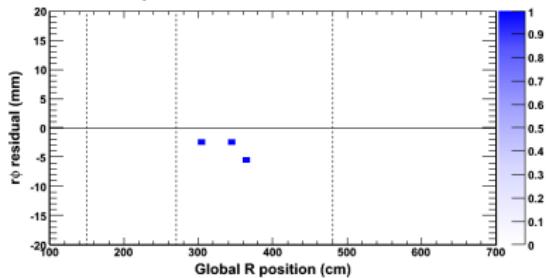


before (left) and after (right) individual chamber alignment

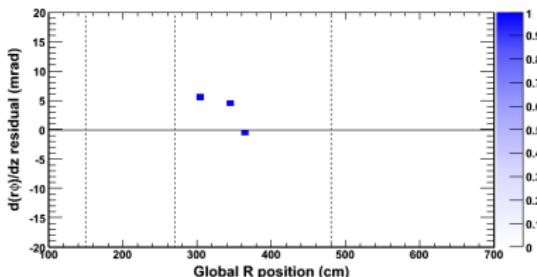
ME+1, ch 2 after global adjustment only



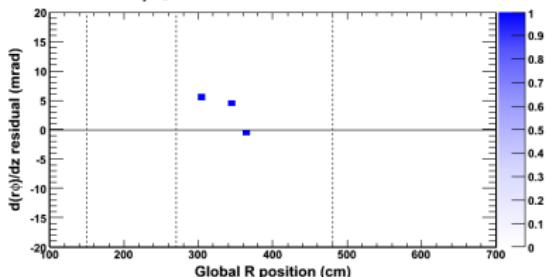
ME+1, ch 2 after $r_\theta=0, -\phi_z$ alignment



ME+1, ch 2 after global adjustment only



ME+1, ch 2 after $r_\theta=0, -\phi_z$ alignment



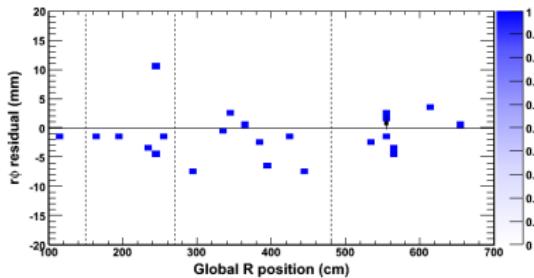
Map plots

Jim Pivarski 175/21

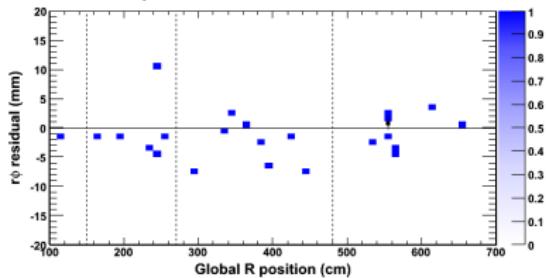


before (left) and after (right) individual chamber alignment

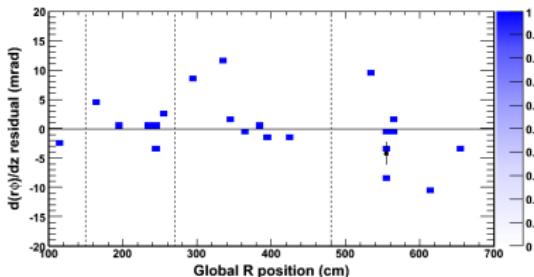
ME+1, ch 3 after global adjustment only



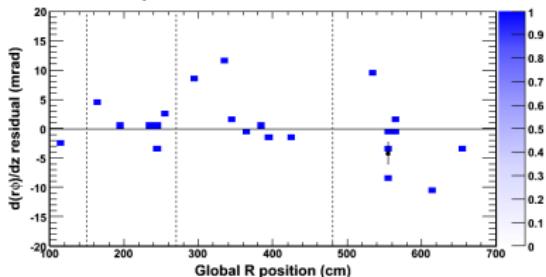
ME+1, ch 3 after $r_{\phi}-\theta_y-\phi_z$ alignment



ME+1, ch 3 after global adjustment only



ME+1, ch 3 after $r_{\phi}-\theta_y-\phi_z$ alignment



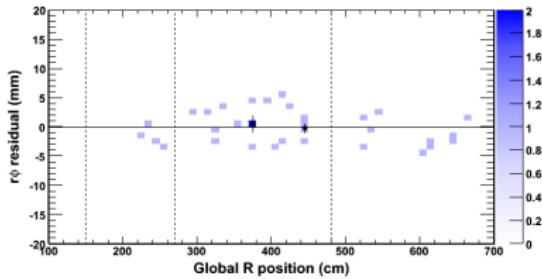
Map plots

Jim Pivarski 176/21

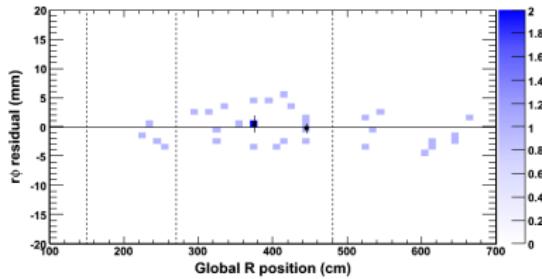


before (left) and after (right) individual chamber alignment

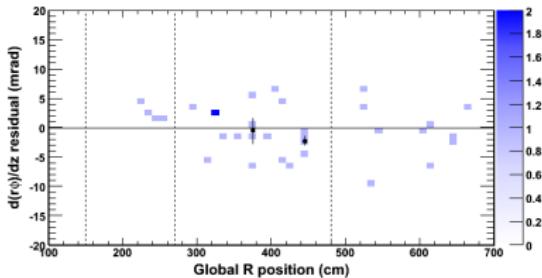
ME+1, ch 4 after global adjustment only



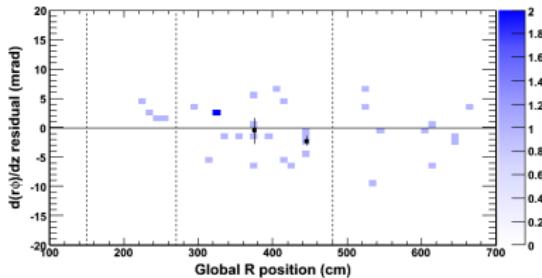
ME+1, ch 4 after $r_{\phi}-\theta_y-\phi_z$ alignment



ME+1, ch 4 after global adjustment only



ME+1, ch 4 after $r_{\phi}-\theta_y-\phi_z$ alignment



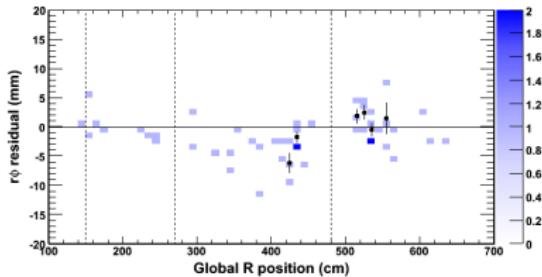
Map plots

Jim Pivarski 177/21

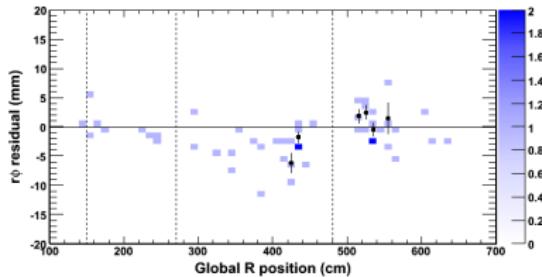


before (left) and after (right) individual chamber alignment

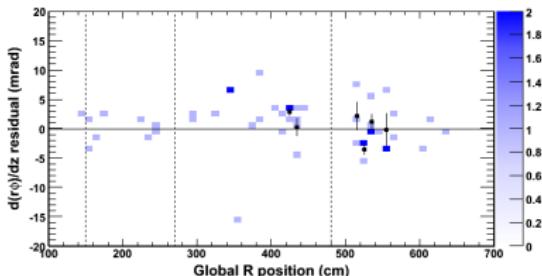
ME+1, ch 5 after global adjustment only



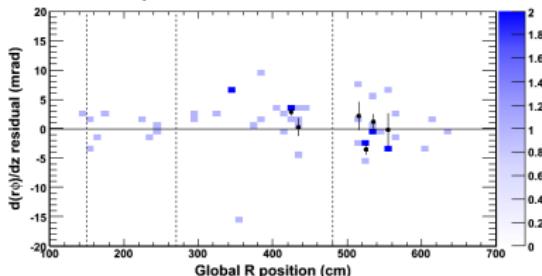
ME+1, ch 5 after $r_\theta=0, -\phi_z$ alignment



ME+1, ch 5 after global adjustment only



ME+1, ch 5 after $r_\theta=0, -\phi_z$ alignment



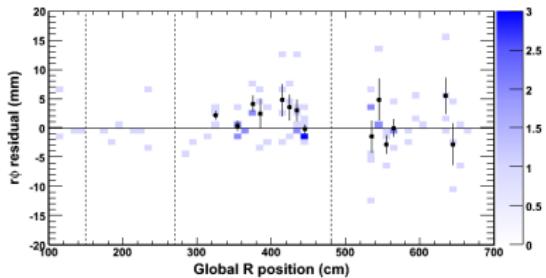
Map plots

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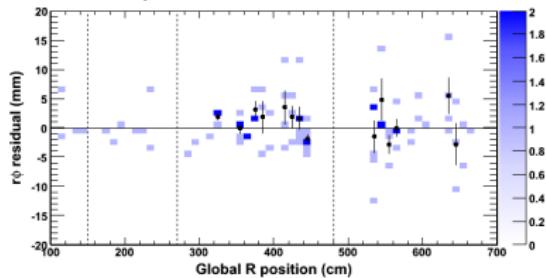


before (left) and after (right) individual chamber alignment

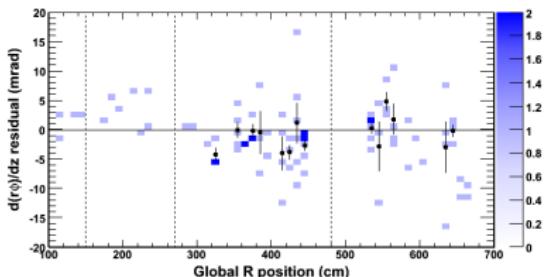
ME+1, ch 6 after global adjustment only



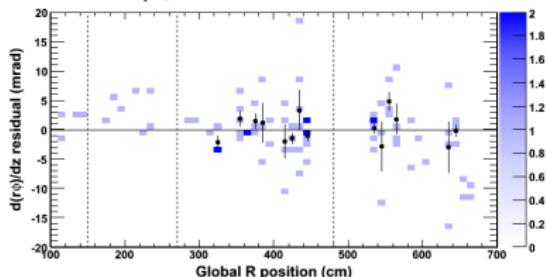
ME+1, ch 6 after $r_{\phi=0}, \phi_z$ alignment



ME+1, ch 6 after global adjustment only



ME+1, ch 6 after $r_{\phi=0}, \phi_z$ alignment



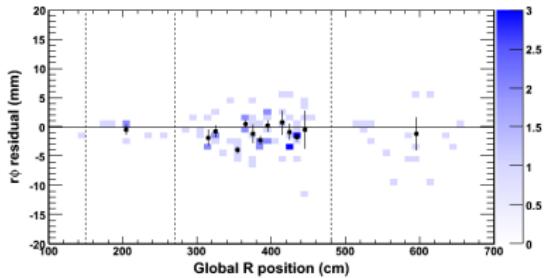
Map plots

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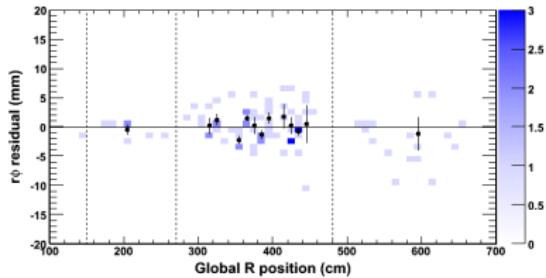


before (left) and after (right) individual chamber alignment

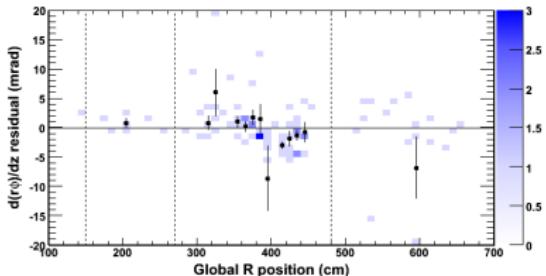
ME+1, ch 7 after global adjustment only



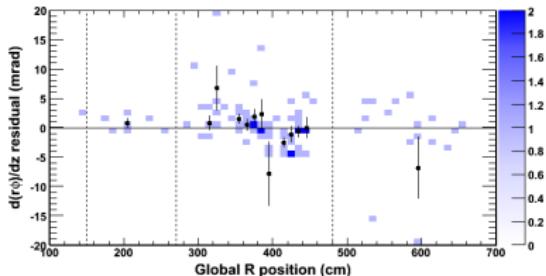
ME+1, ch 7 after $r\phi=0, -\phi_z$ alignment



ME+1, ch 7 after global adjustment only



ME+1, ch 7 after $r\phi=0, -\phi_z$ alignment



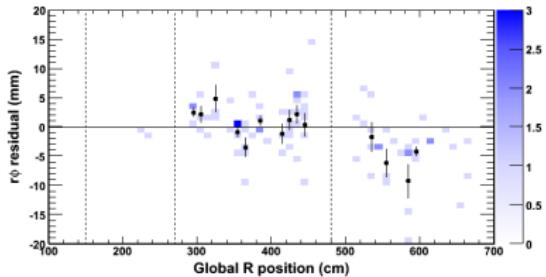
Map plots

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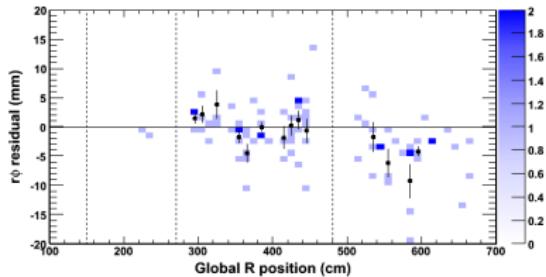


before (left) and after (right) individual chamber alignment

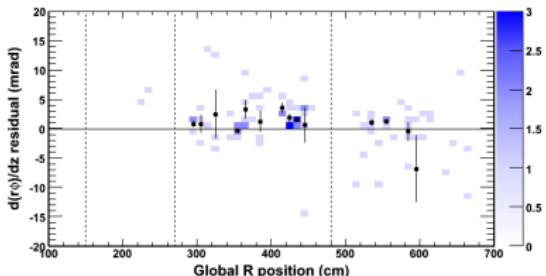
ME+1, ch 8 after global adjustment only



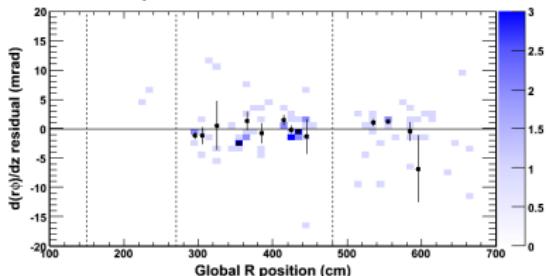
ME+1, ch 8 after $r_{\theta=0}, \phi_z$ alignment



ME+1, ch 8 after global adjustment only



ME+1, ch 8 after $r_{\theta=0}, \phi_z$ alignment



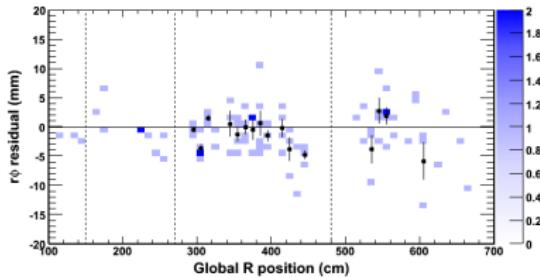
Map plots

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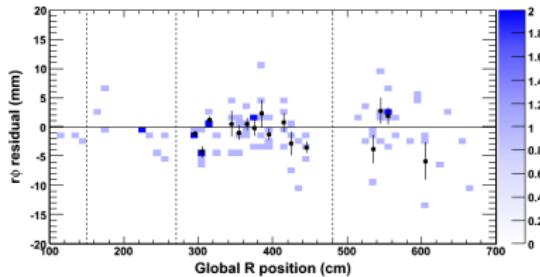


before (left) and after (right) individual chamber alignment

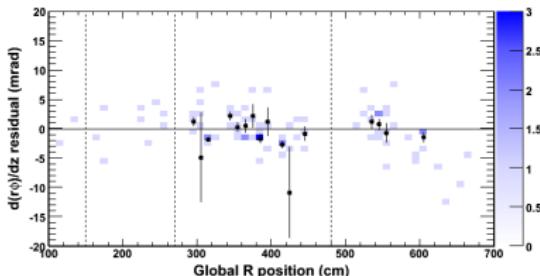
ME+1, ch 9 after global adjustment only



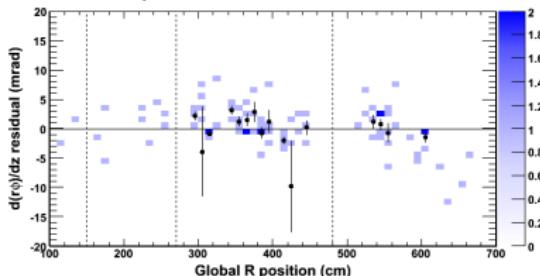
ME+1, ch 9 after $r_{\phi}-0_y-\phi_z$ alignment



ME+1, ch 9 after global adjustment only



ME+1, ch 9 after $r_{\phi}-0_y-\phi_z$ alignment



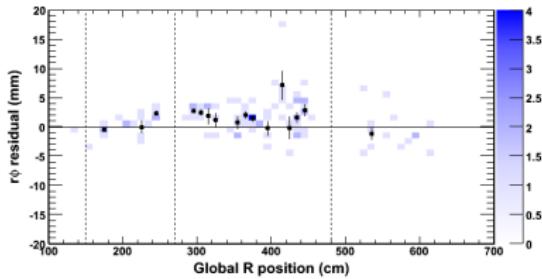
Map plots

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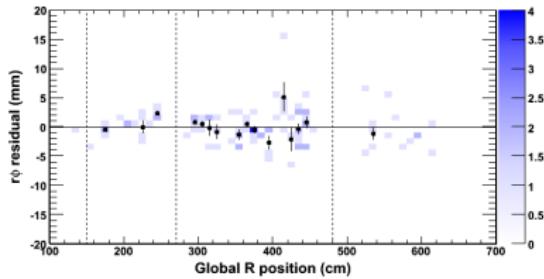


before (left) and after (right) individual chamber alignment

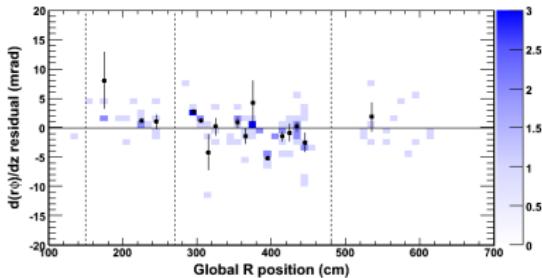
ME+1, ch 10 after global adjustment only



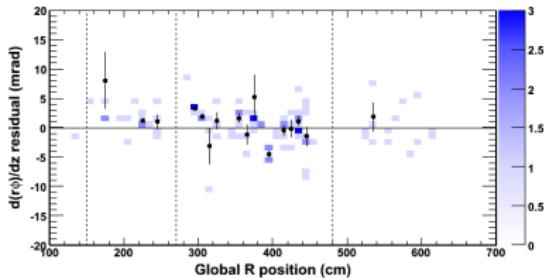
ME+1, ch 10 after $r_0=0, \theta_0=0, z_0=0$ alignment



ME+1, ch 10 after global adjustment only



ME+1, ch 10 after $r_0=0, \theta_0=0, z_0=0$ alignment



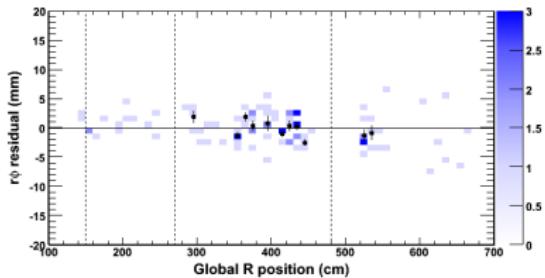
Map plots

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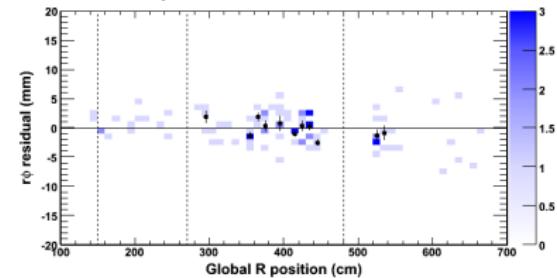


before (left) and after (right) individual chamber alignment

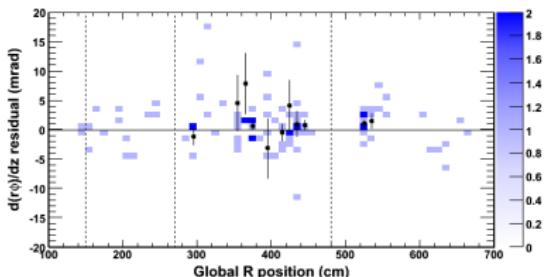
ME+1, ch 11 after global adjustment only



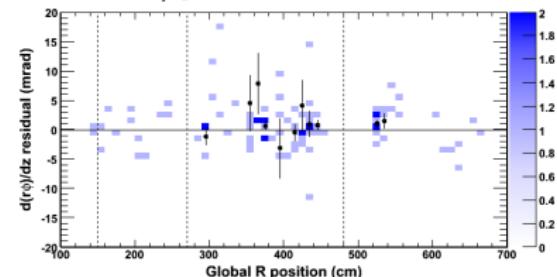
ME+1, ch 11 after $r_0 \rightarrow 0, y_0, z_0$ alignment



ME+1, ch 11 after global adjustment only



ME+1, ch 11 after $r_0 \rightarrow 0, y_0, z_0$ alignment



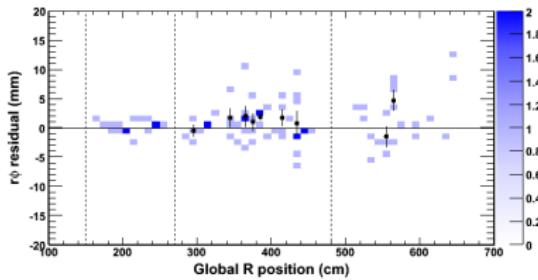
Map plots

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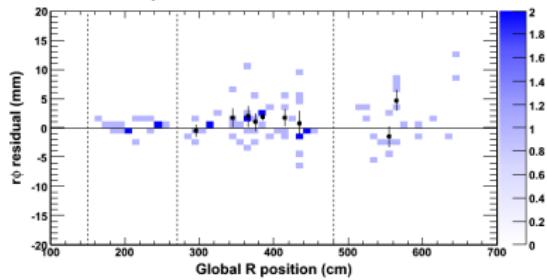


before (left) and after (right) individual chamber alignment

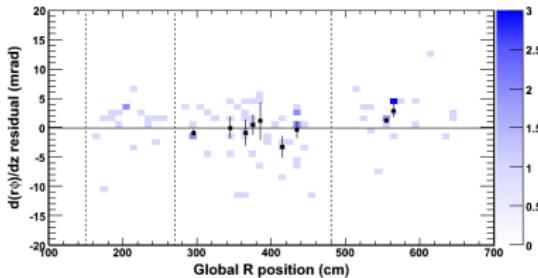
ME+1, ch 12 after global adjustment only



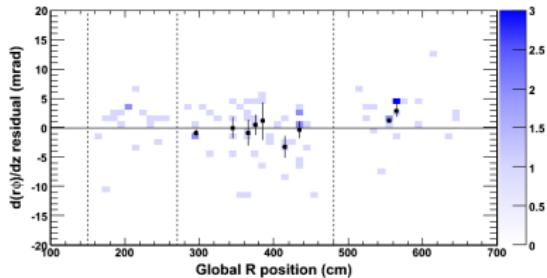
ME+1, ch 12 after $r_0=0$, $y_0=0$, z alignment



ME+1, ch 12 after global adjustment only



ME+1, ch 12 after $r_0=0$, $y_0=0$, z alignment



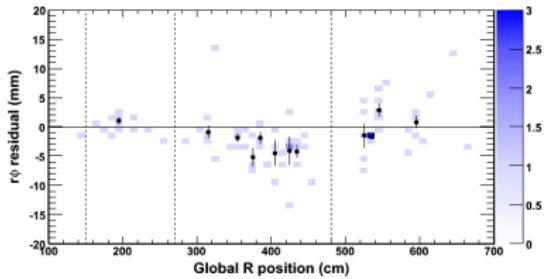
Map plots

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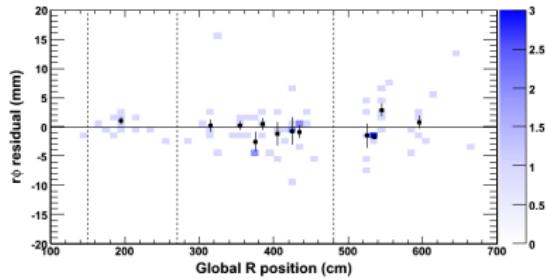


before (left) and after (right) individual chamber alignment

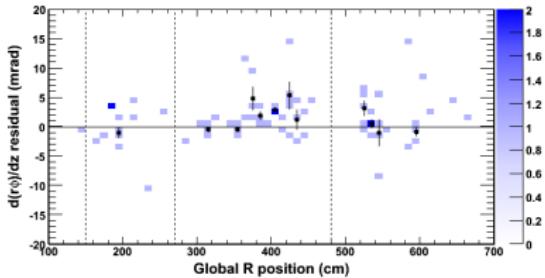
ME+1, ch 13 after global adjustment only



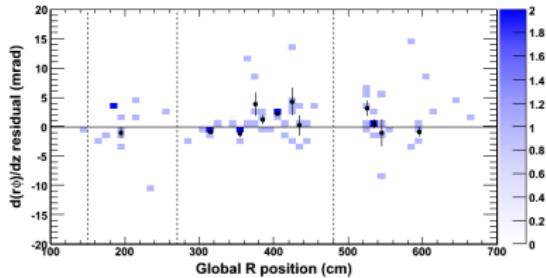
ME+1, ch 13 after $r_0 \rightarrow 0, y_0, z_0$ alignment



ME+1, ch 13 after global adjustment only



ME+1, ch 13 after $r_0 \rightarrow 0, y_0, z_0$ alignment



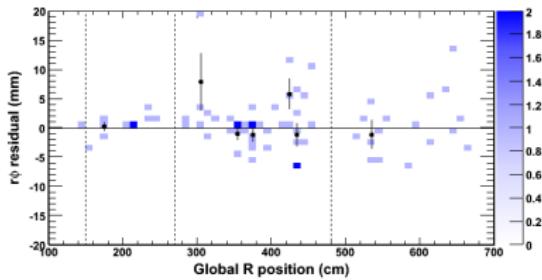
Map plots

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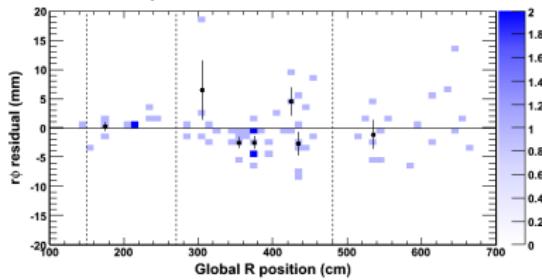


before (left) and after (right) individual chamber alignment

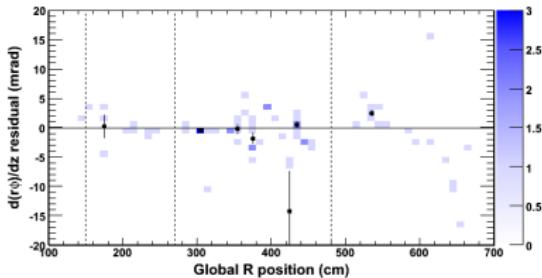
ME+1, ch 14 after global adjustment only



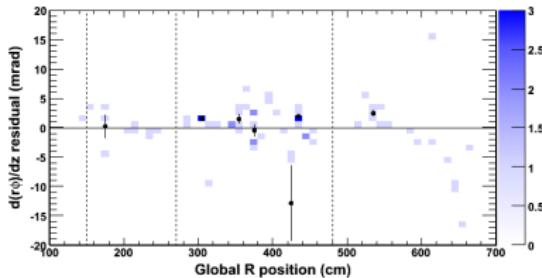
ME+1, ch 14 after $r_0=0$, $y_0=0$, z alignment



ME+1, ch 14 after global adjustment only



ME+1, ch 14 after $r_0=0$, $y_0=0$, z alignment



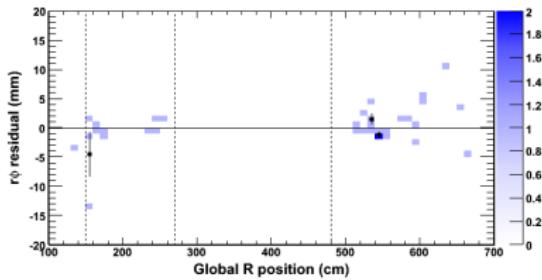
Map plots

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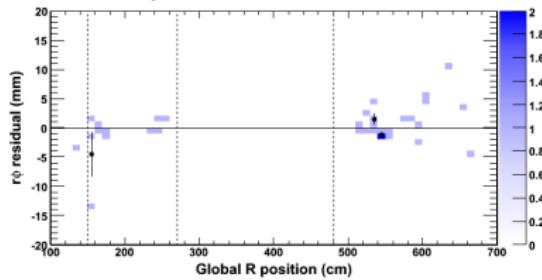


before (left) and after (right) individual chamber alignment

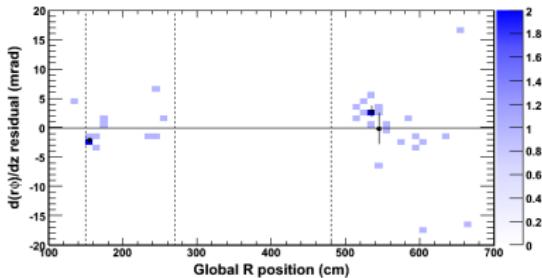
ME+1, ch 15 after global adjustment only



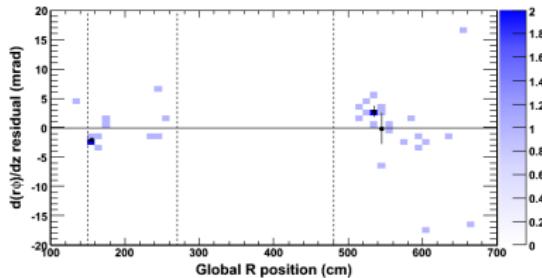
ME+1, ch 15 after $r_0=0, y_0=0, z$ alignment



ME+1, ch 15 after global adjustment only



ME+1, ch 15 after $r_0=0, y_0=0, z$ alignment



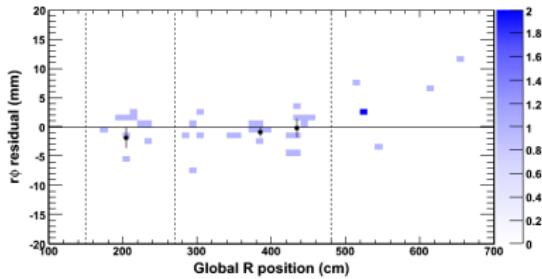
Map plots

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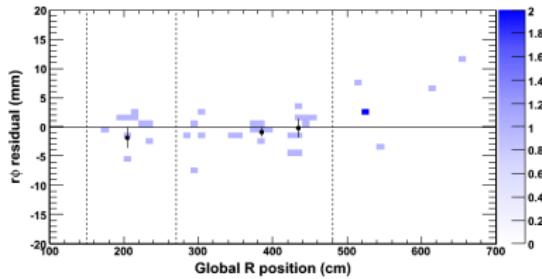


before (left) and after (right) individual chamber alignment

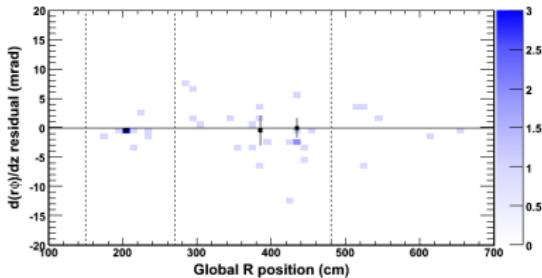
ME+1, ch 16 after global adjustment only



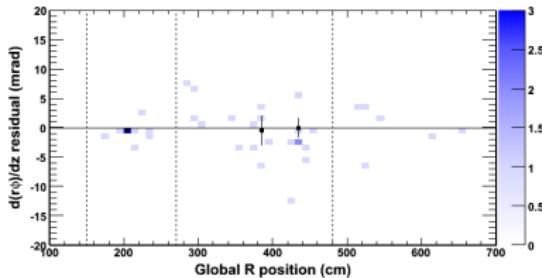
ME+1, ch 16 after $r_0=0$, $y_0=0$, z alignment



ME+1, ch 16 after global adjustment only



ME+1, ch 16 after $r_0=0$, $y_0=0$, z alignment



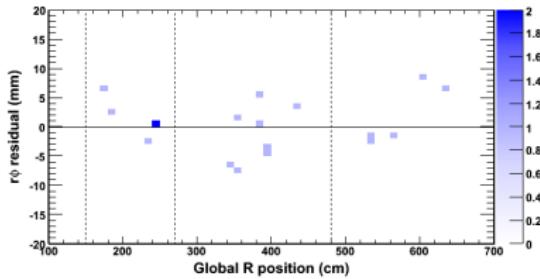
Map plots

Jim Pivarski 189/21

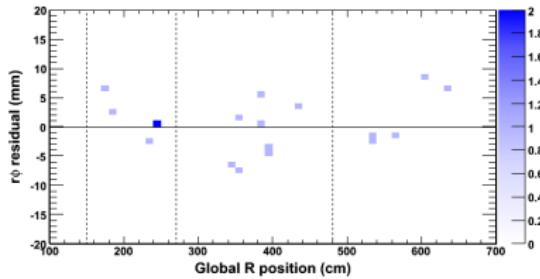


before (left) and after (right) individual chamber alignment

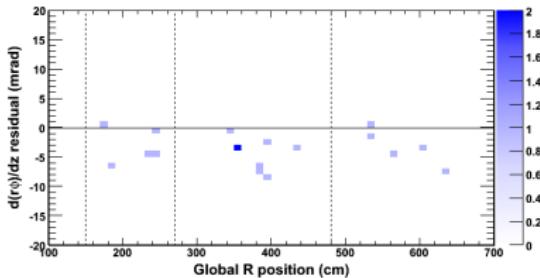
ME+1, ch 17 after global adjustment only



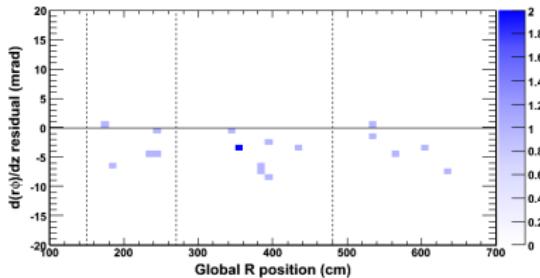
ME+1, ch 17 after $r_{\phi} \rightarrow 0$, $y \rightarrow 0$, z alignment



ME+1, ch 17 after global adjustment only



ME+1, ch 17 after $r_{\phi} \rightarrow 0$, $y \rightarrow 0$, z alignment



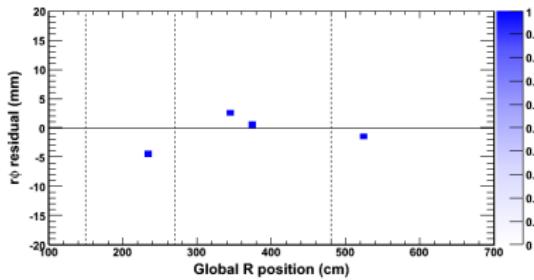
Map plots

Jim Pivarski 190/21

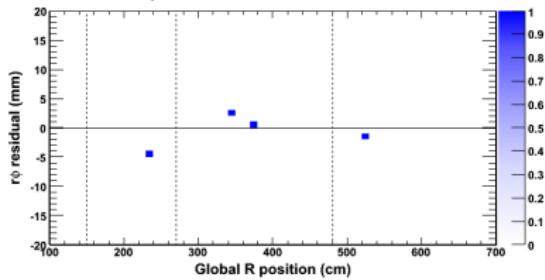


before (left) and after (right) individual chamber alignment

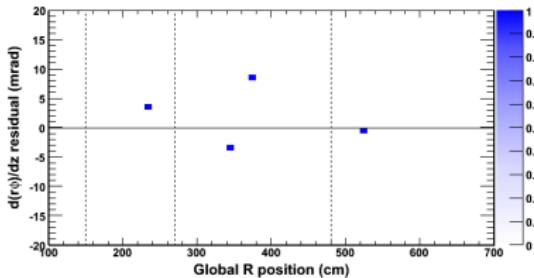
ME+1, ch 18 after global adjustment only



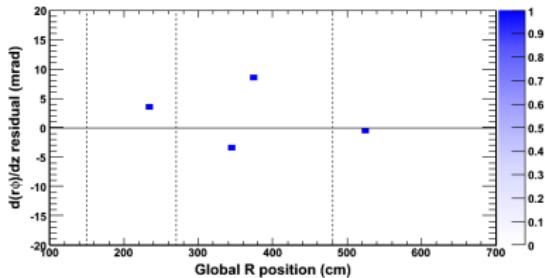
ME+1, ch 18 after $r_{\phi \rightarrow 0} - z_{\phi \rightarrow 0}$ alignment



ME+1, ch 18 after global adjustment only



ME+1, ch 18 after $r_{\phi \rightarrow 0} - z_{\phi \rightarrow 0}$ alignment



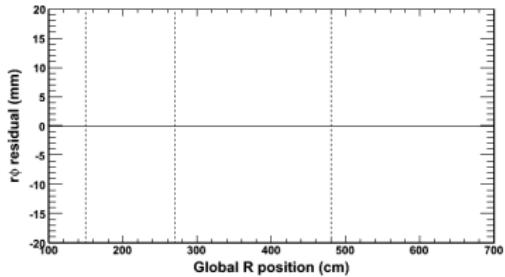
Map plots

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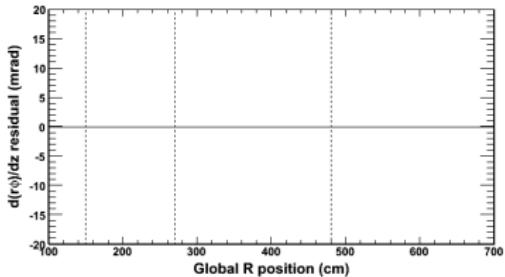
before (left) and after (right) individual chamber alignment



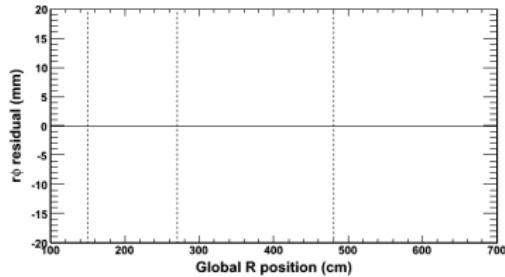
ME+1, ch 19 after global adjustment only



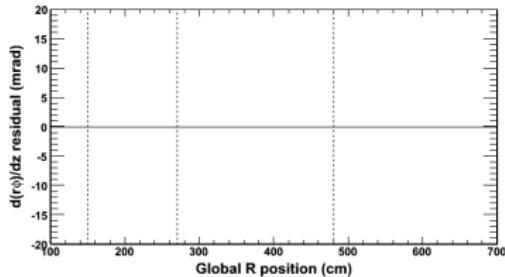
ME+1, ch 19 after global adjustment only



ME+1, ch 19 after $r_0=0, \theta_0=0, z_0=0$ alignment



ME+1, ch 19 after $r_0=0, \theta_0=0, z_0=0$ alignment



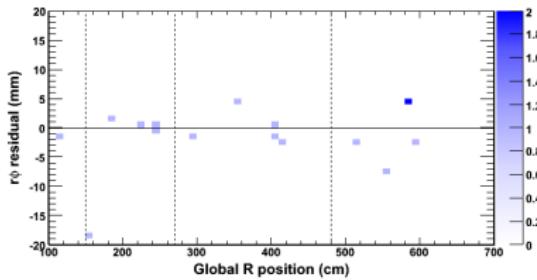
Map plots

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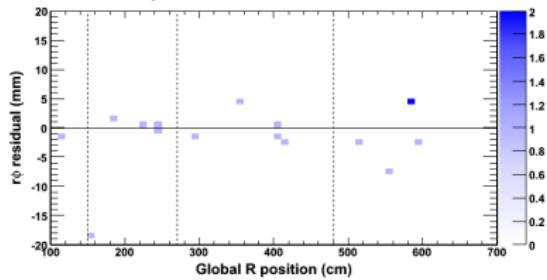


before (left) and after (right) individual chamber alignment

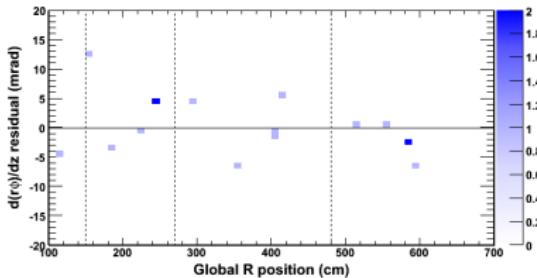
ME+1, ch 20 after global adjustment only



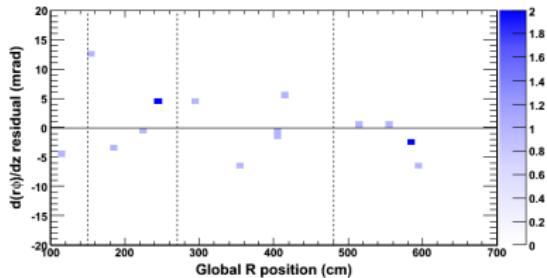
ME+1, ch 20 after $r_0 \rightarrow 0, y_0 = z_0$ alignment



ME+1, ch 20 after global adjustment only



ME+1, ch 20 after $r_0 \rightarrow 0, y_0 = z_0$ alignment



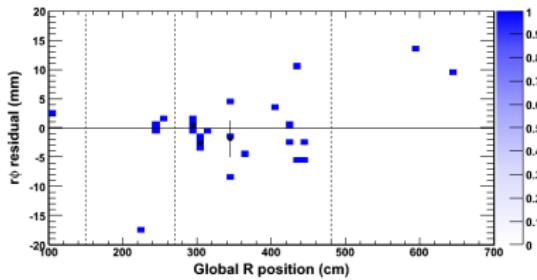
Map plots

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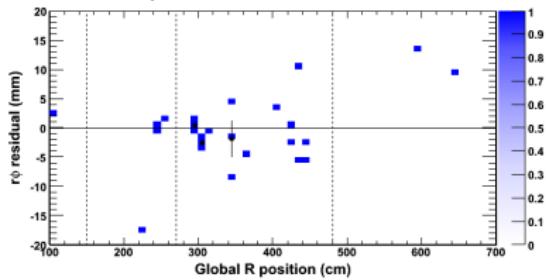


before (left) and after (right) individual chamber alignment

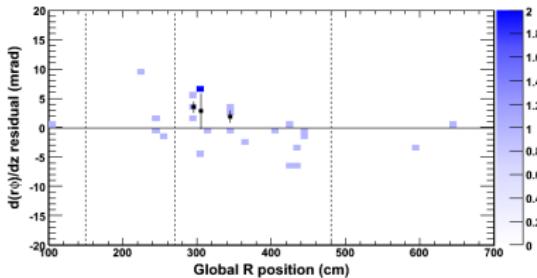
ME+1, ch 21 after global adjustment only



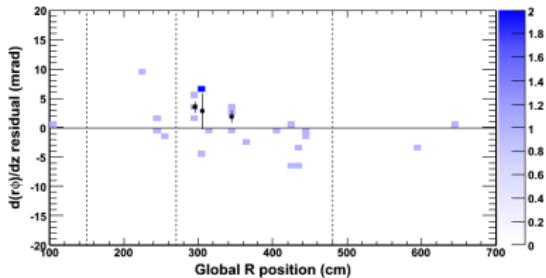
ME+1, ch 21 after $r_{\phi=0} - r_{\phi=0_z}$ alignment



ME+1, ch 21 after global adjustment only



ME+1, ch 21 after $r_{\phi=0} - r_{\phi=0_z}$ alignment



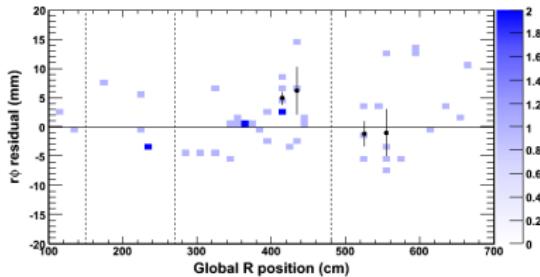
Map plots

Jim Pivarski 194/21

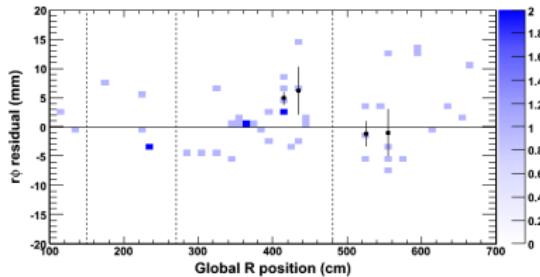


before (left) and after (right) individual chamber alignment

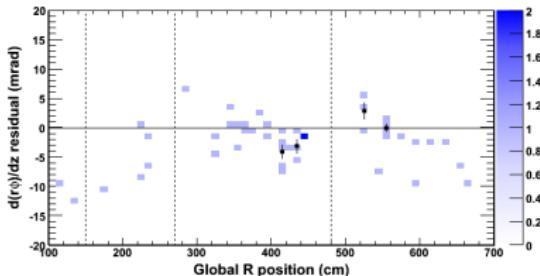
ME+1, ch 22 after global adjustment only



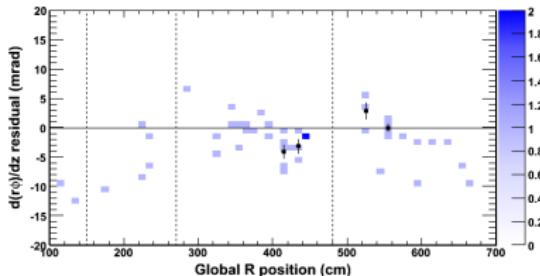
ME+1, ch 22 after $r_0=0$, $y_0=0$, z alignment



ME+1, ch 22 after global adjustment only



ME+1, ch 22 after $r_0=0$, $y_0=0$, z alignment



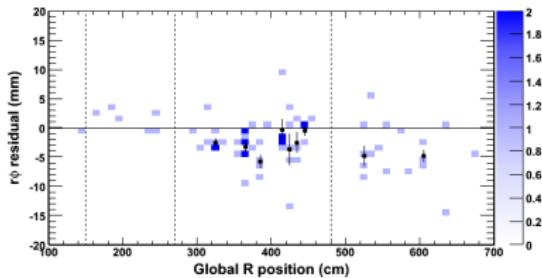
Map plots

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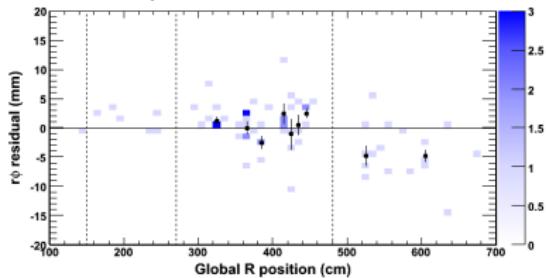


before (left) and after (right) individual chamber alignment

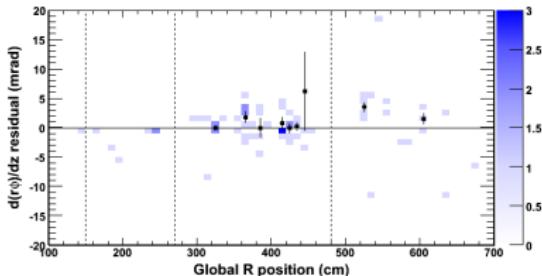
ME+1, ch 23 after global adjustment only



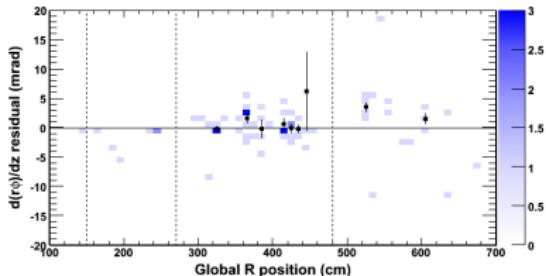
ME+1, ch 23 after $r_0=0$, $y_0=0$, z alignment



ME+1, ch 23 after global adjustment only



ME+1, ch 23 after $r_0=0$, $y_0=0$, z alignment



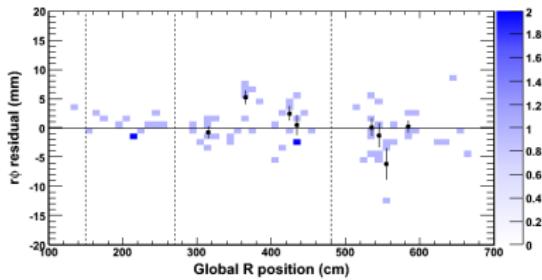
Map plots

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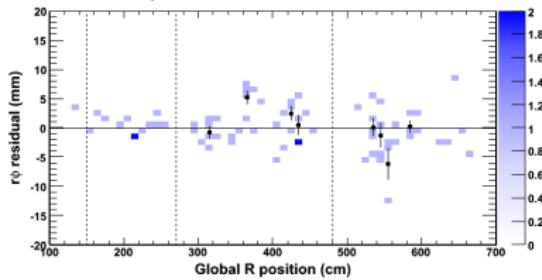


before (left) and after (right) individual chamber alignment

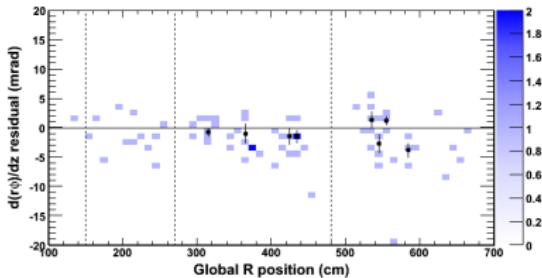
ME+1, ch 24 after global adjustment only



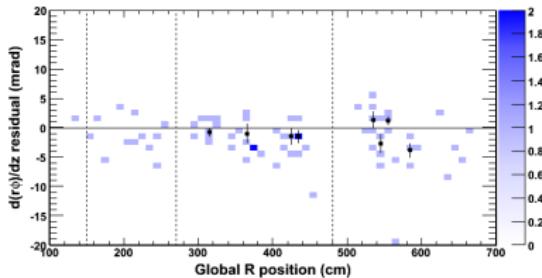
ME+1, ch 24 after $r_{\theta=0} - r_{z=0}$ alignment



ME+1, ch 24 after global adjustment only



ME+1, ch 24 after $r_{\theta=0} - r_{z=0}$ alignment



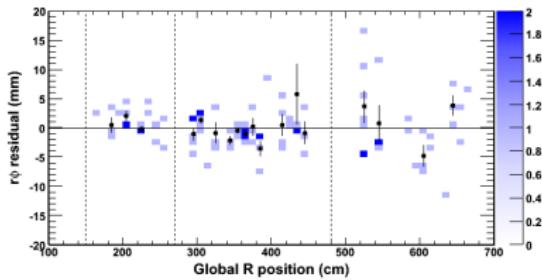
Map plots

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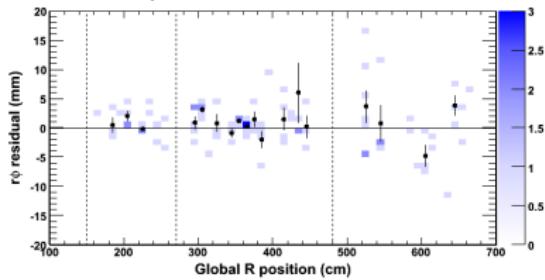


before (left) and after (right) individual chamber alignment

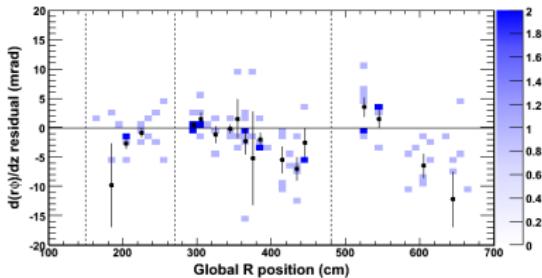
ME+1, ch 25 after global adjustment only



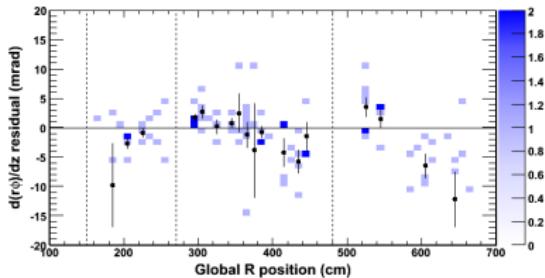
ME+1, ch 25 after $r_0=0$, $y_0=0$, z alignment



ME+1, ch 25 after global adjustment only



ME+1, ch 25 after $r_0=0$, $y_0=0$, z alignment



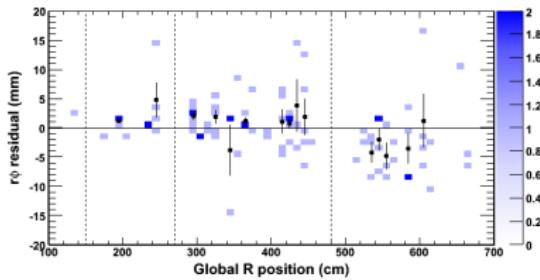
Map plots

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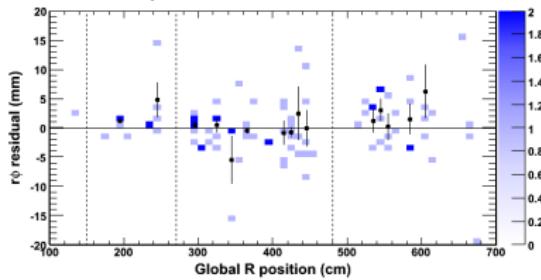


before (left) and after (right) individual chamber alignment

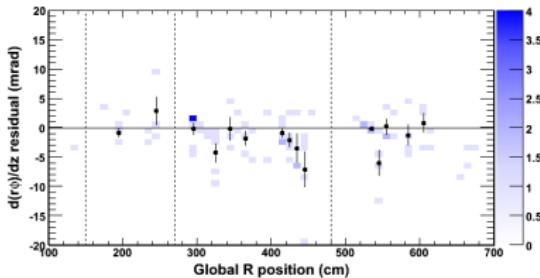
ME+1, ch 26 after global adjustment only



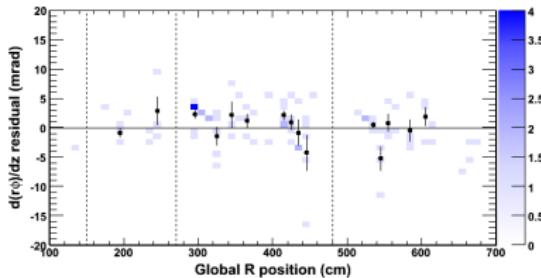
ME+1, ch 26 after $r_0=0$, $y_0=0$, z alignment



ME+1, ch 26 after global adjustment only



ME+1, ch 26 after $r_0=0$, $y_0=0$, z alignment



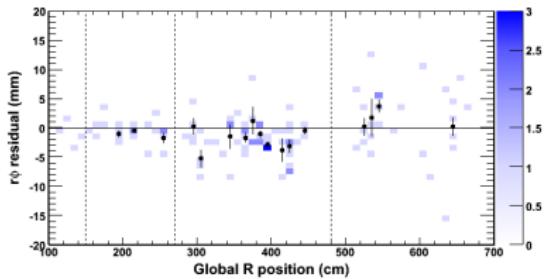
Map plots

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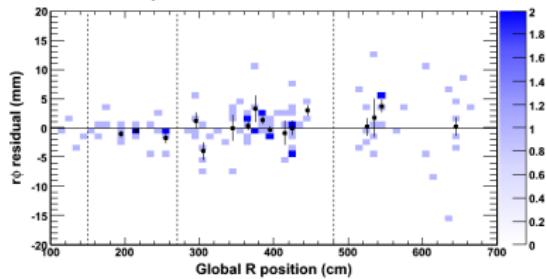


before (left) and after (right) individual chamber alignment

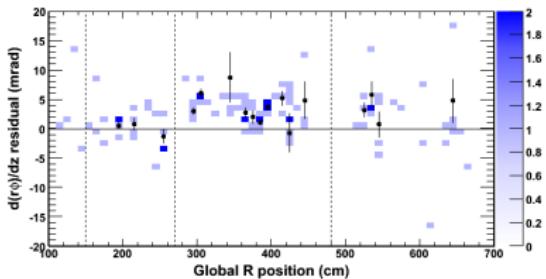
ME+1, ch 27 after global adjustment only



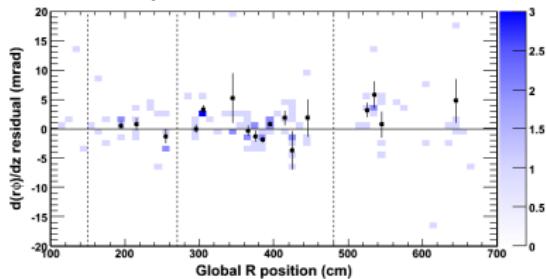
ME+1, ch 27 after $r_0 \rightarrow 0, y_0 = z_0$ alignment



ME+1, ch 27 after global adjustment only



ME+1, ch 27 after $r_0 \rightarrow 0, y_0 = z_0$ alignment



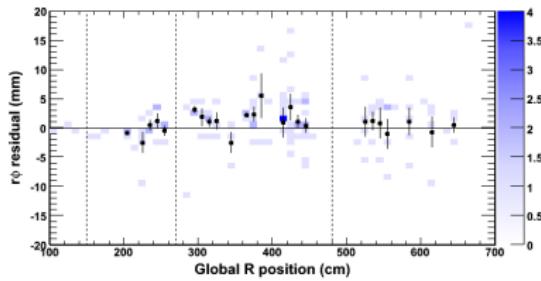
Map plots

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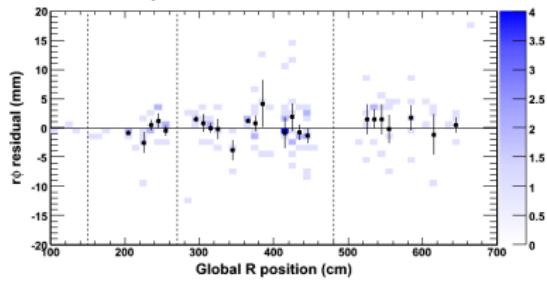


before (left) and after (right) individual chamber alignment

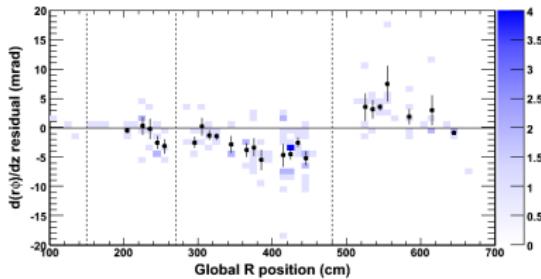
ME+1, ch 28 after global adjustment only



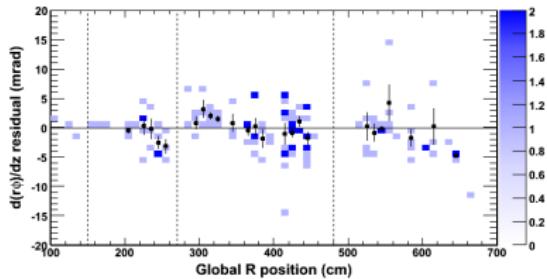
ME+1, ch 28 after $r_0 \rightarrow 0$, $y_0 = z_0$ alignment



ME+1, ch 28 after global adjustment only

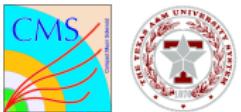


ME+1, ch 28 after $r_0 \rightarrow 0$, $y_0 = z_0$ alignment



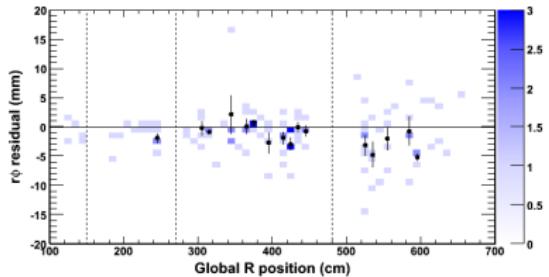
Map plots

Jim Pivarski 201/21

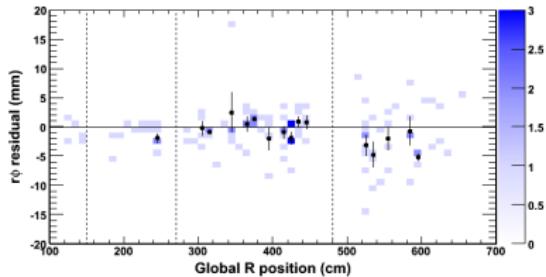


before (left) and after (right) individual chamber alignment

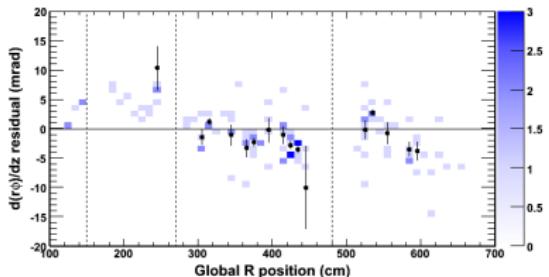
ME+1, ch 29 after global adjustment only



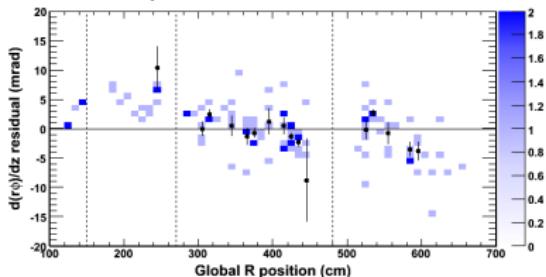
ME+1, ch 29 after $r_0=0_y=0_z$ alignment



ME+1, ch 29 after global adjustment only



ME+1, ch 29 after $r_0=0_y=0_z$ alignment



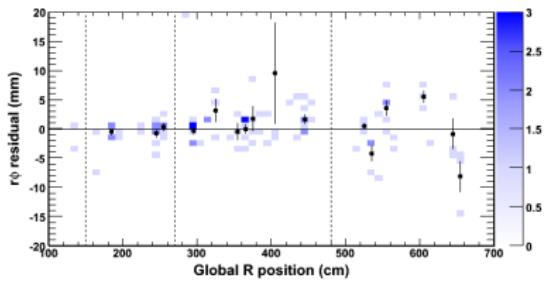
Map plots

Jim Pivarski 202/21

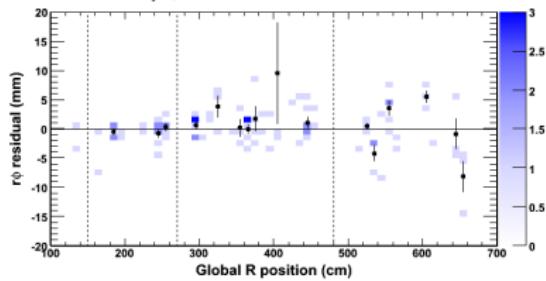


before (left) and after (right) individual chamber alignment

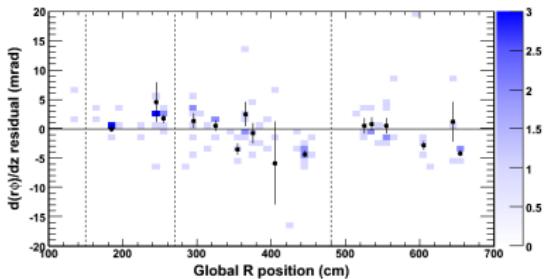
ME+1, ch 30 after global adjustment only



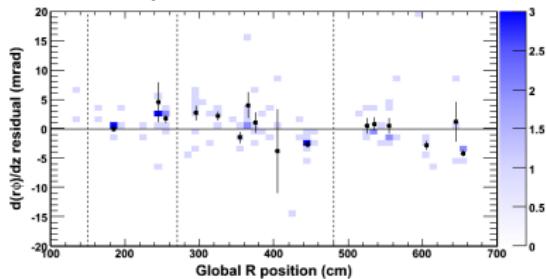
ME+1, ch 30 after $r_0=0$, $y_0=0$, z alignment



ME+1, ch 30 after global adjustment only



ME+1, ch 30 after $r_0=0$, $y_0=0$, z alignment



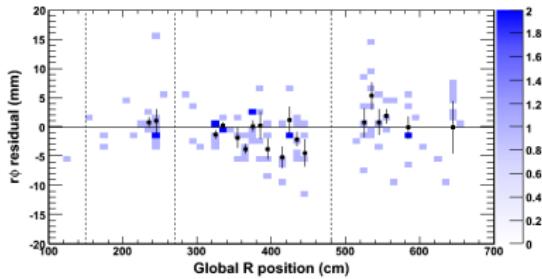
Map plots

Jim Pivarski 203/21

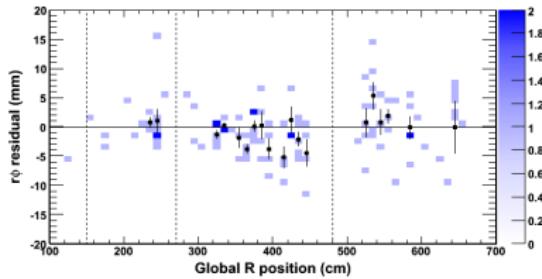


before (left) and after (right) individual chamber alignment

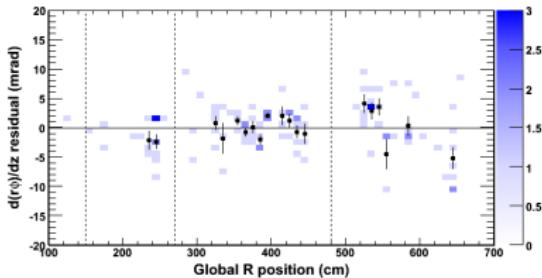
ME+1, ch 31 after global adjustment only



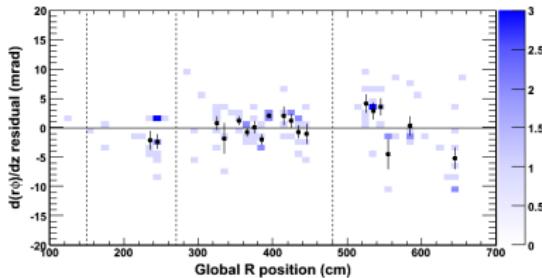
ME+1, ch 31 after $r_0 \rightarrow 0, y_0 = z_0$ alignment



ME+1, ch 31 after global adjustment only



ME+1, ch 31 after $r_0 \rightarrow 0, y_0 = z_0$ alignment



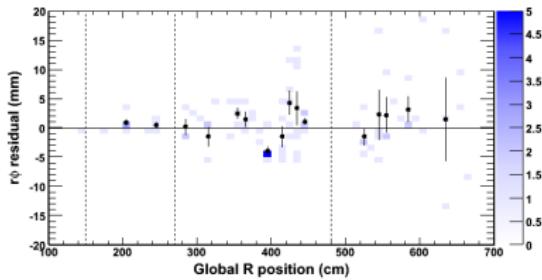
Map plots

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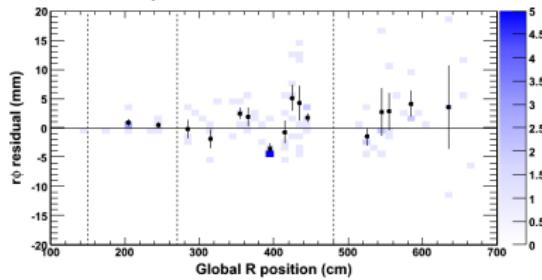


before (left) and after (right) individual chamber alignment

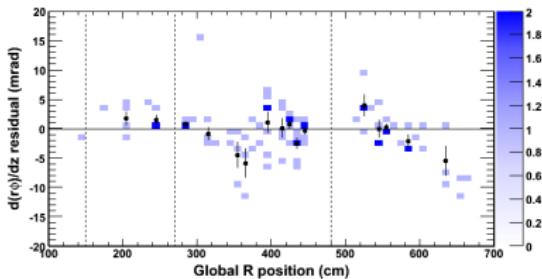
ME+1, ch 32 after global adjustment only



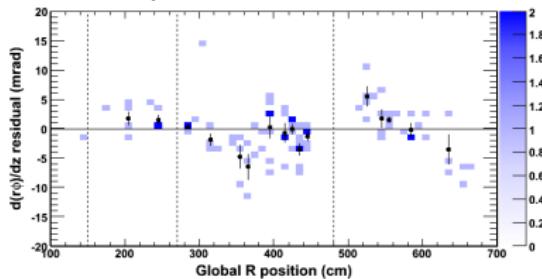
ME+1, ch 32 after $r_0=0$, $y_0=0$, z alignment



ME+1, ch 32 after global adjustment only



ME+1, ch 32 after $r_0=0$, $y_0=0$, z alignment



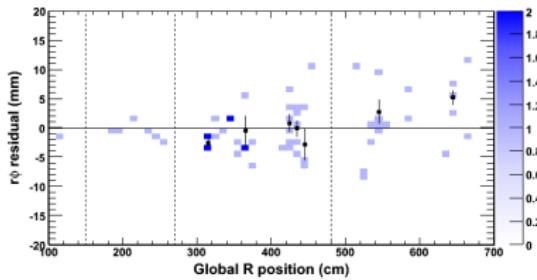
Map plots

Jim Pivarski 205/21

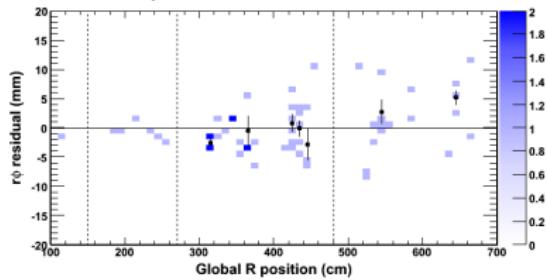


before (left) and after (right) individual chamber alignment

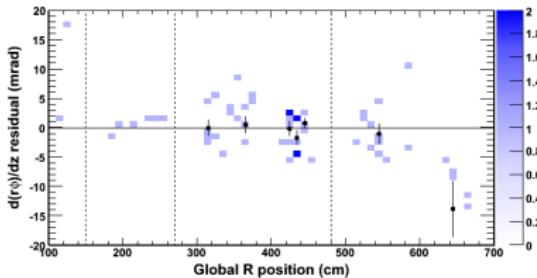
ME+1, ch 33 after global adjustment only



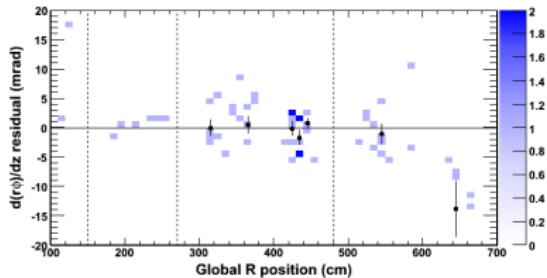
ME+1, ch 33 after $r_0 \rightarrow 0$, $y_0 = z_0$ alignment



ME+1, ch 33 after global adjustment only



ME+1, ch 33 after $r_0 \rightarrow 0$, $y_0 = z_0$ alignment



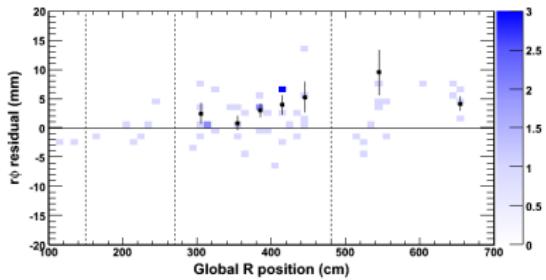
Map plots

Jim Pivarski 206/21

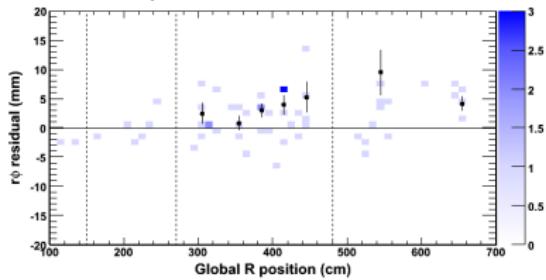


before (left) and after (right) individual chamber alignment

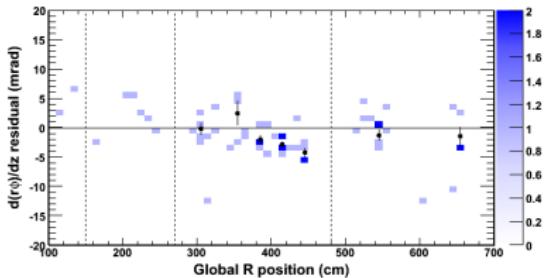
ME+1, ch 34 after global adjustment only



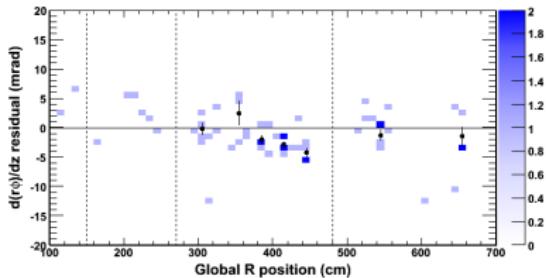
ME+1, ch 34 after $r_0 \rightarrow 0, y_0 = z_0$ alignment



ME+1, ch 34 after global adjustment only



ME+1, ch 34 after $r_0 \rightarrow 0, y_0 = z_0$ alignment



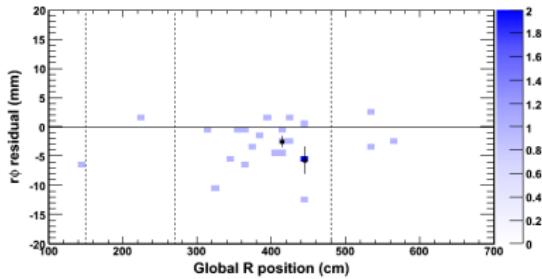
Map plots

Jim Pivarski 207/21

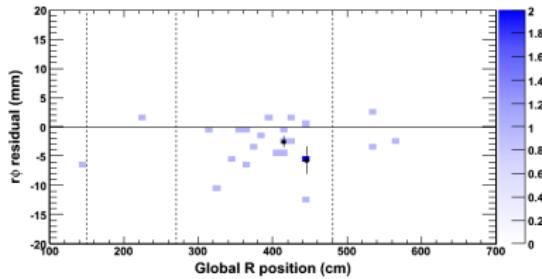


before (left) and after (right) individual chamber alignment

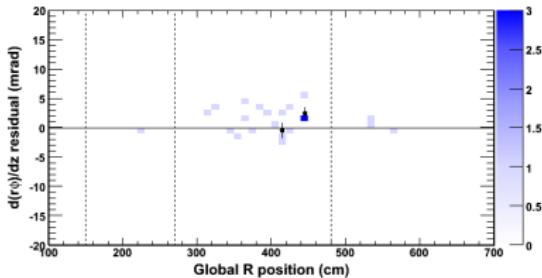
ME+1, ch 35 after global adjustment only



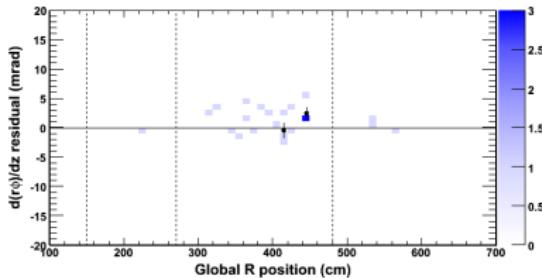
ME+1, ch 35 after $r_{\phi \rightarrow 0} - z_{\phi \rightarrow 0}$ alignment



ME+1, ch 35 after global adjustment only



ME+1, ch 35 after $r_{\phi \rightarrow 0} - z_{\phi \rightarrow 0}$ alignment



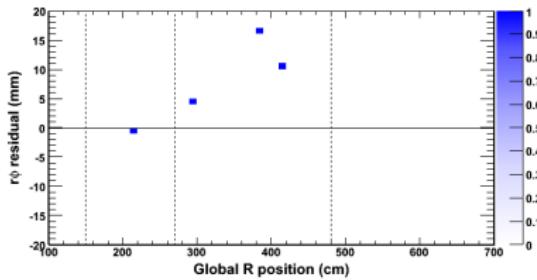
Map plots

Jim Pivarski 208/21

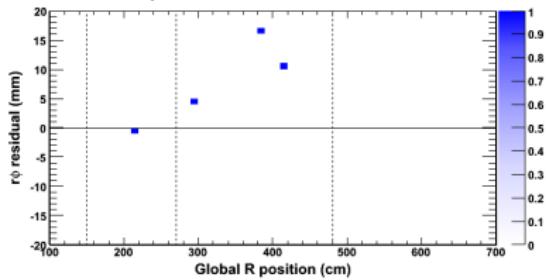


before (left) and after (right) individual chamber alignment

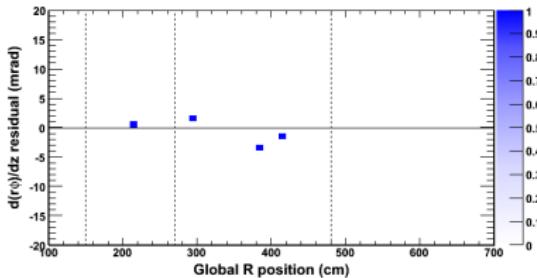
ME+1, ch 36 after global adjustment only



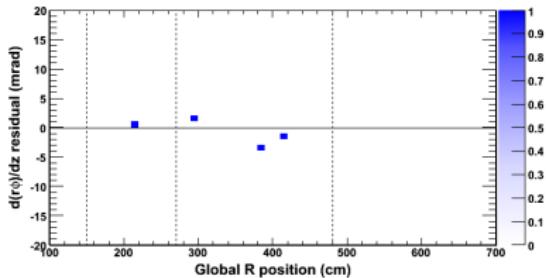
ME+1, ch 36 after $r_{\phi} \rightarrow 0$, y_0, z_0 alignment



ME+1, ch 36 after global adjustment only



ME+1, ch 36 after $r_{\phi} \rightarrow 0$, y_0, z_0 alignment



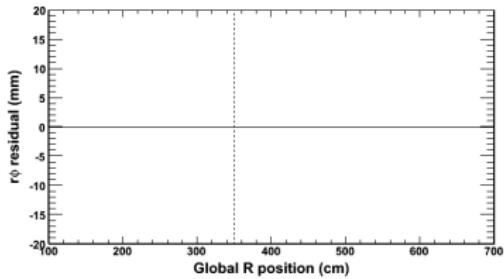
Map plots

Jim Pivarski 209/21

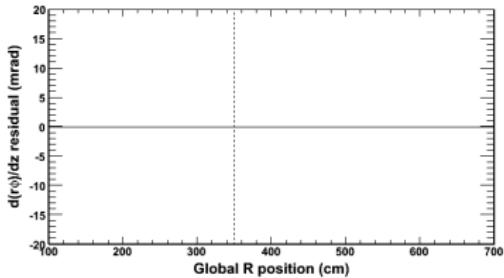
before (left) and after (right) individual chamber alignment



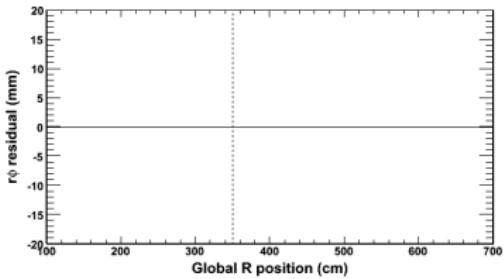
ME+2, ch 1 after global adjustment only



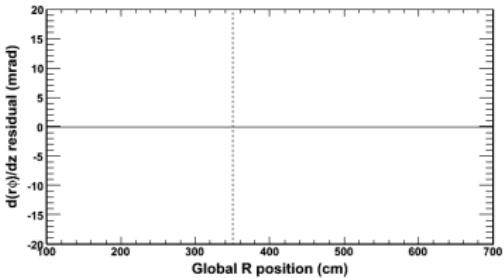
ME+2, ch 1 after global adjustment only



ME+2, ch 1 after $r\phi=0, -\phi_z$ alignment



ME+2, ch 1 after $r\phi=0, -\phi_z$ alignment



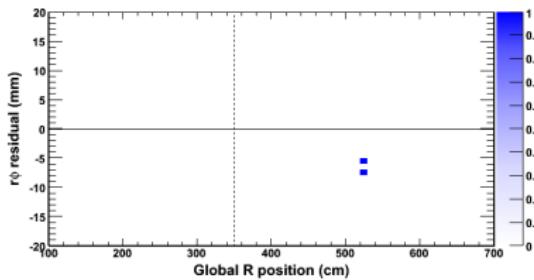
Map plots

Jim Pivarski 210/21

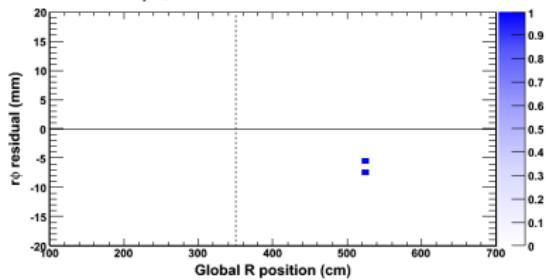


before (left) and after (right) individual chamber alignment

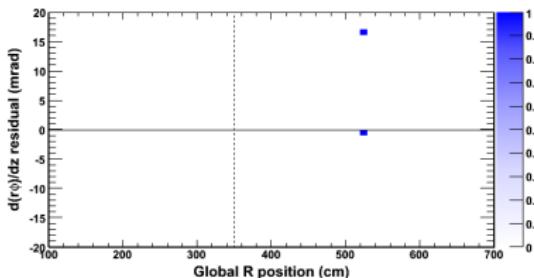
ME+2, ch 2 after global adjustment only



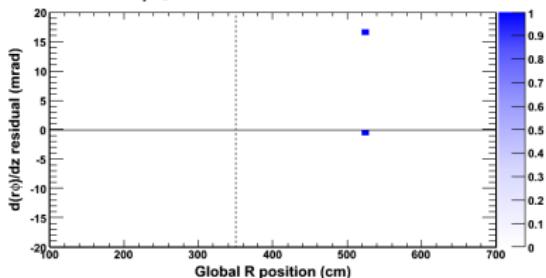
ME+2, ch 2 after $r\phi - \phi_y - \phi_z$ alignment



ME+2, ch 2 after global adjustment only



ME+2, ch 2 after $r\phi - \phi_y - \phi_z$ alignment



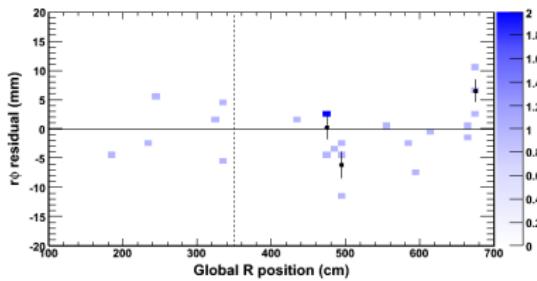
Map plots

Jim Pivarski 211/21

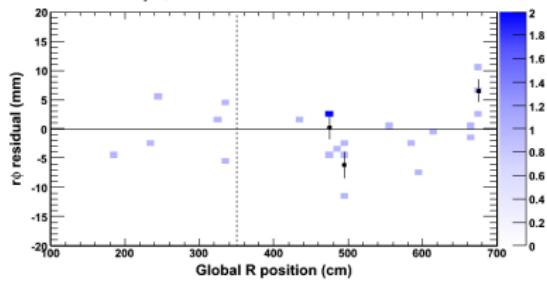


before (left) and after (right) individual chamber alignment

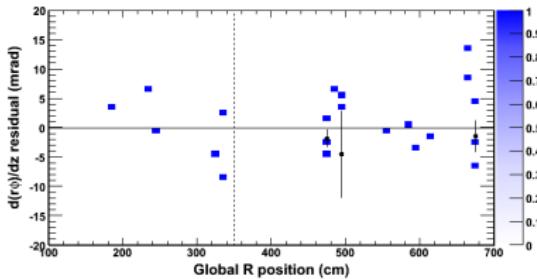
ME+2, ch 3 after global adjustment only



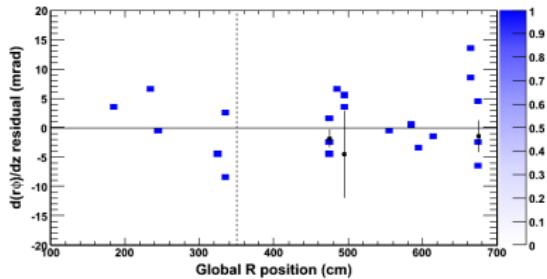
ME+2, ch 3 after $r_{\phi=0} - \phi_z$ alignment



ME+2, ch 3 after global adjustment only



ME+2, ch 3 after $r_{\phi=0} - \phi_z$ alignment



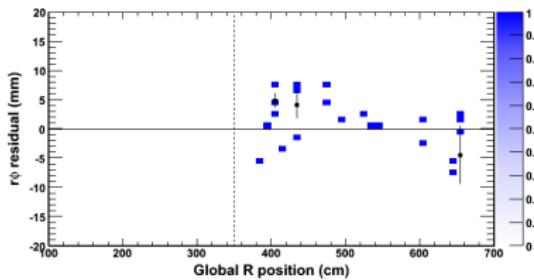
Map plots

Jim Pivarski 212/21

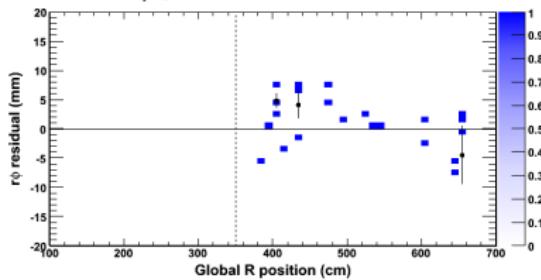


before (left) and after (right) individual chamber alignment

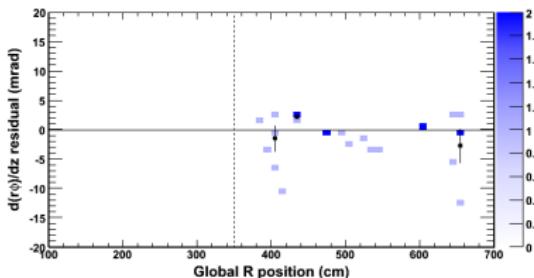
ME+2, ch 4 after global adjustment only



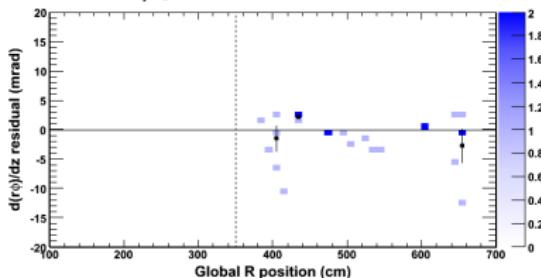
ME+2, ch 4 after $r_\theta=0$, $-\phi_z$ alignment



ME+2, ch 4 after global adjustment only



ME+2, ch 4 after $r_\theta=0$, $-\phi_z$ alignment



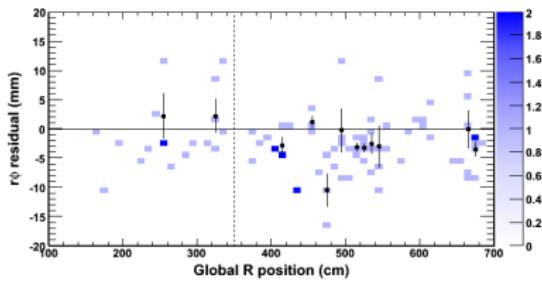
Map plots

Jim Pivarski 213/21

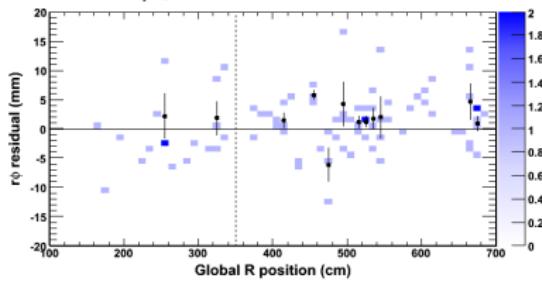


before (left) and after (right) individual chamber alignment

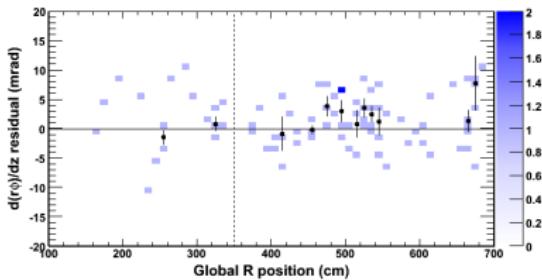
ME+2, ch 5 after global adjustment only



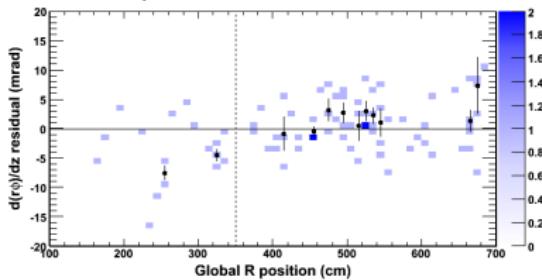
ME+2, ch 5 after $r_\theta=0, -\phi_z$ alignment



ME+2, ch 5 after global adjustment only



ME+2, ch 5 after $r_\theta=0, -\phi_z$ alignment



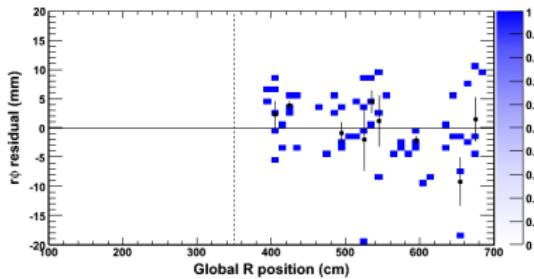
Map plots

Jim Pivarski 214/21

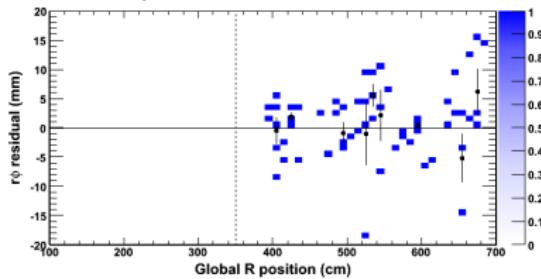


before (left) and after (right) individual chamber alignment

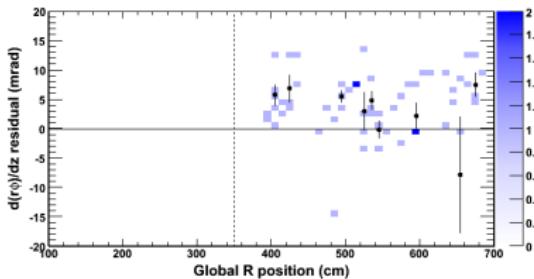
ME+2, ch 6 after global adjustment only



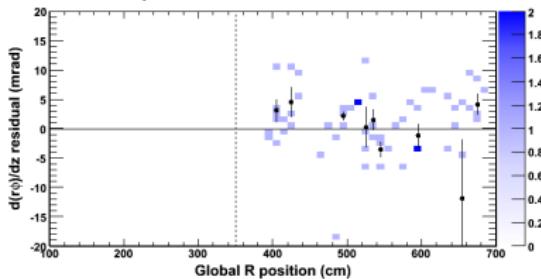
ME+2, ch 6 after $r_\theta=0$, $-\phi_z$ alignment



ME+2, ch 6 after global adjustment only



ME+2, ch 6 after $r_\theta=0$, $-\phi_z$ alignment



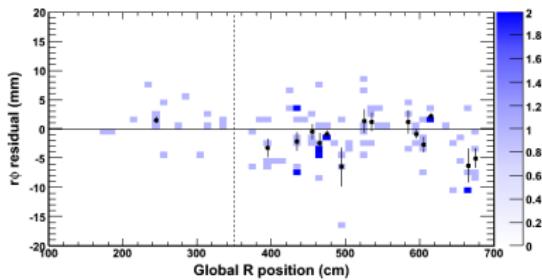
Map plots

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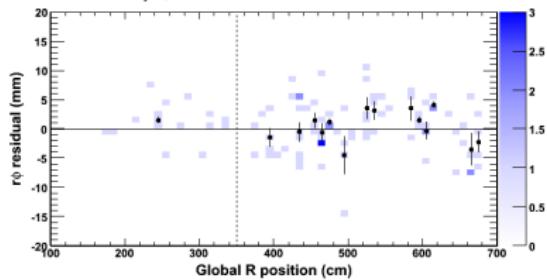


before (left) and after (right) individual chamber alignment

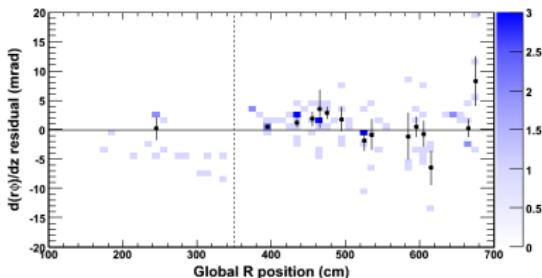
ME+2, ch 7 after global adjustment only



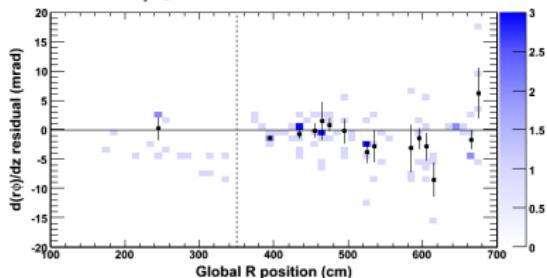
ME+2, ch 7 after $r\phi=0, -\phi_z$ alignment



ME+2, ch 7 after global adjustment only



ME+2, ch 7 after $r\phi=0, -\phi_z$ alignment



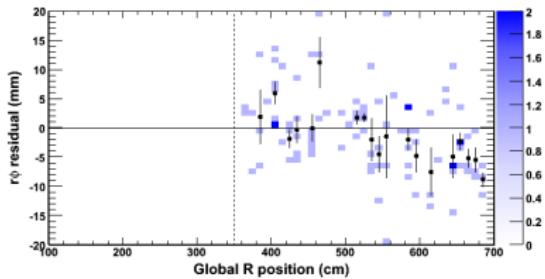
Map plots

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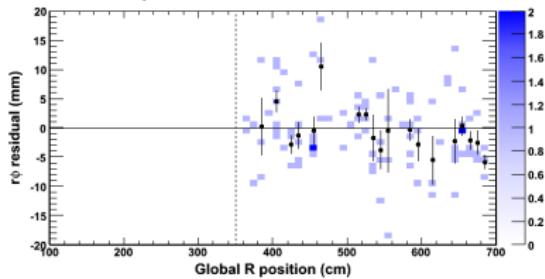


before (left) and after (right) individual chamber alignment

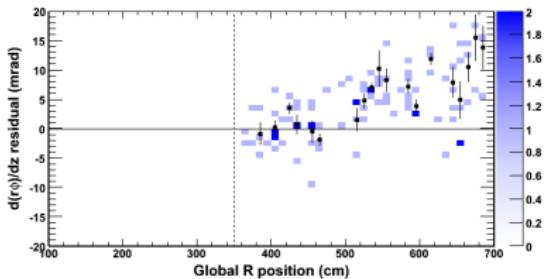
ME+2, ch 8 after global adjustment only



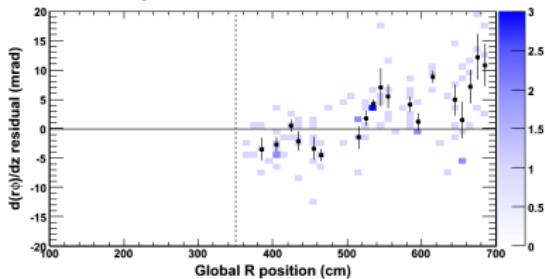
ME+2, ch 8 after $r\phi=0_y - \phi_z$ alignment



ME+2, ch 8 after global adjustment only



ME+2, ch 8 after $r\phi=0_y - \phi_z$ alignment



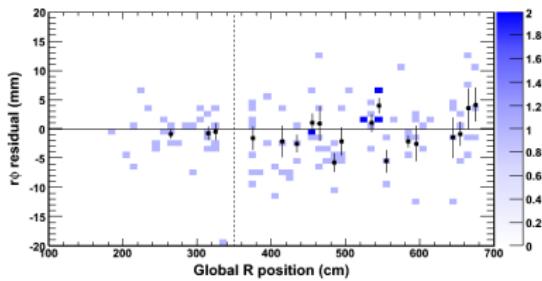
Map plots

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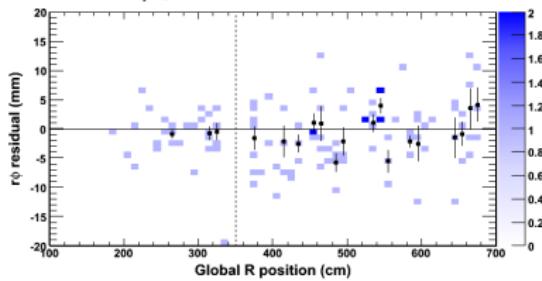


before (left) and after (right) individual chamber alignment

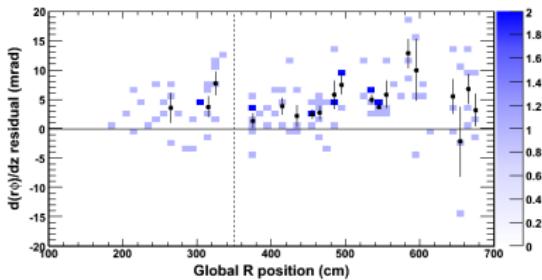
ME+2, ch 9 after global adjustment only



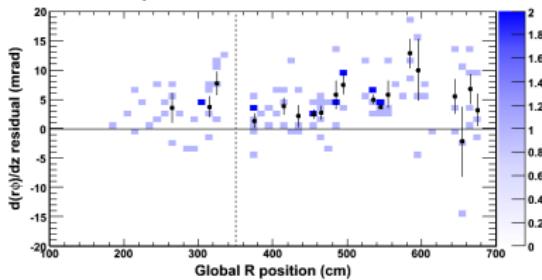
ME+2, ch 9 after $r_{\phi=0}, \phi_z$ alignment



ME+2, ch 9 after global adjustment only



ME+2, ch 9 after $r_{\phi=0}, \phi_z$ alignment



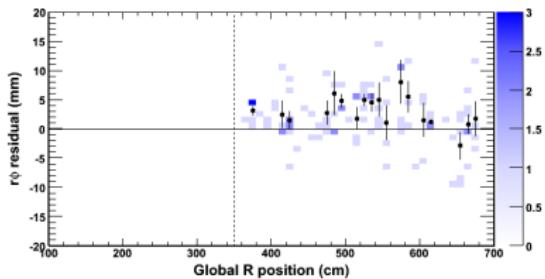
Map plots

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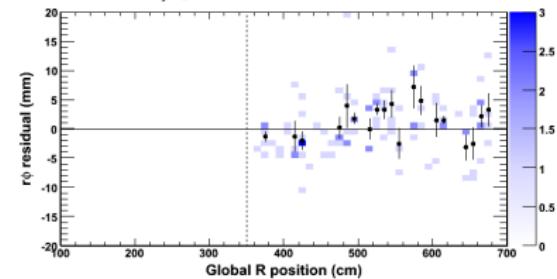


before (left) and after (right) individual chamber alignment

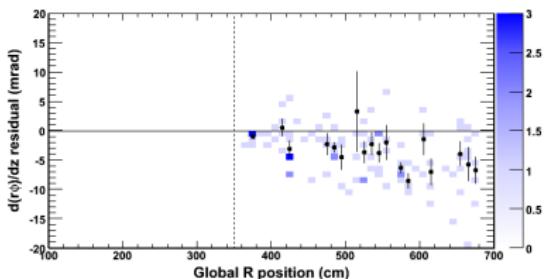
ME+2, ch 10 after global adjustment only



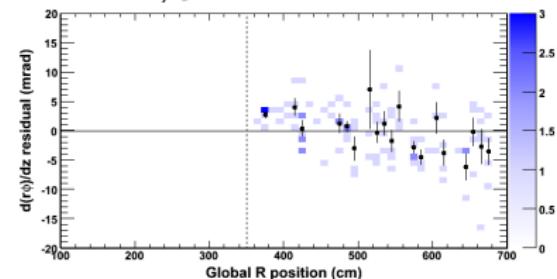
ME+2, ch 10 after $r_0=0, \theta_0=0, z_0$ alignment



ME+2, ch 10 after global adjustment only



ME+2, ch 10 after $r_0=0, \theta_0=0, z_0$ alignment



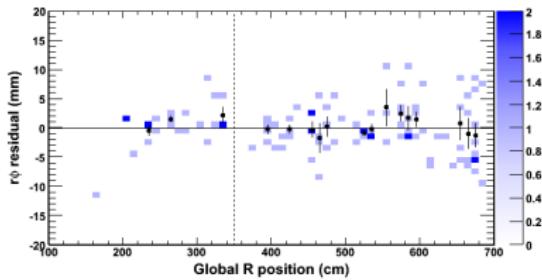
Map plots

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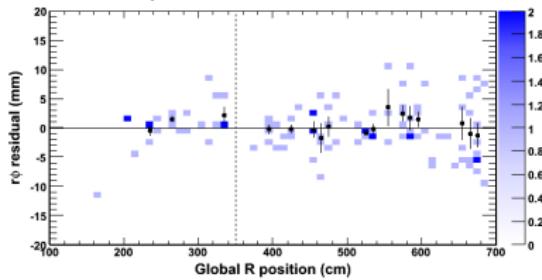


before (left) and after (right) individual chamber alignment

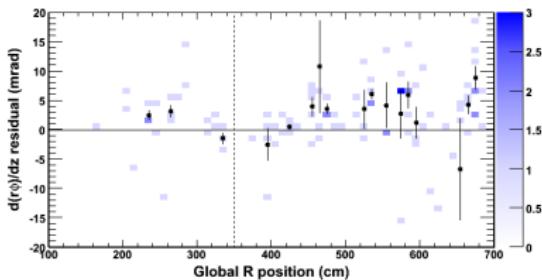
ME+2, ch 11 after global adjustment only



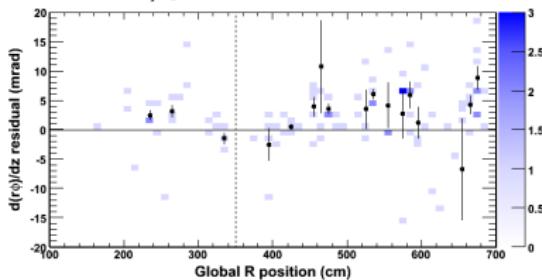
ME+2, ch 11 after $r_{\phi \rightarrow 0} - z_{\phi \rightarrow 0}$ alignment



ME+2, ch 11 after global adjustment only



ME+2, ch 11 after $r_{\phi \rightarrow 0} - z_{\phi \rightarrow 0}$ alignment



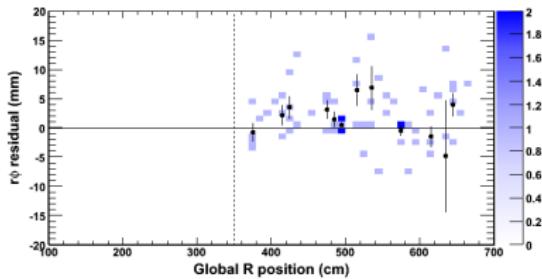
Map plots

Jim Pivarski 220/21

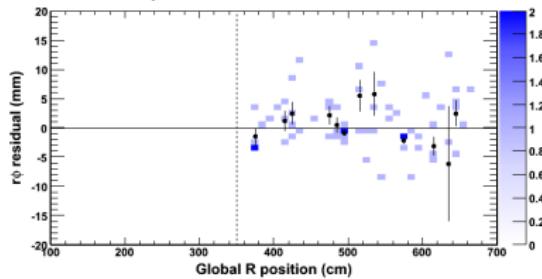


before (left) and after (right) individual chamber alignment

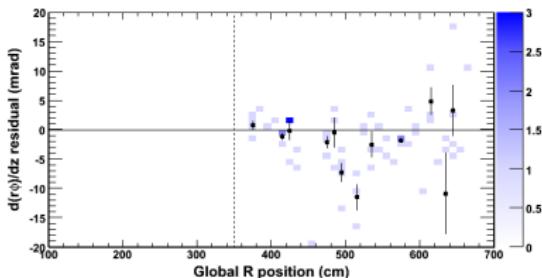
ME+2, ch 12 after global adjustment only



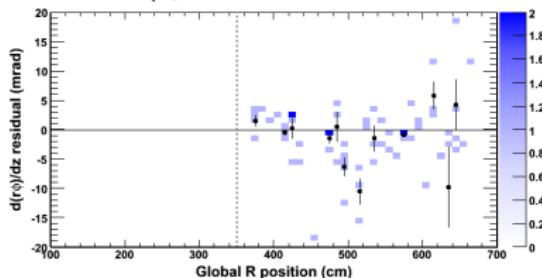
ME+2, ch 12 after $r_{\phi} \rightarrow 0, z_0, z_z$ alignment



ME+2, ch 12 after global adjustment only



ME+2, ch 12 after $r_{\phi} \rightarrow 0, z_0, z_z$ alignment



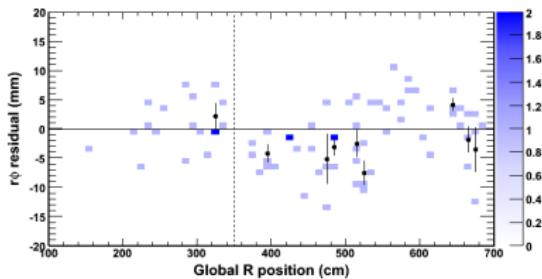
Map plots

Jim Pivarski 221/21

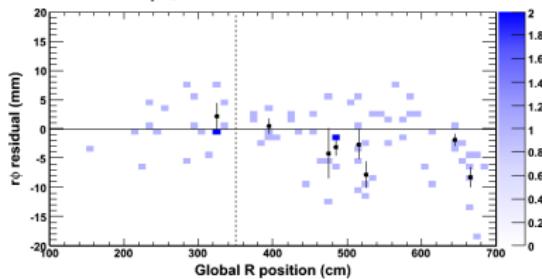


before (left) and after (right) individual chamber alignment

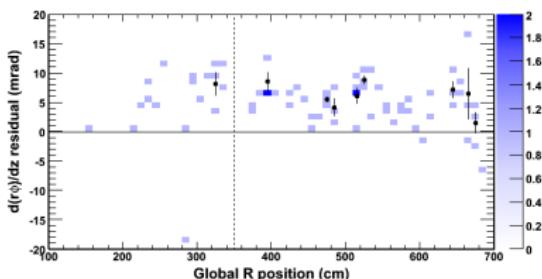
ME+2, ch 13 after global adjustment only



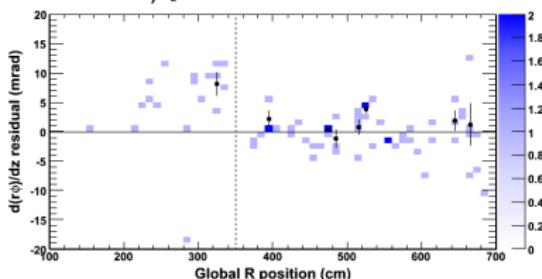
ME+2, ch 13 after $r_0=0, y_0=0, z$ alignment



ME+2, ch 13 after global adjustment only



ME+2, ch 13 after $r_0=0, y_0=0, z$ alignment



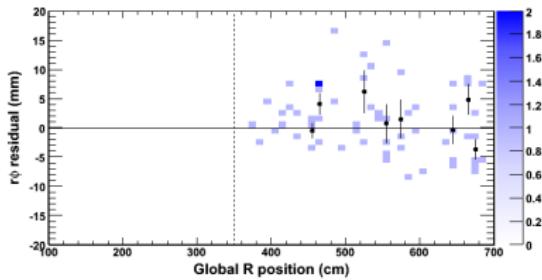
Map plots

Jim Pivarski 222/21

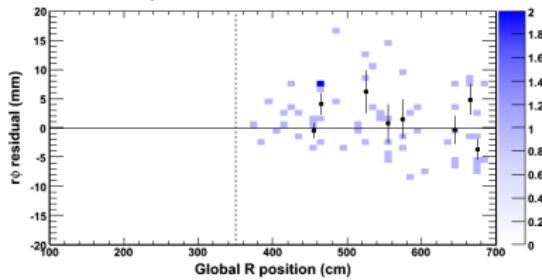


before (left) and after (right) individual chamber alignment

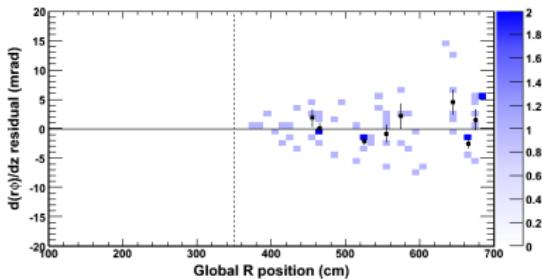
ME+2, ch 14 after global adjustment only



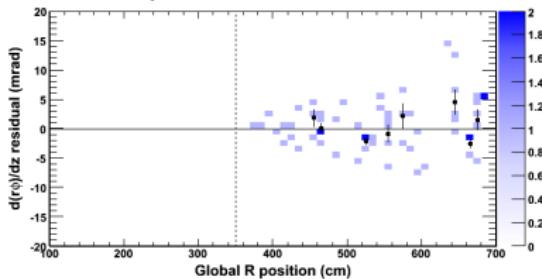
ME+2, ch 14 after $r_{\phi=0} - 0_z$ alignment



ME+2, ch 14 after global adjustment only



ME+2, ch 14 after $r_{\phi=0} - 0_z$ alignment



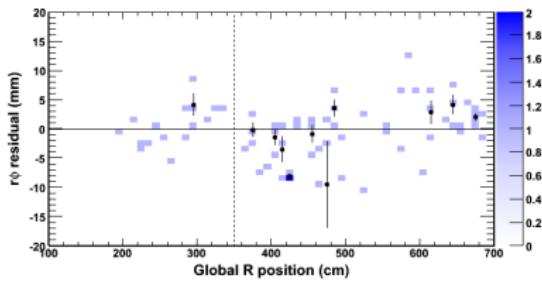
Map plots

Jim Pivarski 223/21

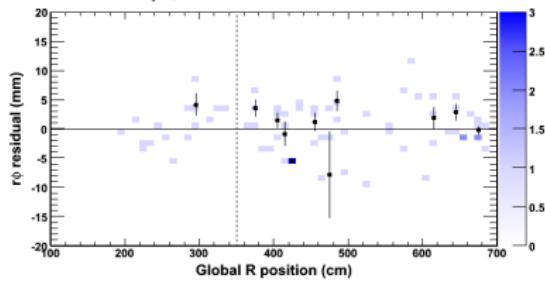


before (left) and after (right) individual chamber alignment

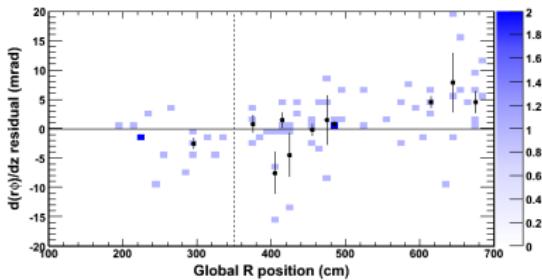
ME+2, ch 15 after global adjustment only



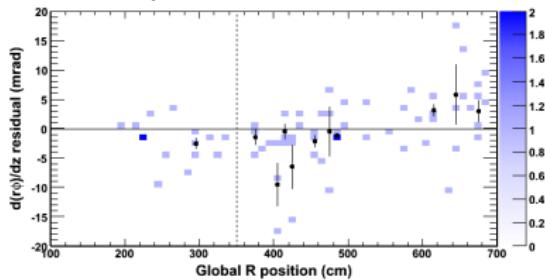
ME+2, ch 15 after $r_{\phi} \rightarrow 0, y_0, z$ alignment



ME+2, ch 15 after global adjustment only



ME+2, ch 15 after $r_{\phi} \rightarrow 0, y_0, z$ alignment



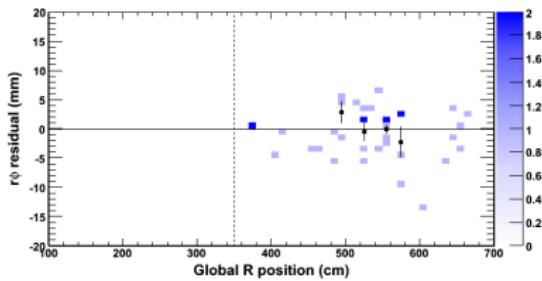
Map plots

Jim Pivarski 224/21

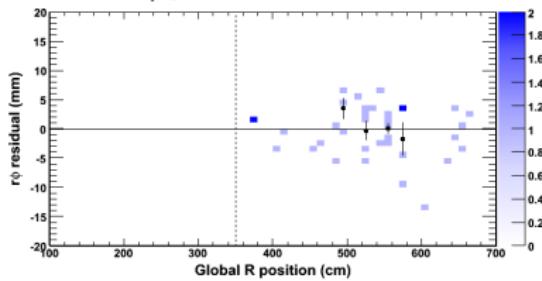


before (left) and after (right) individual chamber alignment

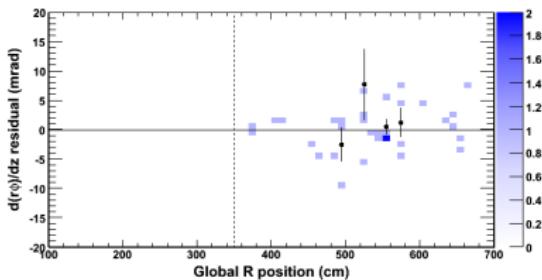
ME+2, ch 16 after global adjustment only



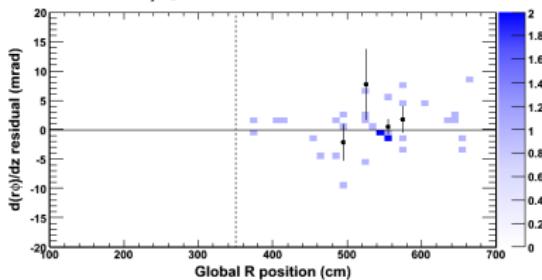
ME+2, ch 16 after $r_{\phi \rightarrow 0} - z_{\phi \rightarrow 0}$ alignment



ME+2, ch 16 after global adjustment only



ME+2, ch 16 after $r_{\phi \rightarrow 0} - z_{\phi \rightarrow 0}$ alignment



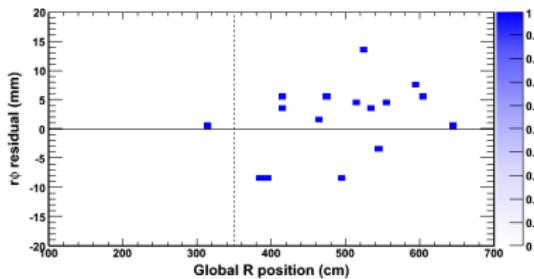
Map plots

Jim Pivarski 225/21

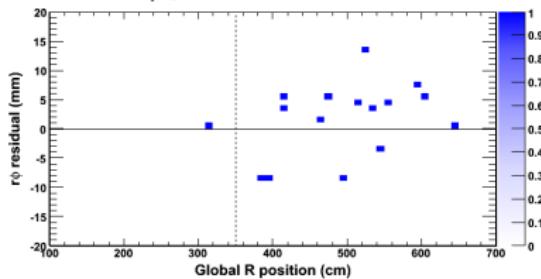


before (left) and after (right) individual chamber alignment

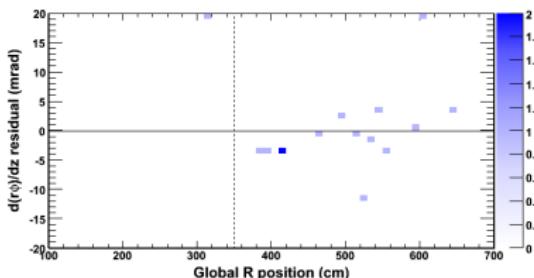
ME+2, ch 17 after global adjustment only



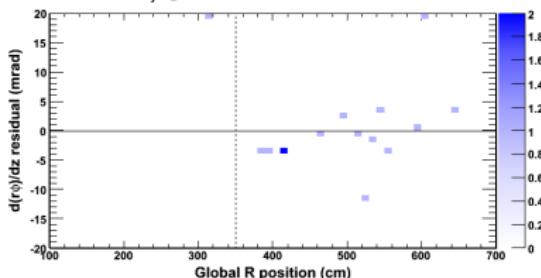
ME+2, ch 17 after $r_{\phi} \rightarrow 0, y_0, z_0$ alignment



ME+2, ch 17 after global adjustment only



ME+2, ch 17 after $r_{\phi} \rightarrow 0, y_0, z_0$ alignment



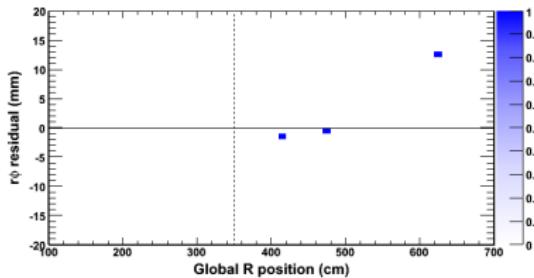
Map plots

Jim Pivarski 226/21

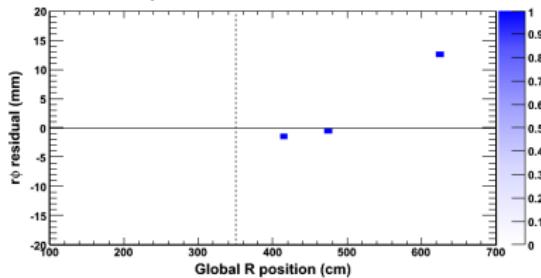


before (left) and after (right) individual chamber alignment

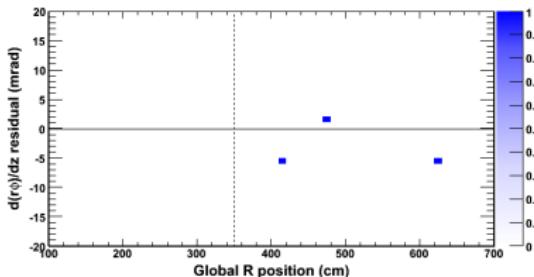
ME+2, ch 18 after global adjustment only



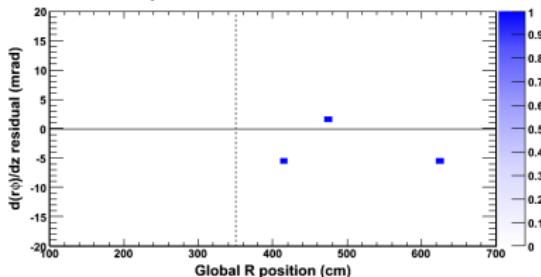
ME+2, ch 18 after $r_{\phi \rightarrow 0} - z_{\phi \rightarrow 0}$ alignment



ME+2, ch 18 after global adjustment only



ME+2, ch 18 after $r_{\phi \rightarrow 0} - z_{\phi \rightarrow 0}$ alignment



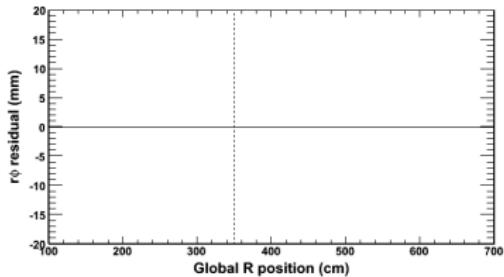
Map plots

Jim Pivarski 227/21

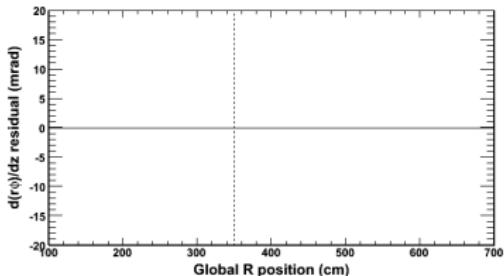
before (left) and after (right) individual chamber alignment



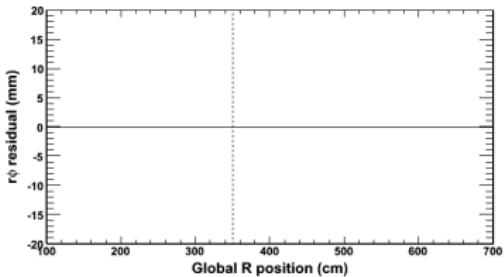
ME+3, ch 1 after global adjustment only



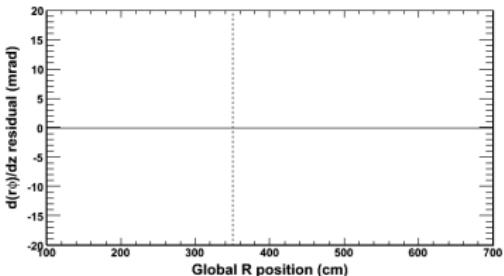
ME+3, ch 1 after global adjustment only



ME+3, ch 1 after $r\phi=0, -\phi_z$ alignment



ME+3, ch 1 after $r\phi=0, -\phi_z$ alignment



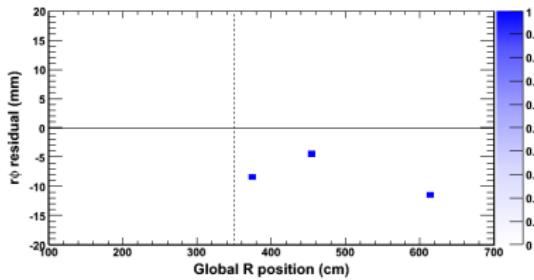
Map plots

Jim Pivarski 228/21

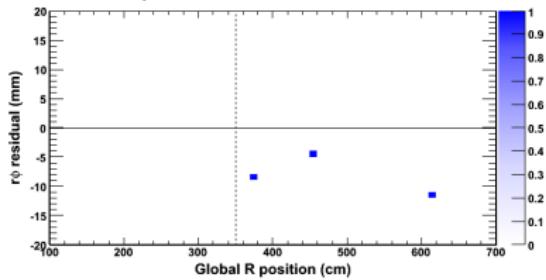


before (left) and after (right) individual chamber alignment

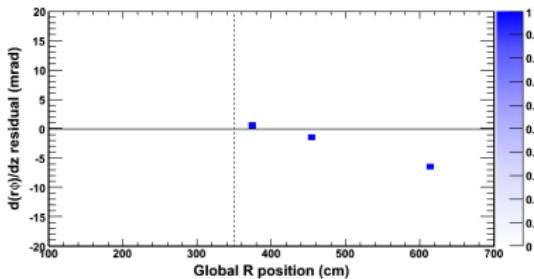
ME+3, ch 2 after global adjustment only



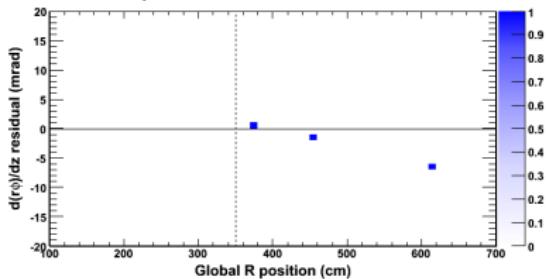
ME+3, ch 2 after $r_\theta=0, -\phi_z$ alignment



ME+3, ch 2 after global adjustment only



ME+3, ch 2 after $r_\theta=0, -\phi_z$ alignment



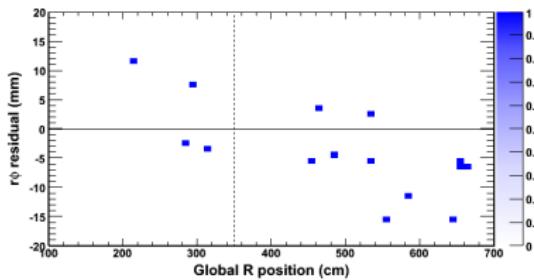
Map plots

Jim Pivarski 229/21

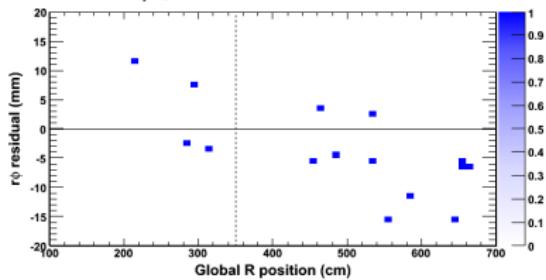


before (left) and after (right) individual chamber alignment

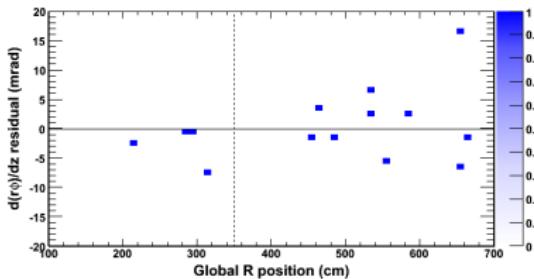
ME+3, ch 3 after global adjustment only



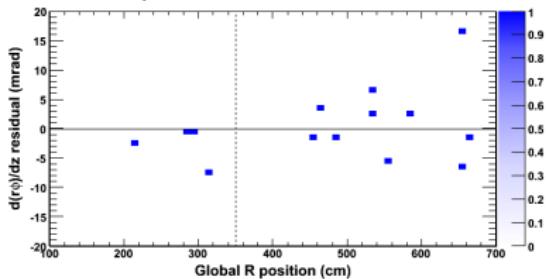
ME+3, ch 3 after $r_\theta=0, -\phi_z$ alignment



ME+3, ch 3 after global adjustment only



ME+3, ch 3 after $r_\theta=0, -\phi_z$ alignment



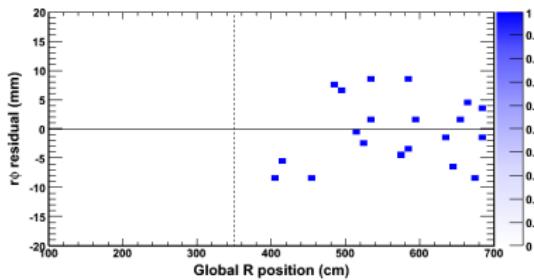
Map plots

Jim Pivarski 230/21

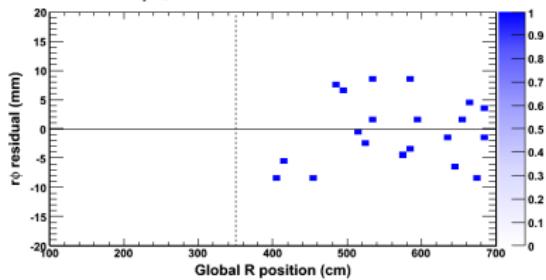


before (left) and after (right) individual chamber alignment

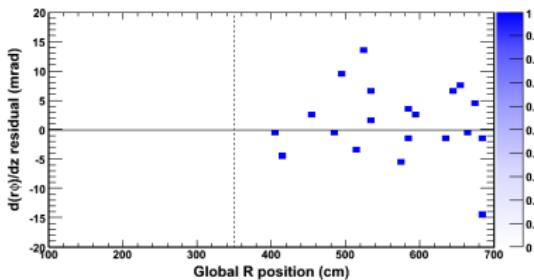
ME+3, ch 4 after global adjustment only



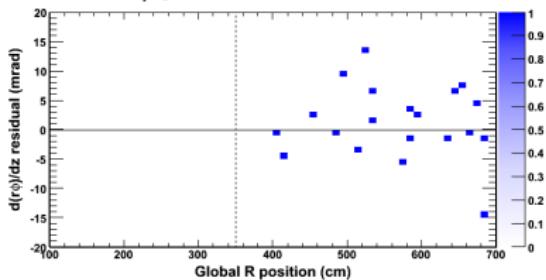
ME+3, ch 4 after $r_{\phi}-\theta_y-\phi_z$ alignment



ME+3, ch 4 after global adjustment only



ME+3, ch 4 after $r_{\phi}-\theta_y-\phi_z$ alignment



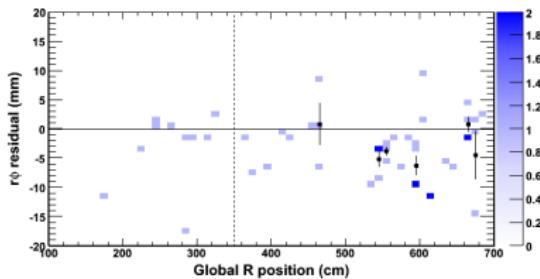
Map plots

Jim Pivarski 231/21

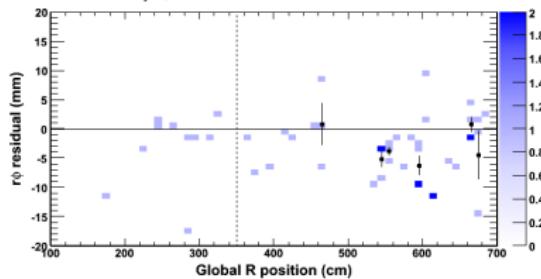


before (left) and after (right) individual chamber alignment

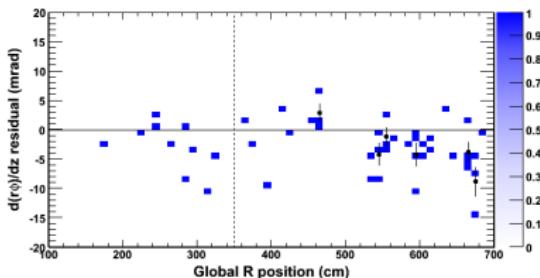
ME+3, ch 5 after global adjustment only



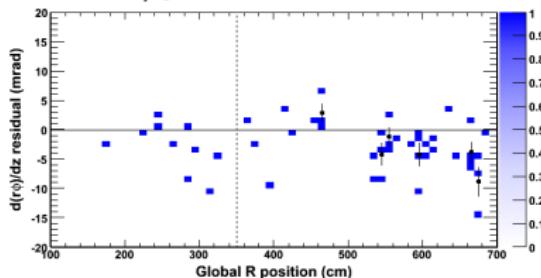
ME+3, ch 5 after $r\phi - \phi_y - \phi_z$ alignment



ME+3, ch 5 after global adjustment only



ME+3, ch 5 after $r\phi - \phi_y - \phi_z$ alignment



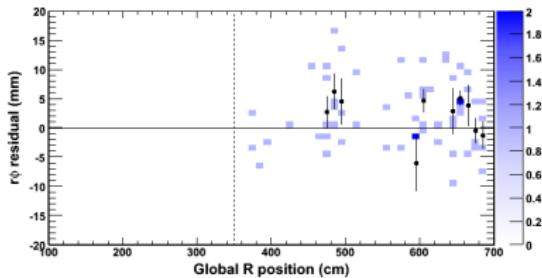
Map plots

Jim Pivarski 232/21

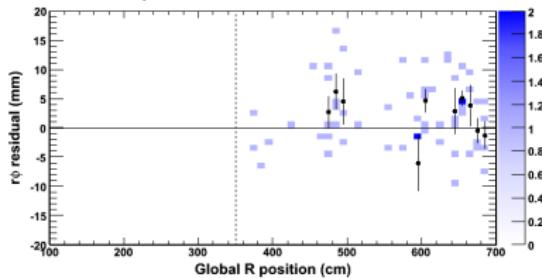


before (left) and after (right) individual chamber alignment

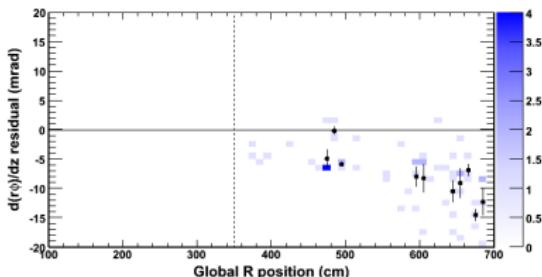
ME+3, ch 6 after global adjustment only



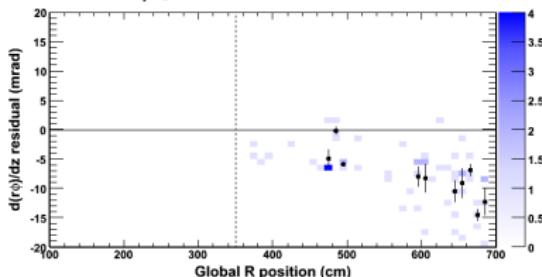
ME+3, ch 6 after $r_{\phi} - \phi_y - \phi_z$ alignment



ME+3, ch 6 after global adjustment only



ME+3, ch 6 after $r_{\phi} - \phi_y - \phi_z$ alignment



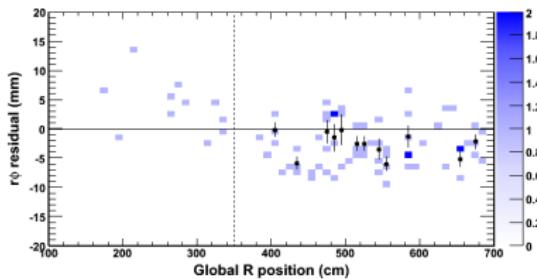
Map plots

Jim Pivarski 233/21

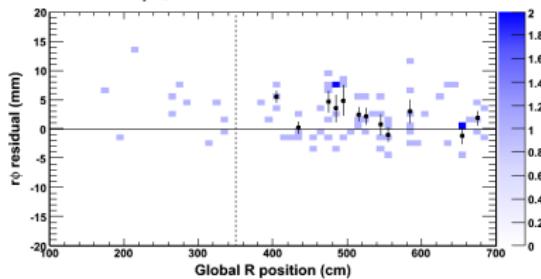


before (left) and after (right) individual chamber alignment

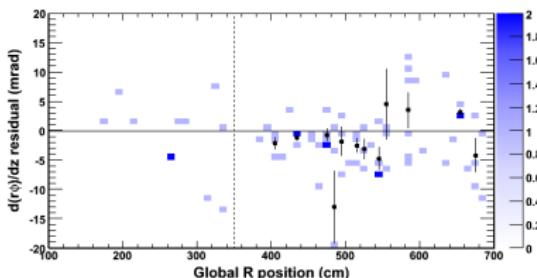
ME+3, ch 7 after global adjustment only



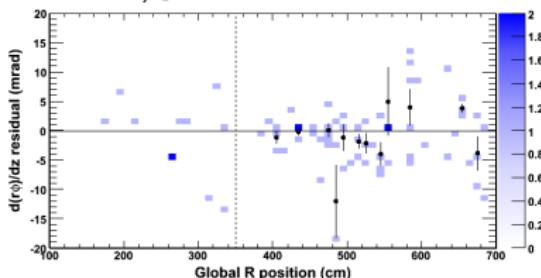
ME+3, ch 7 after $r\phi=0$, $-\phi_z$ alignment



ME+3, ch 7 after global adjustment only



ME+3, ch 7 after $r\phi=0$, $-\phi_z$ alignment



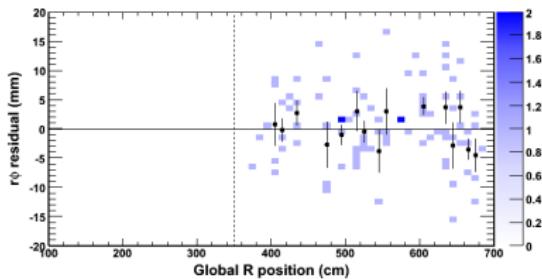
Map plots

Jim Pivarski 234/21

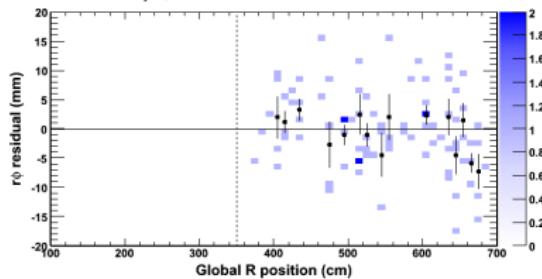


before (left) and after (right) individual chamber alignment

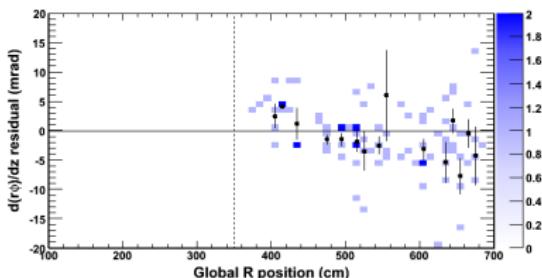
ME+3, ch 8 after global adjustment only



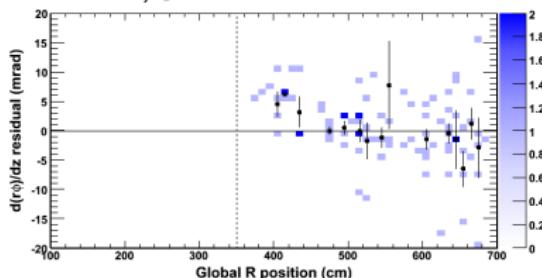
ME+3, ch 8 after $r_\theta=0, -\phi_z$ alignment



ME+3, ch 8 after global adjustment only



ME+3, ch 8 after $r_\theta=0, -\phi_z$ alignment



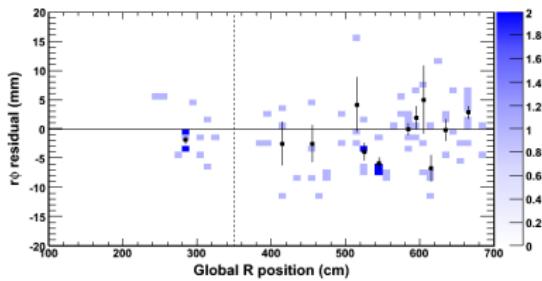
Map plots

Jim Pivarski 235/21

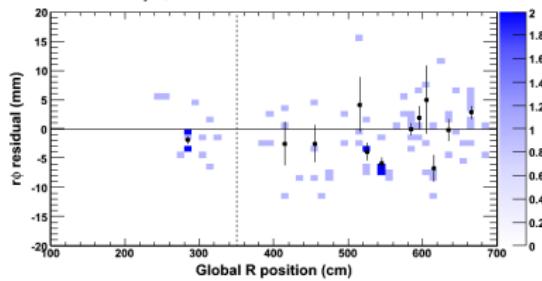


before (left) and after (right) individual chamber alignment

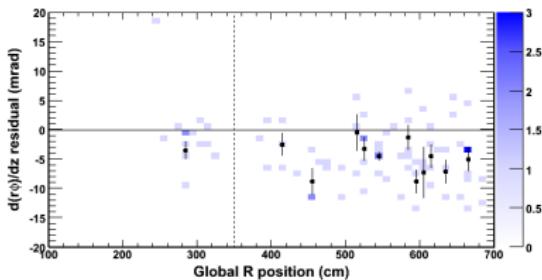
ME+3, ch 9 after global adjustment only



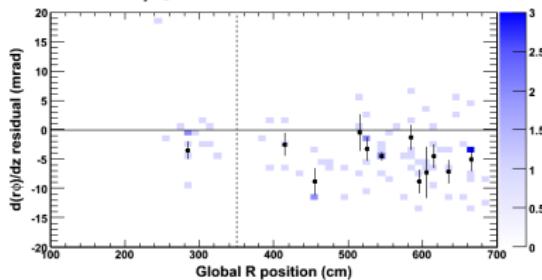
ME+3, ch 9 after $r_\theta=0, -\phi_z$ alignment



ME+3, ch 9 after global adjustment only



ME+3, ch 9 after $r_\theta=0, -\phi_z$ alignment



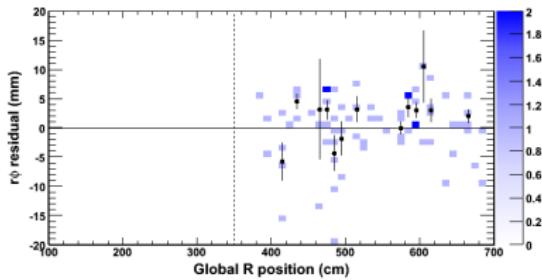
Map plots

Jim Pivarski 236/21

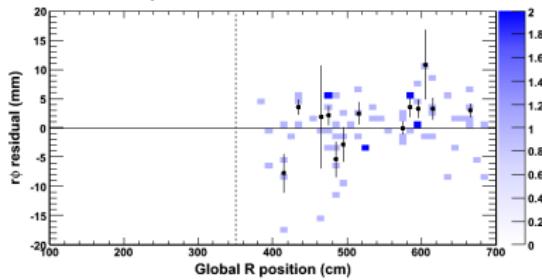


before (left) and after (right) individual chamber alignment

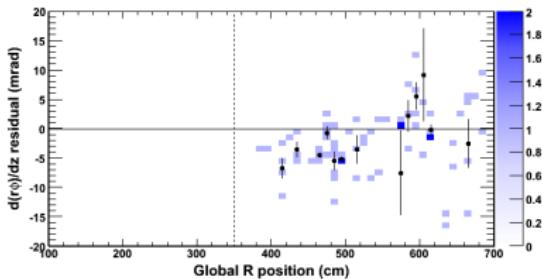
ME+3, ch 10 after global adjustment only



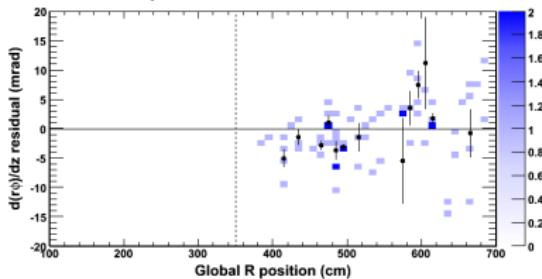
ME+3, ch 10 after $r_{\phi} \rightarrow 0, y_0, z_0$ alignment



ME+3, ch 10 after global adjustment only



ME+3, ch 10 after $r_{\phi} \rightarrow 0, y_0, z_0$ alignment



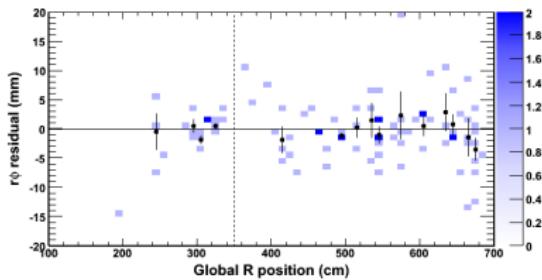
Map plots

Jim Pivarski 237/21

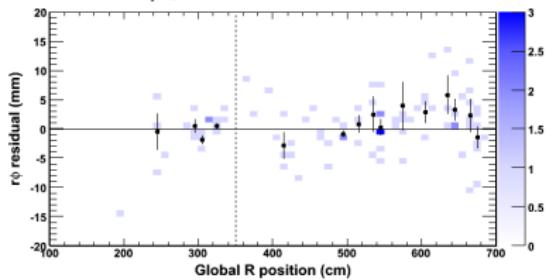


before (left) and after (right) individual chamber alignment

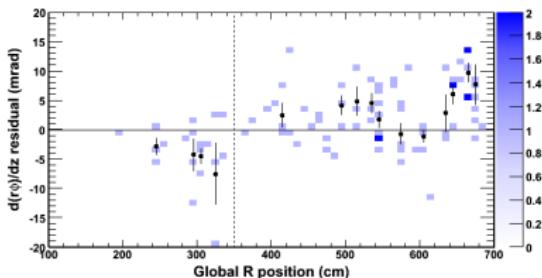
ME+3, ch 11 after global adjustment only



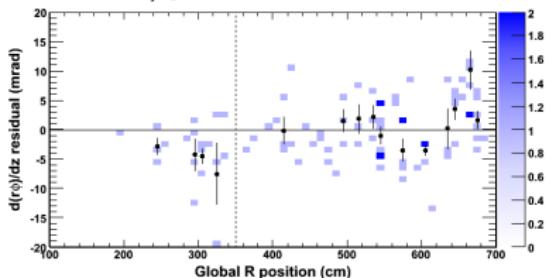
ME+3, ch 11 after $r_0=0, \phi_0=0, z_0$ alignment



ME+3, ch 11 after global adjustment only



ME+3, ch 11 after $r_0=0, \phi_0=0, z_0$ alignment



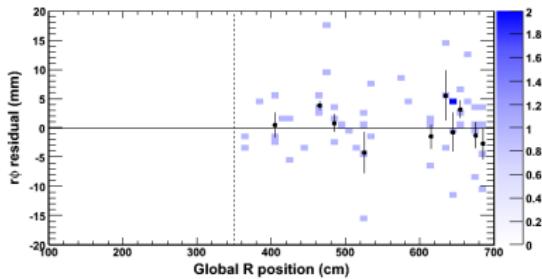
Map plots

Jim Pivarski 238/21

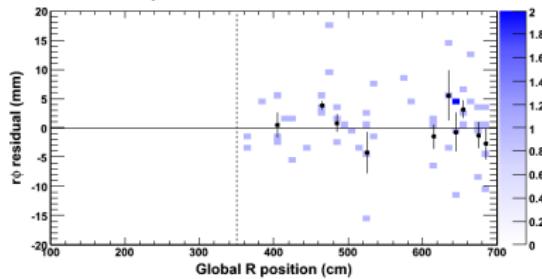


before (left) and after (right) individual chamber alignment

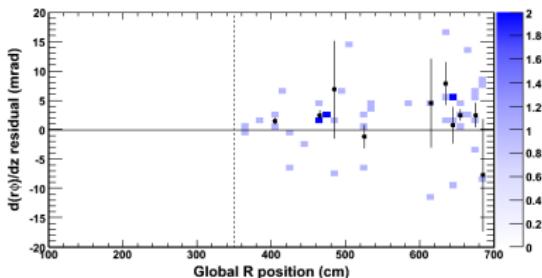
ME+3, ch 12 after global adjustment only



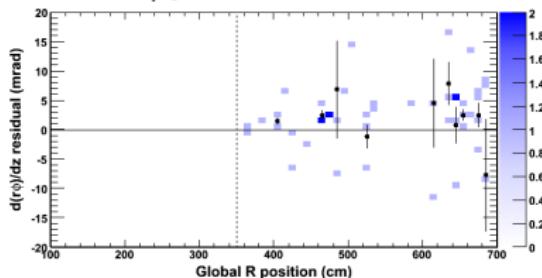
ME+3, ch 12 after $r_{\phi \rightarrow 0} - z_{\phi \rightarrow 0}$ alignment



ME+3, ch 12 after global adjustment only



ME+3, ch 12 after $r_{\phi \rightarrow 0} - z_{\phi \rightarrow 0}$ alignment



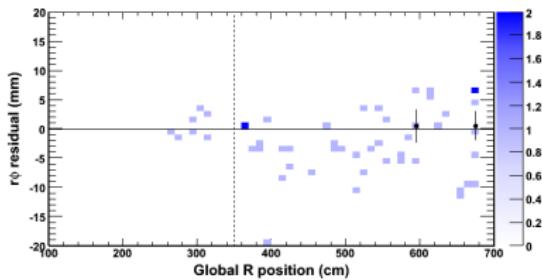
Map plots

Jim Pivarski 239/21

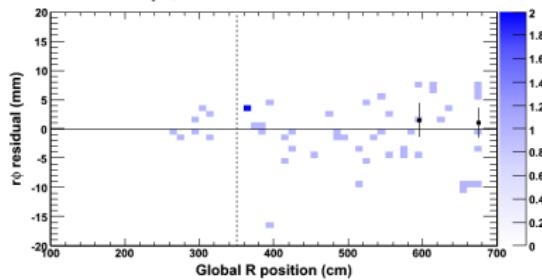


before (left) and after (right) individual chamber alignment

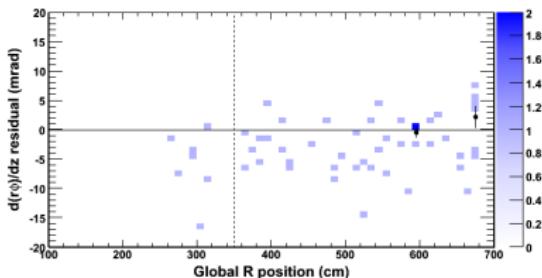
ME+3, ch 13 after global adjustment only



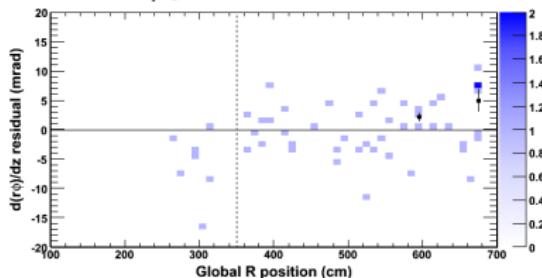
ME+3, ch 13 after $r_{\theta=0} - \theta_z$ alignment



ME+3, ch 13 after global adjustment only



ME+3, ch 13 after $r_{\theta=0} - \theta_z$ alignment



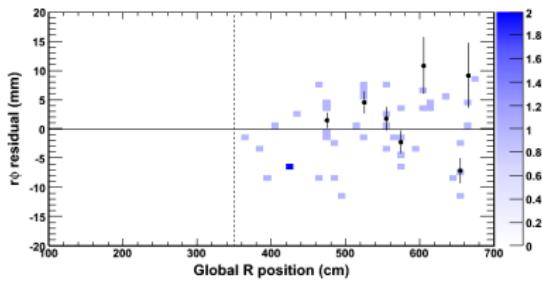
Map plots

Jim Pivarski 240/21

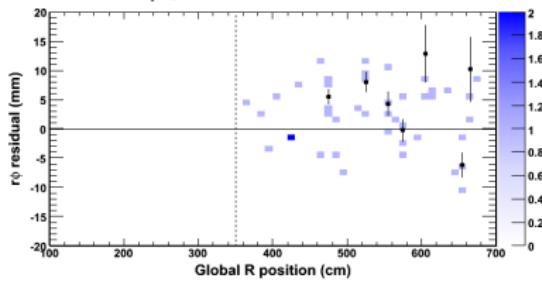


before (left) and after (right) individual chamber alignment

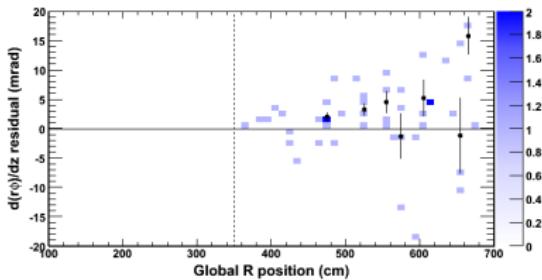
ME+3, ch 14 after global adjustment only



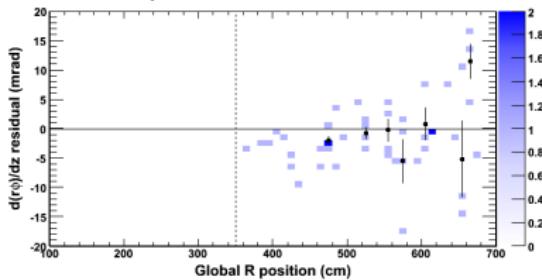
ME+3, ch 14 after $r_0=0, \gamma_0=0_z$ alignment



ME-3, ch 14 after global adjustment only



ME-3, ch 14 after $r_0=0, \gamma_0=0_z$ alignment



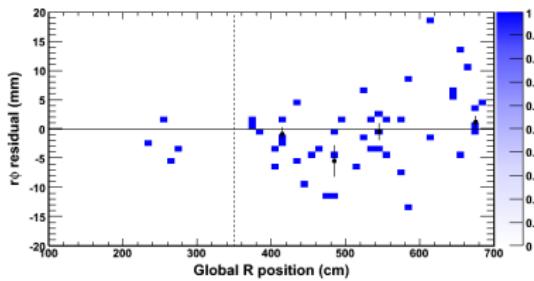
Map plots

Jim Pivarski 241/21

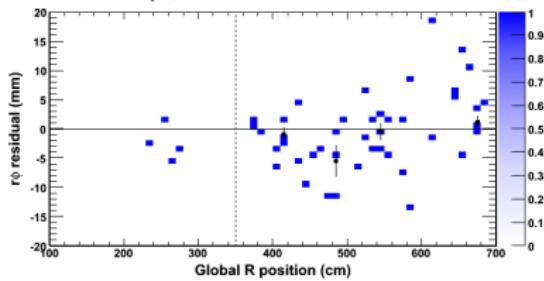


before (left) and after (right) individual chamber alignment

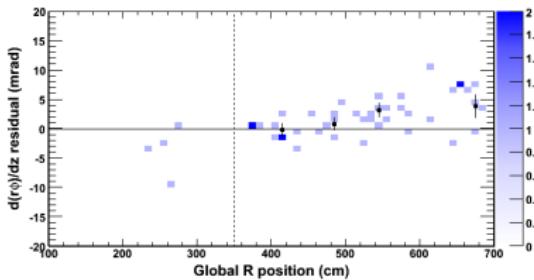
ME+3, ch 15 after global adjustment only



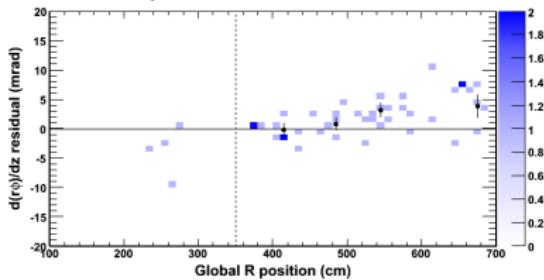
ME+3, ch 15 after $r_0=0, \theta_0=0, z_0=0$ alignment



ME+3, ch 15 after global adjustment only



ME+3, ch 15 after $r_0=0, \theta_0=0, z_0=0$ alignment



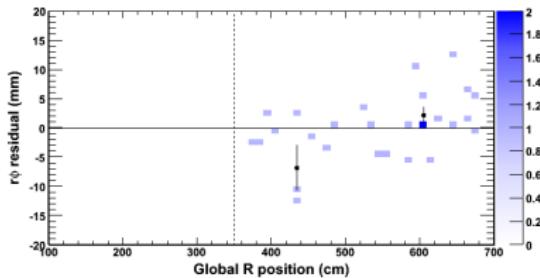
Map plots

Jim Pivarski 242/21

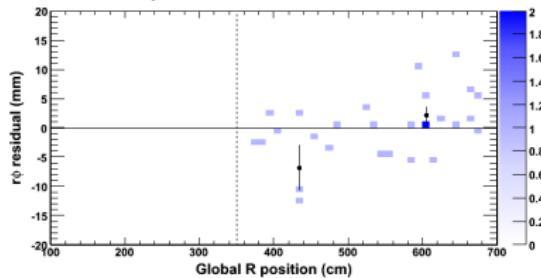


before (left) and after (right) individual chamber alignment

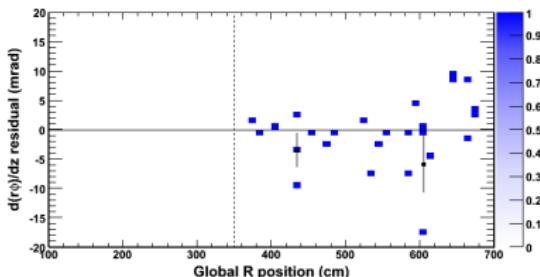
ME+3, ch 16 after global adjustment only



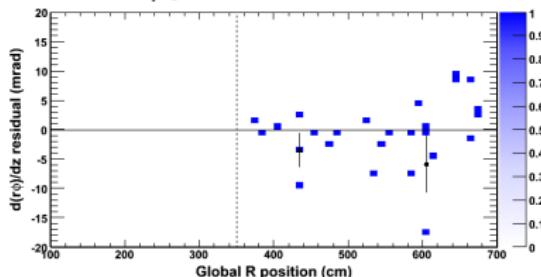
ME+3, ch 16 after $r_{\phi \rightarrow 0} - z_{\phi \rightarrow 0}$ alignment



ME-3, ch 16 after global adjustment only



ME-3, ch 16 after $r_{\phi \rightarrow 0} - z_{\phi \rightarrow 0}$ alignment



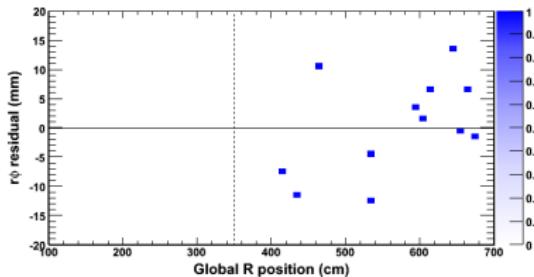
Map plots

Jim Pivarski 243/21

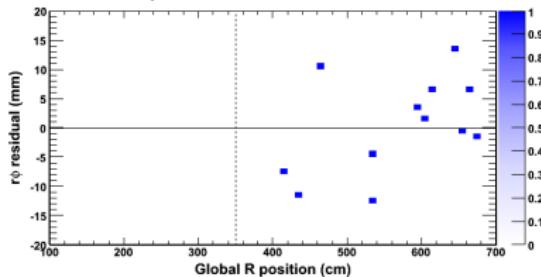


before (left) and after (right) individual chamber alignment

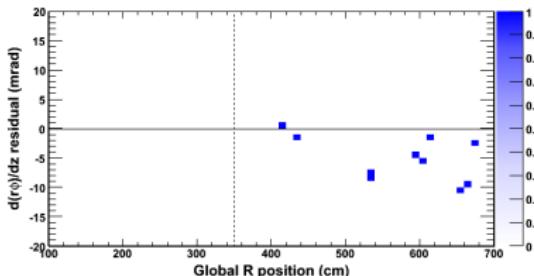
ME+3, ch 17 after global adjustment only



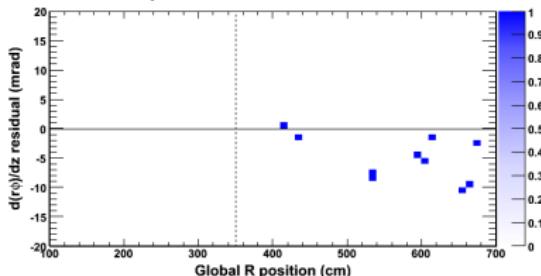
ME+3, ch 17 after $r_{\phi} \rightarrow 0, z_0, z_z$ alignment



ME+3, ch 17 after global adjustment only



ME+3, ch 17 after $r_{\phi} \rightarrow 0, z_0, z_z$ alignment



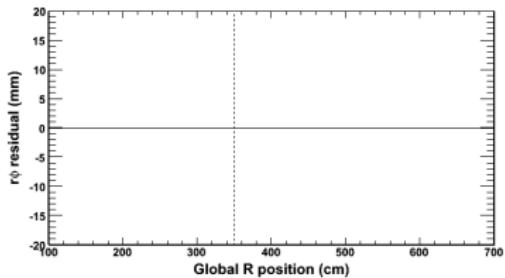
Map plots

Jim Pivarski 244/21

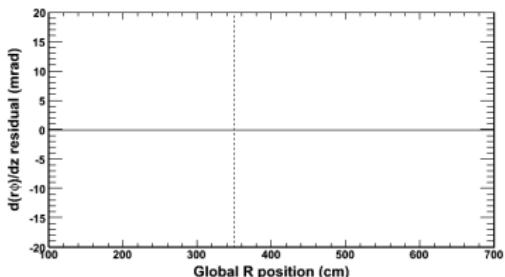
before (left) and after (right) individual chamber alignment



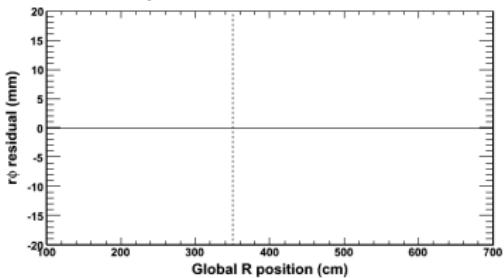
ME+3, ch 18 after global adjustment only



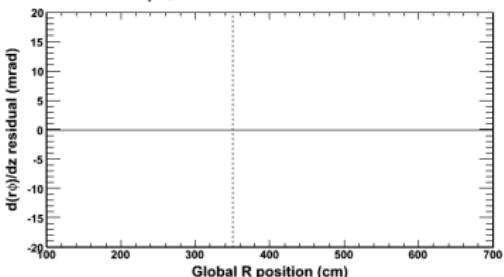
ME+3, ch 18 after global adjustment only



ME+3, ch 18 after $r_{\phi} \rightarrow 0, z_0$ alignment



ME+3, ch 18 after $r_{\phi} \rightarrow 0, z_0$ alignment



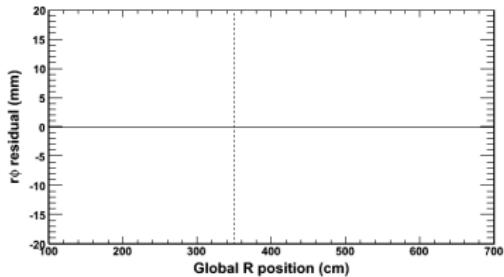
Map plots

Jim Pivarski 245/21

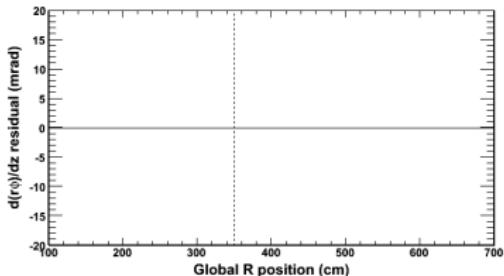
before (left) and after (right) individual chamber alignment



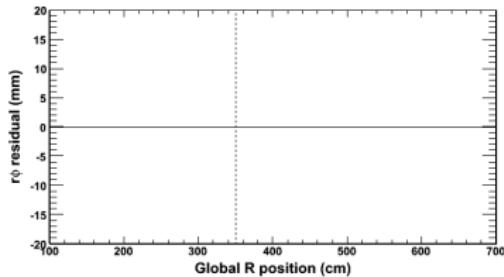
ME+4, ch 1 after global adjustment only



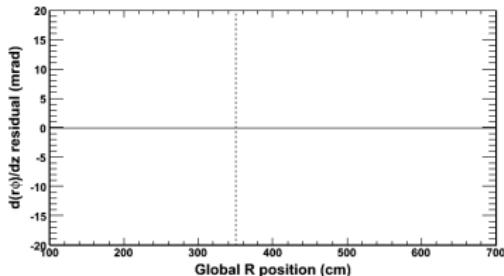
ME+4, ch 1 after global adjustment only



ME+4, ch 1 after $r\phi=0_y - \phi_z$ alignment



ME+4, ch 1 after $r\phi=0_y - \phi_z$ alignment



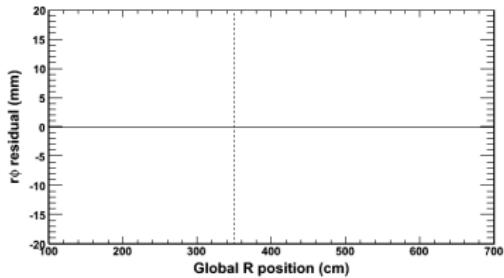
Map plots

Jim Pivarski 246/21

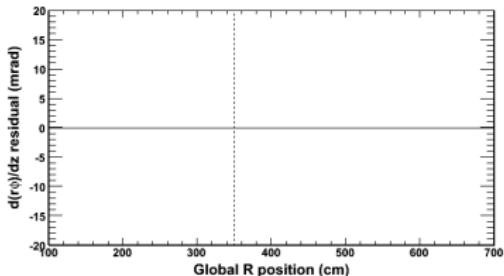
before (left) and after (right) individual chamber alignment



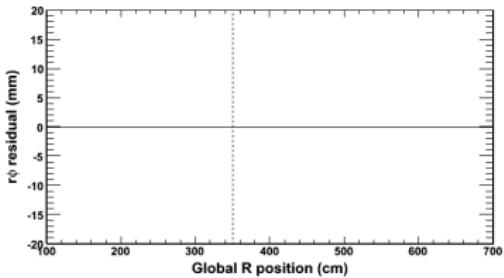
ME+4, ch 2 after global adjustment only



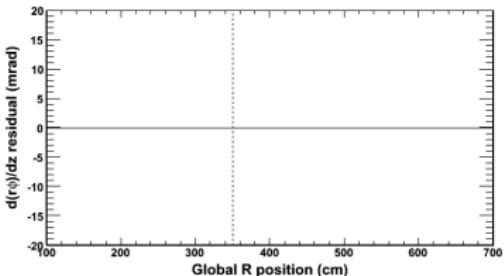
ME+4, ch 2 after global adjustment only



ME+4, ch 2 after $r\phi=0_y - \phi_z$ alignment



ME+4, ch 2 after $r\phi=0_y - \phi_z$ alignment



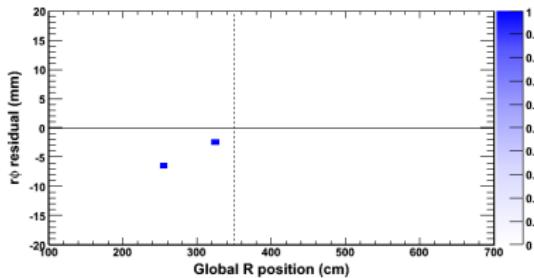
Map plots

Jim Pivarski 247/21

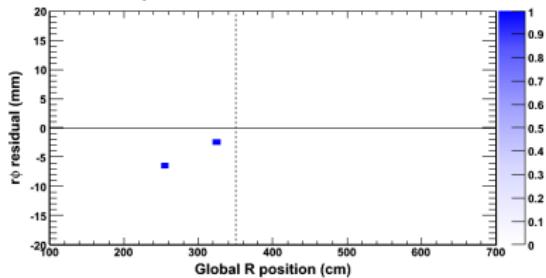


before (left) and after (right) individual chamber alignment

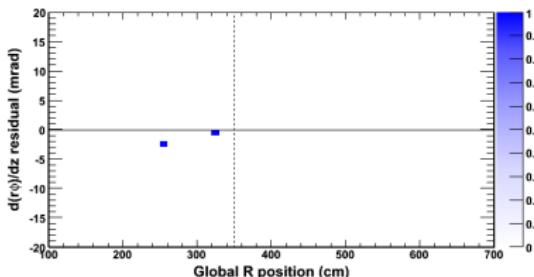
ME+4, ch 3 after global adjustment only



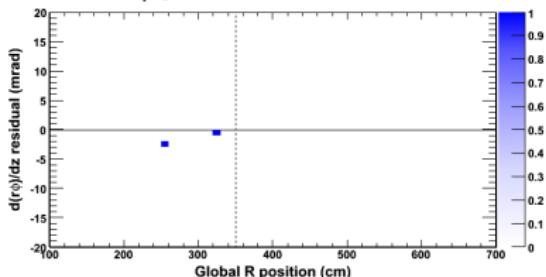
ME+4, ch 3 after $r_\theta=0, -\phi_z$ alignment



ME+4, ch 3 after global adjustment only



ME+4, ch 3 after $r_\theta=0, -\phi_z$ alignment



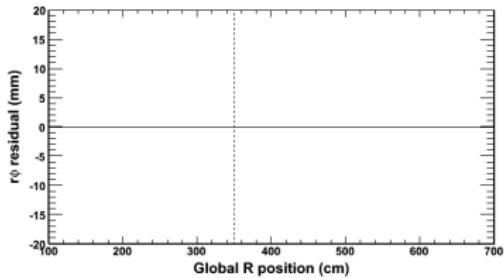
Map plots

Jim Pivarski 248/21

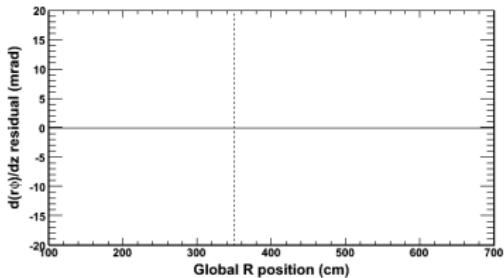
before (left) and after (right) individual chamber alignment



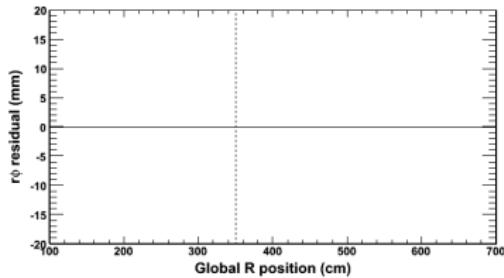
ME+4, ch 4 after global adjustment only



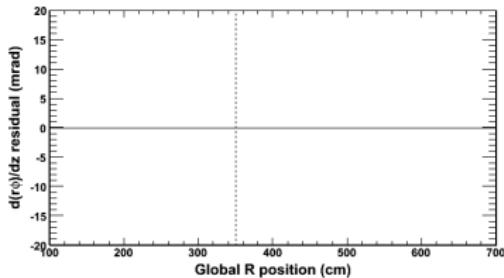
ME+4, ch 4 after global adjustment only



ME+4, ch 4 after $r\phi=0_z - \phi_z$ alignment



ME+4, ch 4 after $r\phi=0_z - \phi_z$ alignment



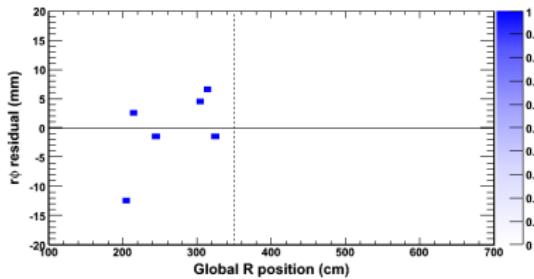
Map plots

Jim Pivarski 249/21

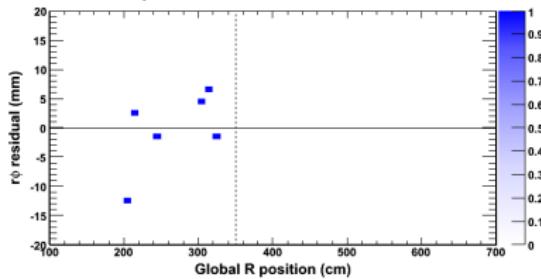


before (left) and after (right) individual chamber alignment

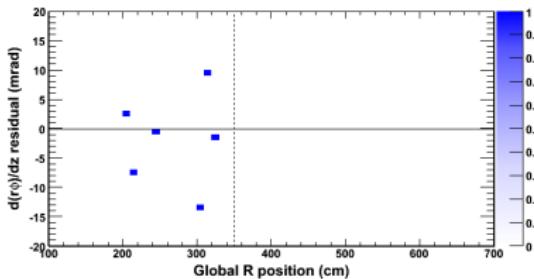
ME+4, ch 5 after global adjustment only



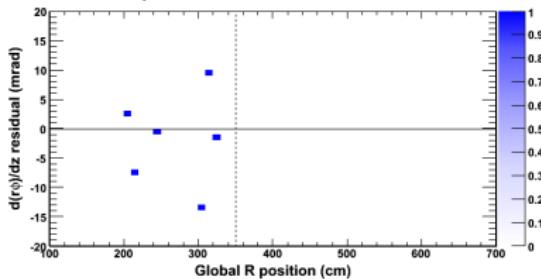
ME+4, ch 5 after $r_\theta - \phi_y - \phi_z$ alignment



ME+4, ch 5 after global adjustment only



ME+4, ch 5 after $r_\theta - \phi_y - \phi_z$ alignment



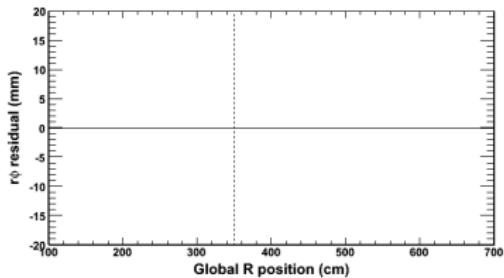
Map plots

Jim Pivarski 250/21

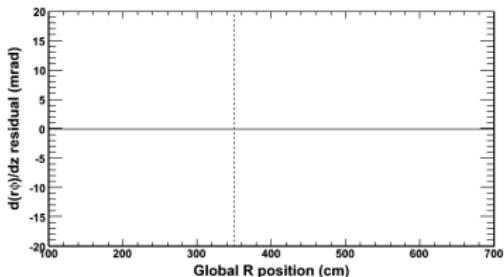
before (left) and after (right) individual chamber alignment



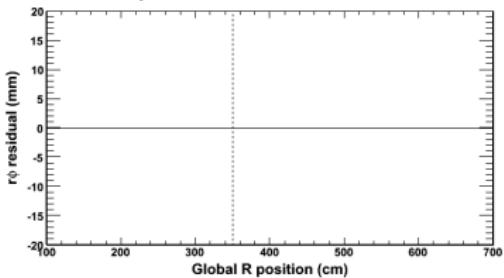
ME+4, ch 6 after global adjustment only



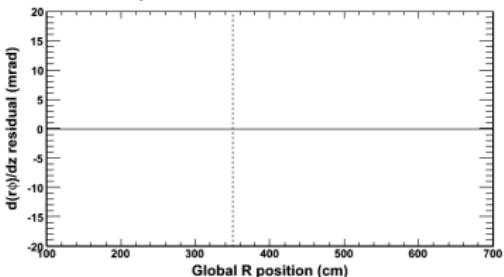
ME+4, ch 6 after global adjustment only



ME+4, ch 6 after $r\phi=0_y - \phi_z$ alignment



ME+4, ch 6 after $r\phi=0_y - \phi_z$ alignment



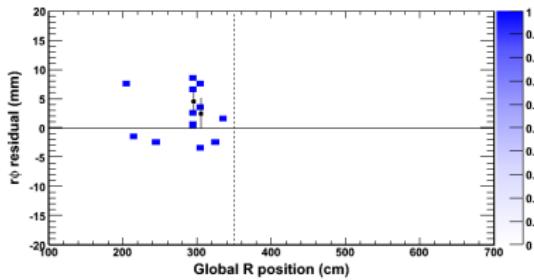
Map plots

Jim Pivarski 251/21

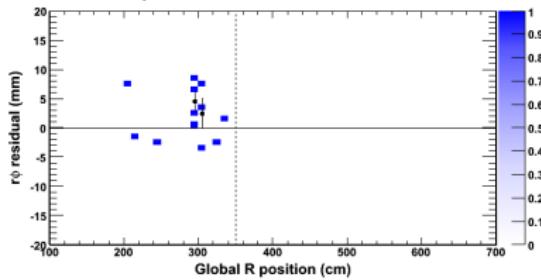


before (left) and after (right) individual chamber alignment

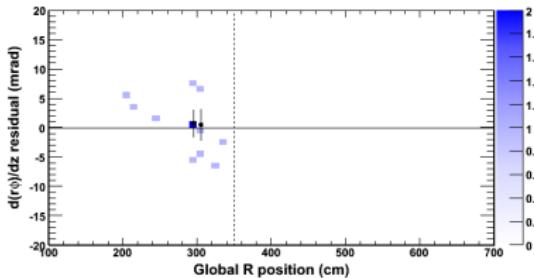
ME+4, ch 7 after global adjustment only



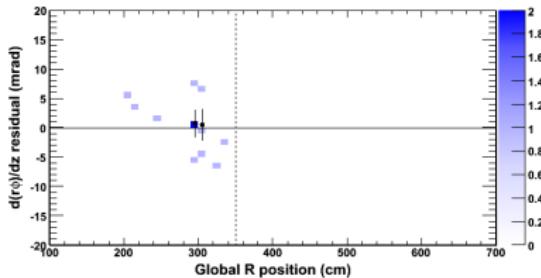
ME+4, ch 7 after $r\phi=0_y - \phi_z$ alignment



ME+4, ch 7 after global adjustment only



ME+4, ch 7 after $r\phi=0_y - \phi_z$ alignment



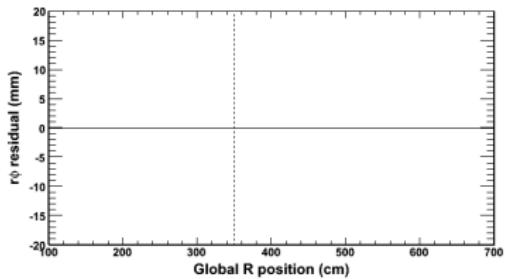
Map plots

Jim Pivarski 252/21

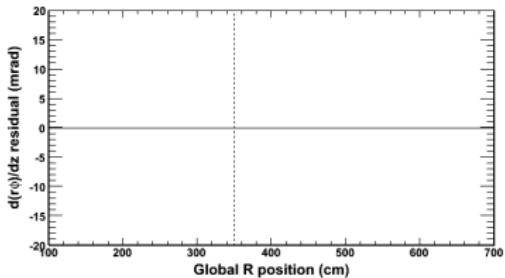
before (left) and after (right) individual chamber alignment



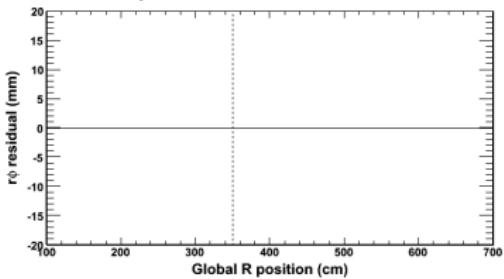
ME+4, ch 8 after global adjustment only



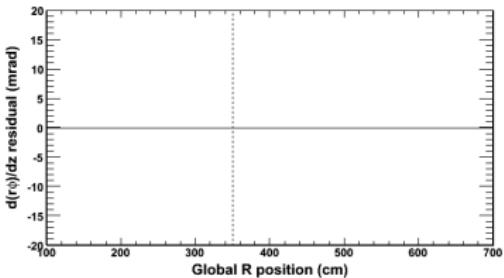
ME+4, ch 8 after global adjustment only



ME+4, ch 8 after $r\phi=0, -\phi_z$ alignment



ME+4, ch 8 after $r\phi=0, -\phi_z$ alignment



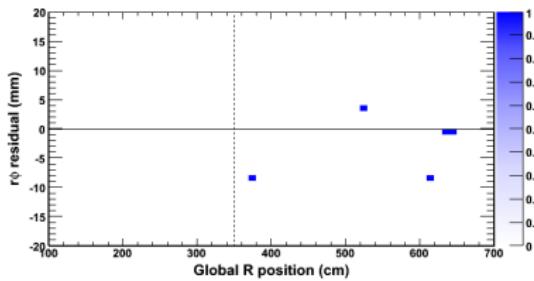
Map plots

Jim Pivarski 253/21

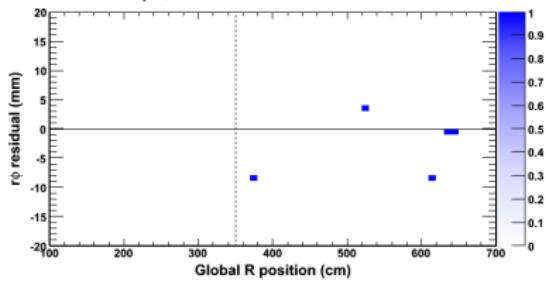


before (left) and after (right) individual chamber alignment

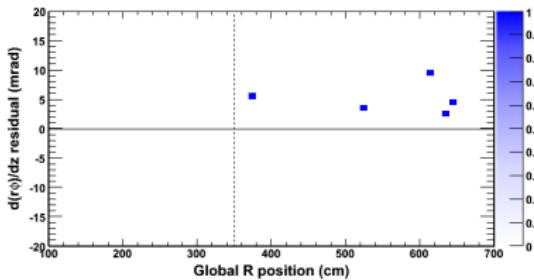
ME+4, ch 9 after global adjustment only



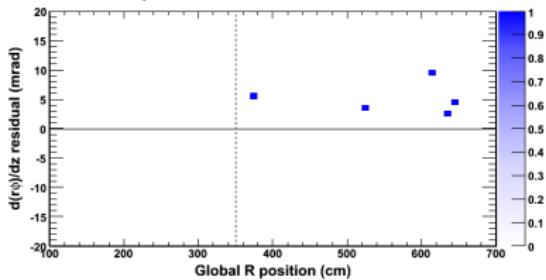
ME+4, ch 9 after $r\phi - \theta_y - \phi_z$ alignment



ME+4, ch 9 after global adjustment only



ME+4, ch 9 after $r\phi - \theta_y - \phi_z$ alignment



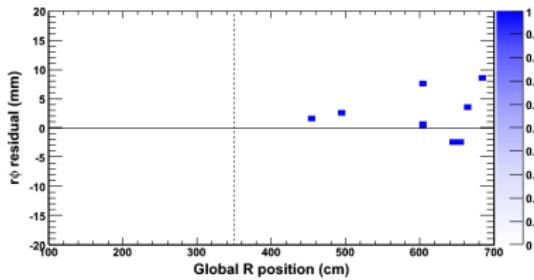
Map plots

Jim Pivarski 254/21

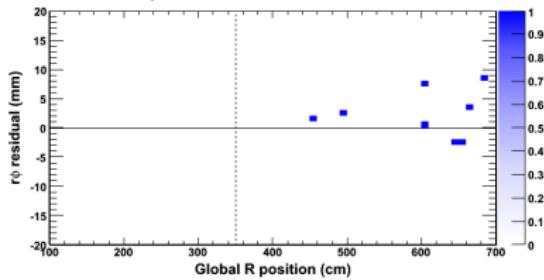


before (left) and after (right) individual chamber alignment

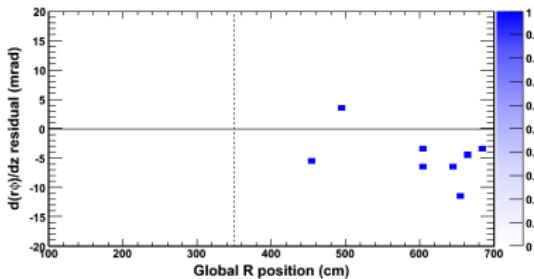
ME+4, ch 10 after global adjustment only



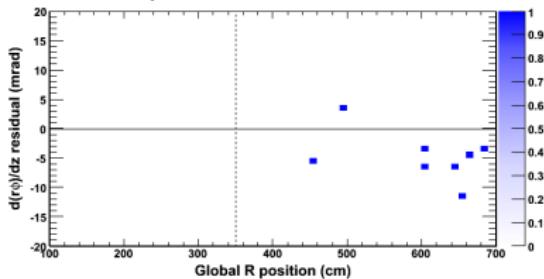
ME+4, ch 10 after $r_{\phi} \rightarrow 0$, $y \rightarrow 0$, $z \rightarrow 0$ alignment



ME+4, ch 10 after global adjustment only



ME+4, ch 10 after $r_{\phi} \rightarrow 0$, $y \rightarrow 0$, $z \rightarrow 0$ alignment



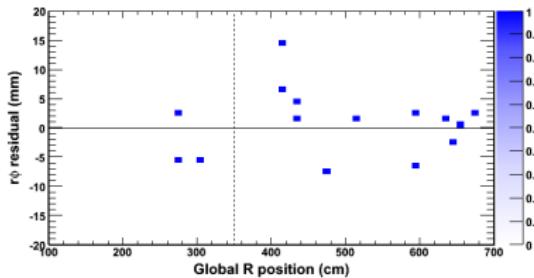
Map plots

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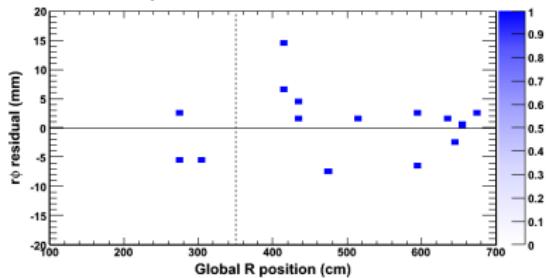


before (left) and after (right) individual chamber alignment

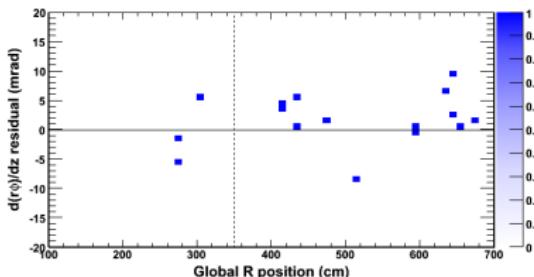
ME+4, ch 11 after global adjustment only



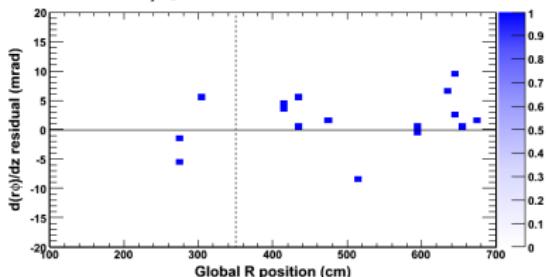
ME+4, ch 11 after $r_{\phi} \rightarrow 0, y_0, z_0$ alignment



ME+4, ch 11 after global adjustment only



ME+4, ch 11 after $r_{\phi} \rightarrow 0, y_0, z_0$ alignment



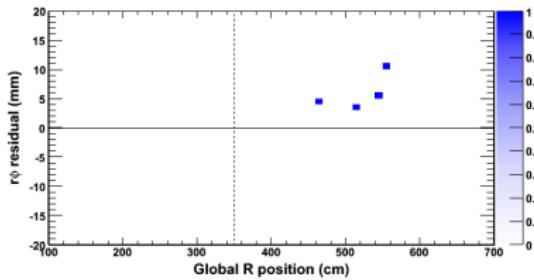
Map plots

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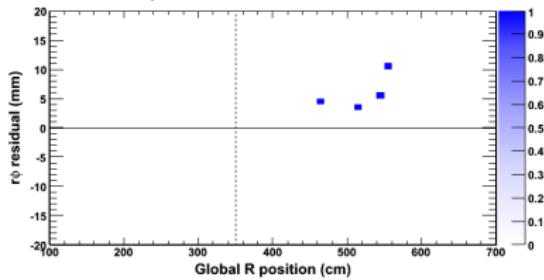


before (left) and after (right) individual chamber alignment

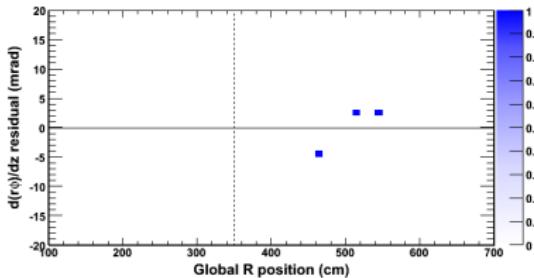
ME+4, ch 12 after global adjustment only



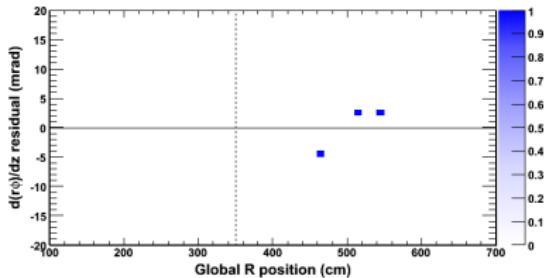
ME+4, ch 12 after $r_{\phi} \rightarrow 0_y - 0_z$ alignment



ME+4, ch 12 after global adjustment only



ME+4, ch 12 after $r_{\phi} \rightarrow 0_y - 0_z$ alignment



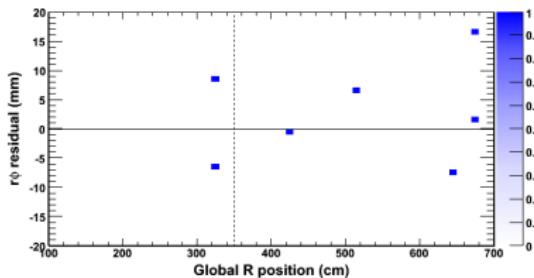
Map plots

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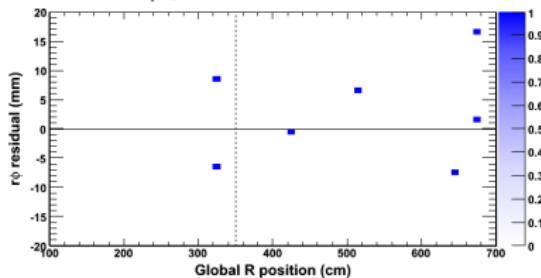


before (left) and after (right) individual chamber alignment

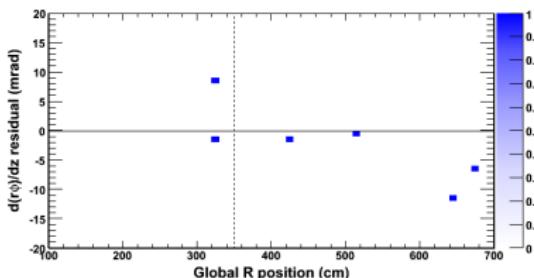
ME+4, ch 13 after global adjustment only



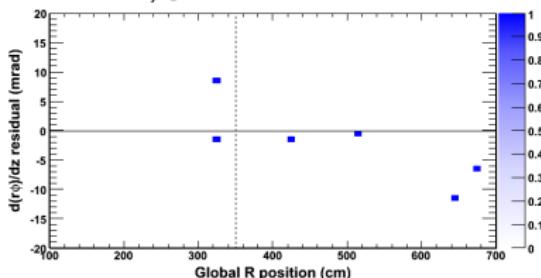
ME+4, ch 13 after $r_{\phi} \rightarrow 0$, $\theta_z \rightarrow 0$ alignment



ME+4, ch 13 after global adjustment only



ME+4, ch 13 after $r_{\phi} \rightarrow 0$, $\theta_z \rightarrow 0$ alignment



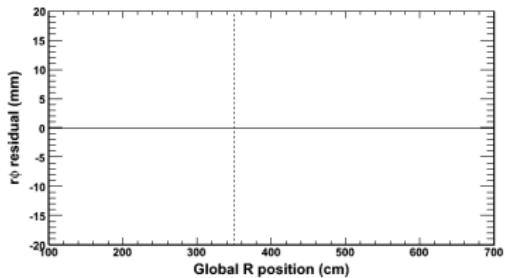
Map plots

Jim Pivarski 258/21

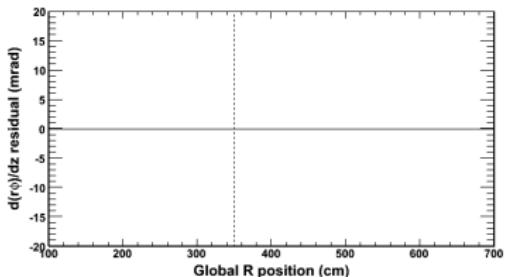
before (left) and after (right) individual chamber alignment



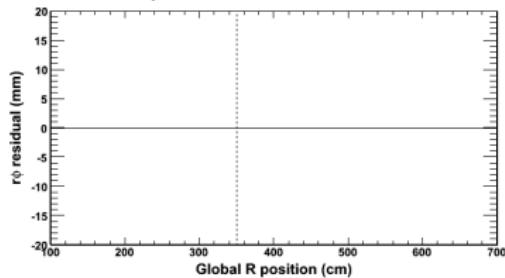
ME+4, ch 14 after global adjustment only



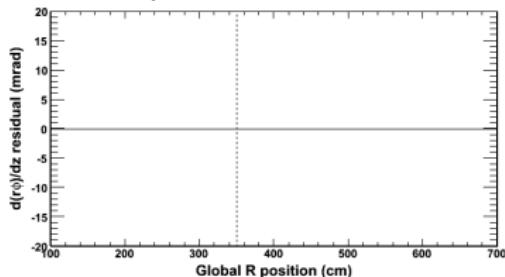
ME+4, ch 14 after global adjustment only



ME+4, ch 14 after $r_{\phi} \rightarrow 0, z_0$ alignment



ME+4, ch 14 after $r_{\phi} \rightarrow 0, z_0$ alignment



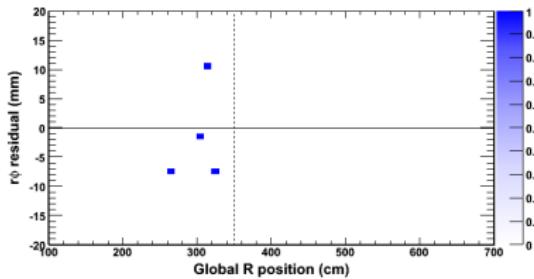
Map plots

Jim Pivarski 259/21

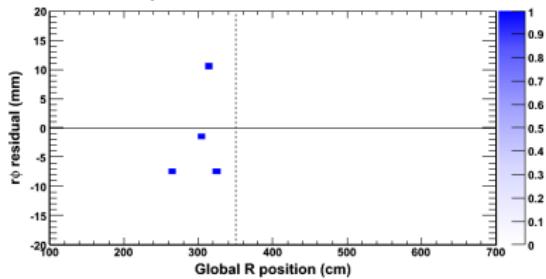


before (left) and after (right) individual chamber alignment

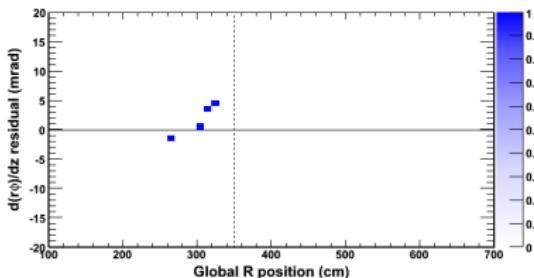
ME+4, ch 15 after global adjustment only



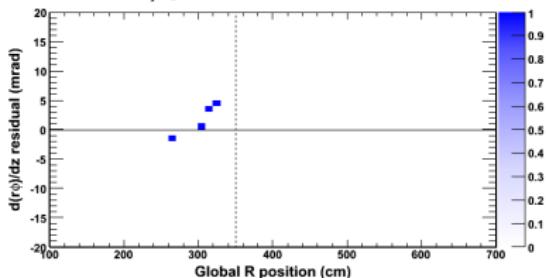
ME+4, ch 15 after $r_{\phi} \rightarrow 0$, $\theta_z \rightarrow 0$ alignment



ME+4, ch 15 after global adjustment only



ME+4, ch 15 after $r_{\phi} \rightarrow 0$, $\theta_z \rightarrow 0$ alignment



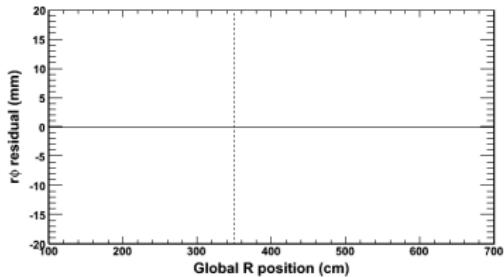
Map plots

Jim Pivarski 260/21

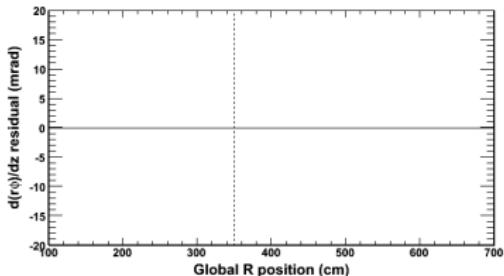
before (left) and after (right) individual chamber alignment



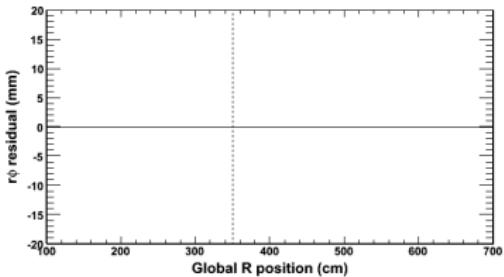
ME+4, ch 16 after global adjustment only



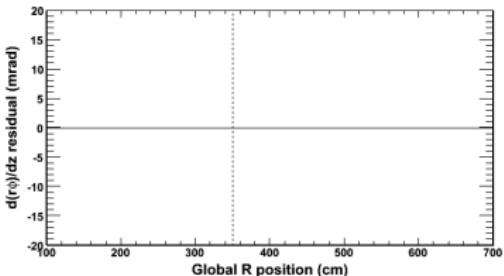
ME+4, ch 16 after global adjustment only



ME+4, ch 16 after $r_{\phi} \rightarrow 0, z_0$ alignment



ME+4, ch 16 after $r_{\phi} \rightarrow 0, z_0$ alignment



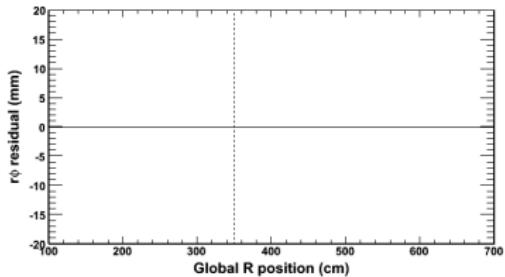
Map plots

Jim Pivarski 261/21

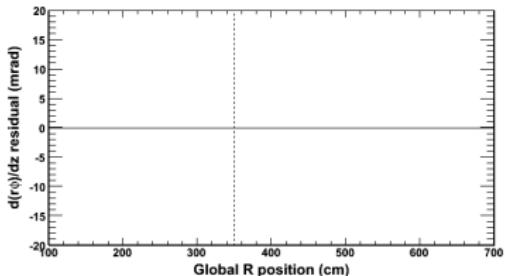
before (left) and after (right) individual chamber alignment



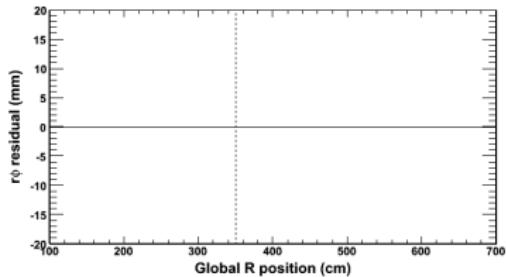
ME+4, ch 17 after global adjustment only



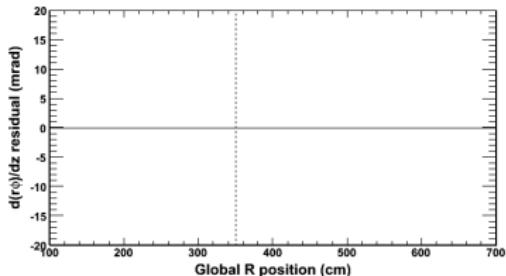
ME+4, ch 17 after global adjustment only



ME+4, ch 17 after $r_{\phi} \rightarrow 0, z_0$ alignment



ME+4, ch 17 after $r_{\phi} \rightarrow 0, z_0$ alignment



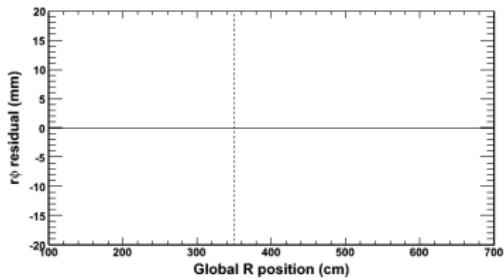
Map plots

Jim Pivarski 262/21

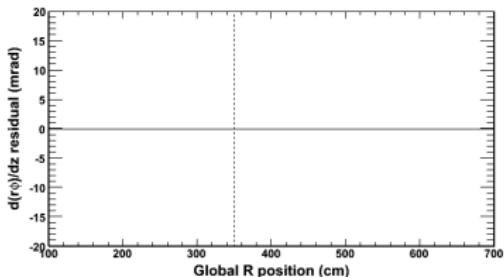
before (left) and after (right) individual chamber alignment



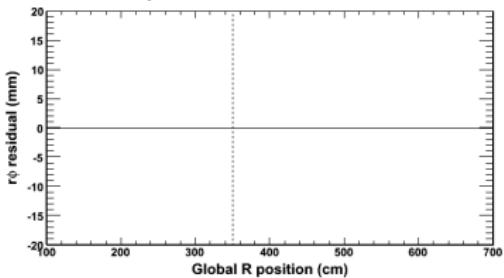
ME+4, ch 18 after global adjustment only



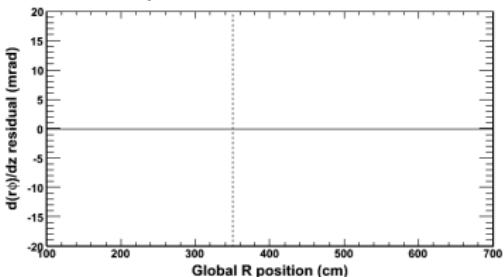
ME+4, ch 18 after global adjustment only



ME+4, ch 18 after $r_{\phi} \rightarrow 0, z_0$ alignment



ME+4, ch 18 after $r_{\phi} \rightarrow 0, z_0$ alignment

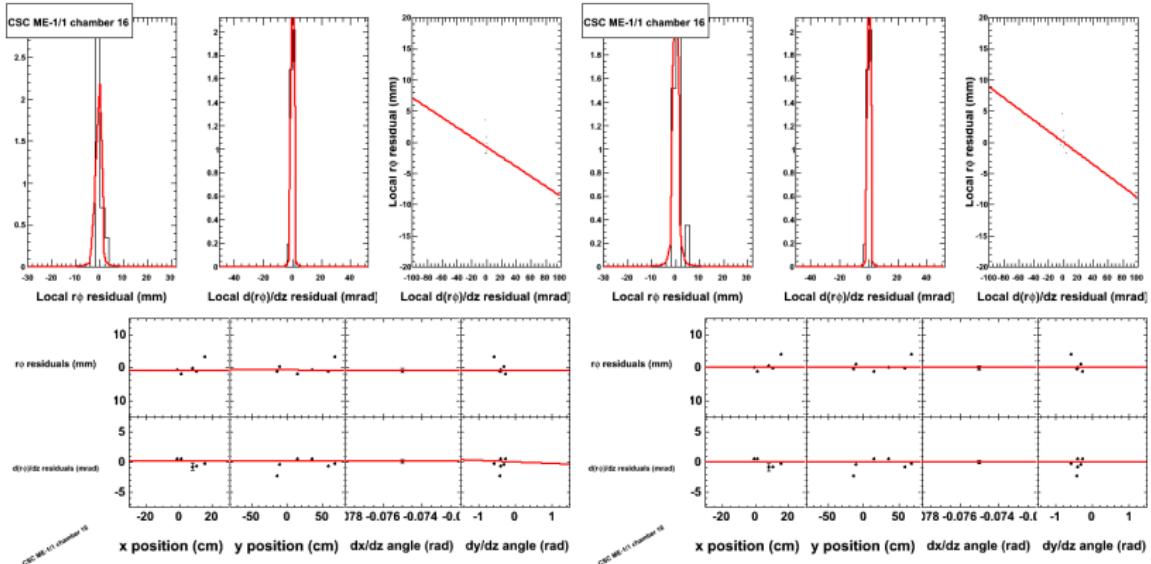


Fit functions

Jim Pivarski 263/21



before (left) and after (right) individual chamber alignment

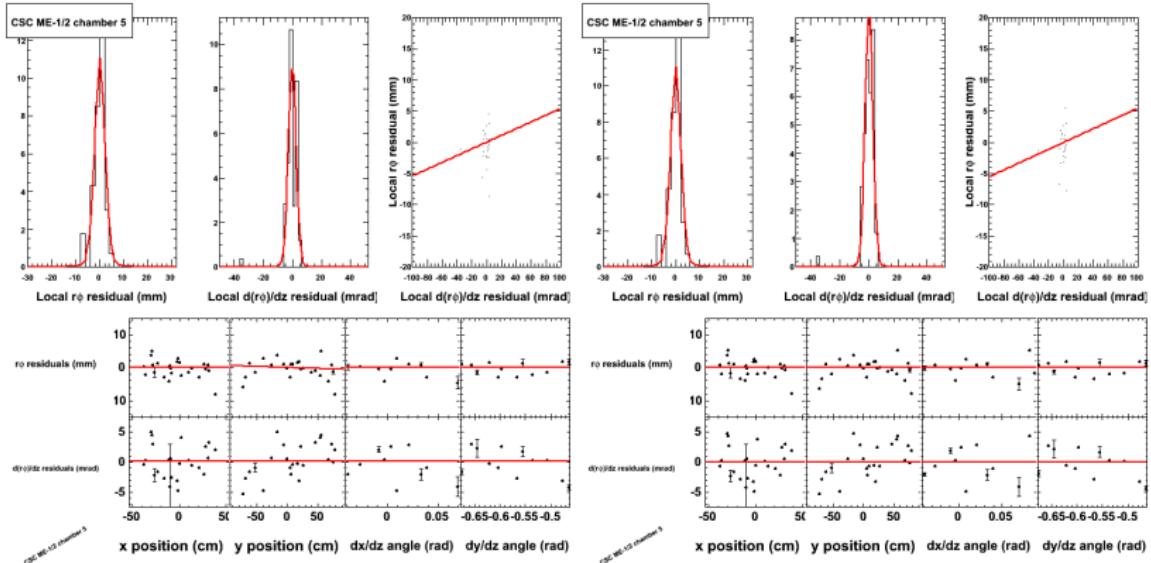


Fit functions

Jim Pivarski 264/21



before (left) and after (right) individual chamber alignment

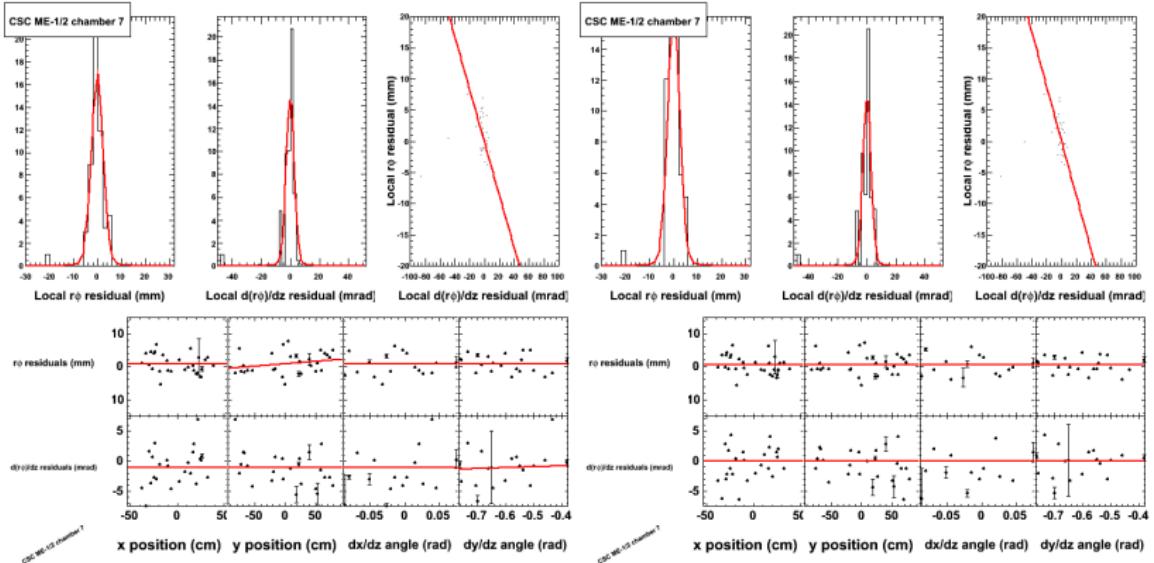


Fit functions

Jim Pivarski 265/21



before (left) and after (right) individual chamber alignment

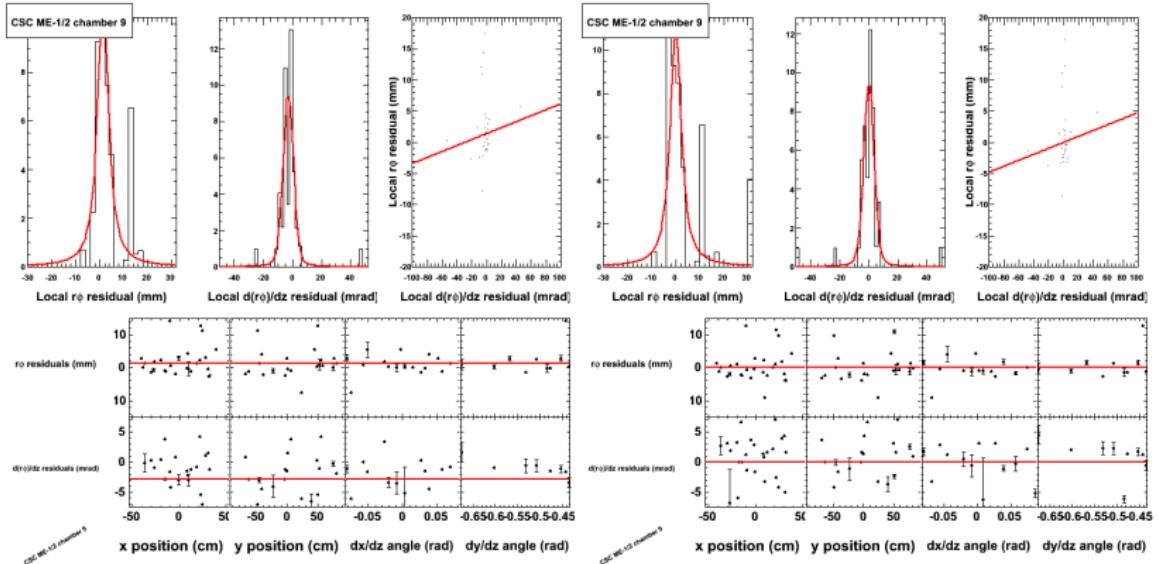


Fit functions

Jim Pivarski 266/21

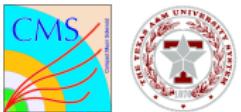


before (left) and after (right) individual chamber alignment

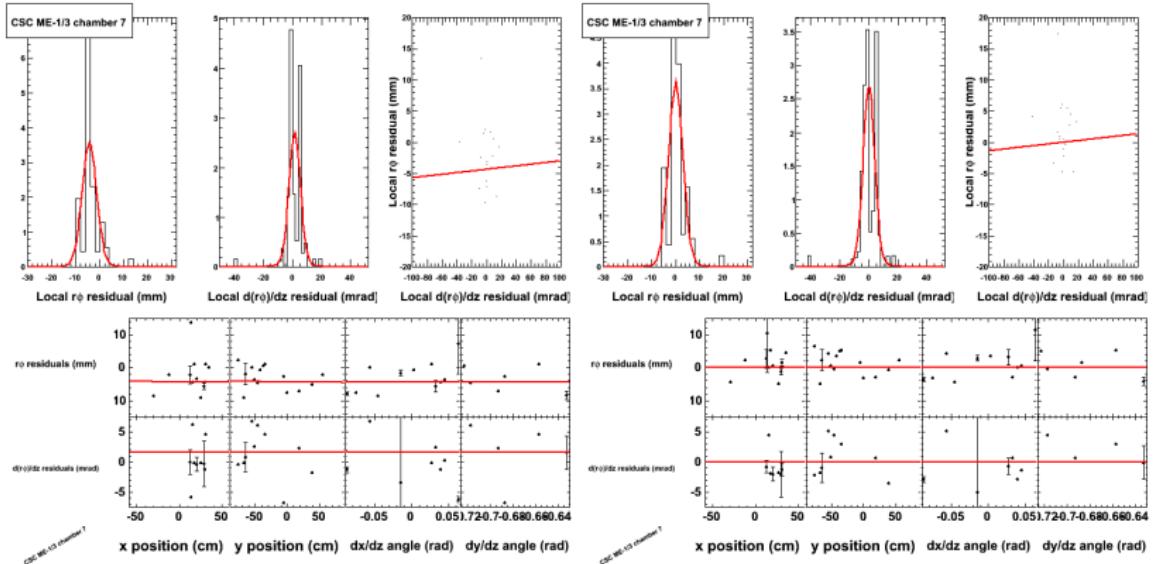


Fit functions

Jim Pivarski 267/21

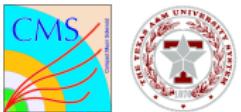


before (left) and after (right) individual chamber alignment

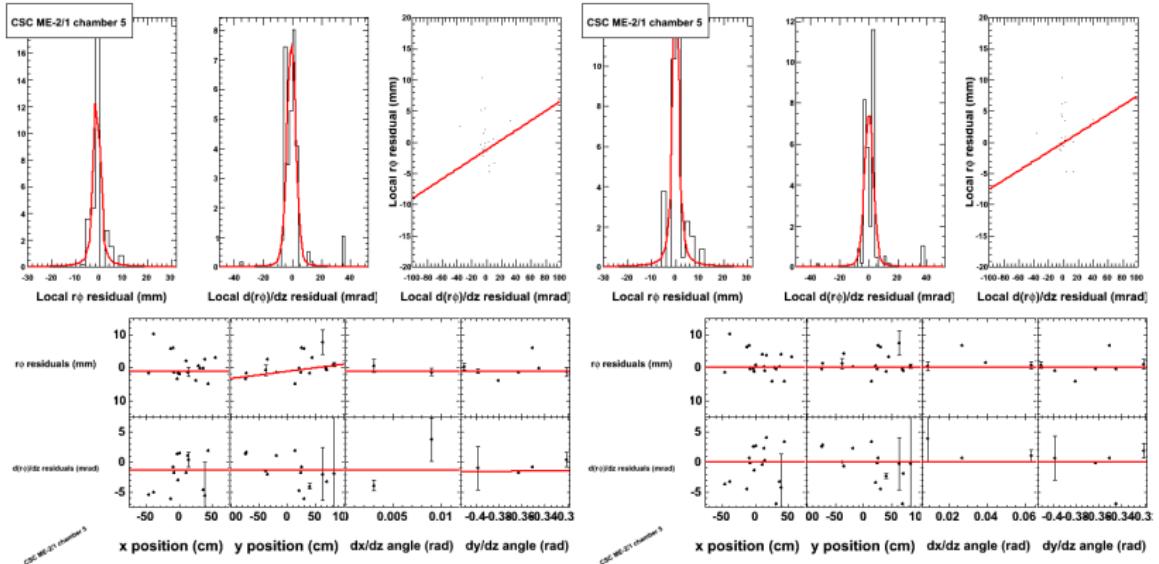


Fit functions

Jim Pivarski 268/21



before (left) and after (right) individual chamber alignment

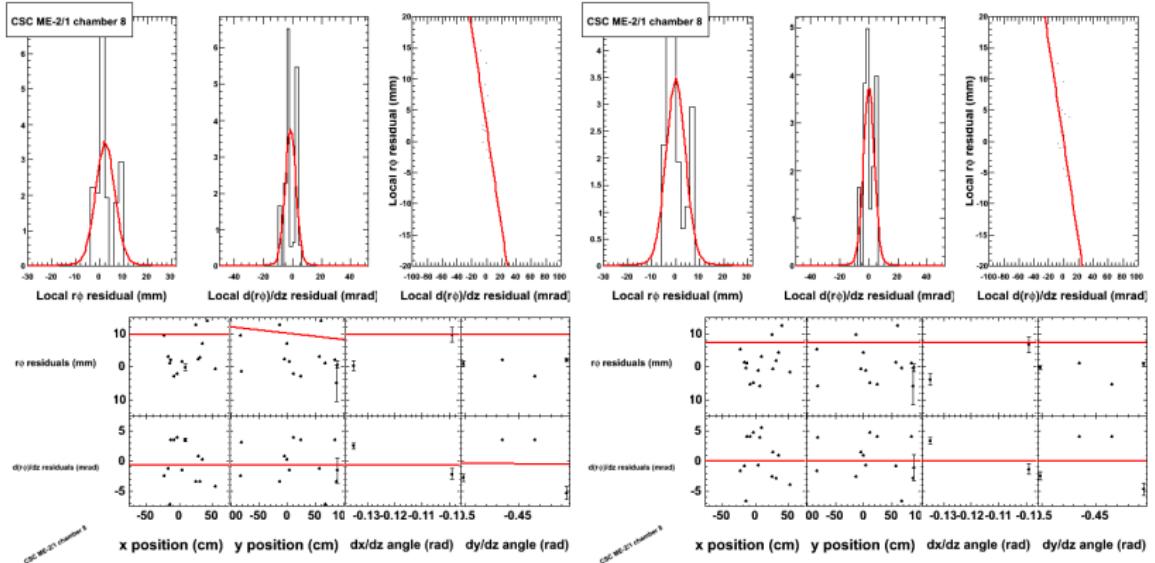


Fit functions

Jim Pivarski 269/21



before (left) and after (right) individual chamber alignment

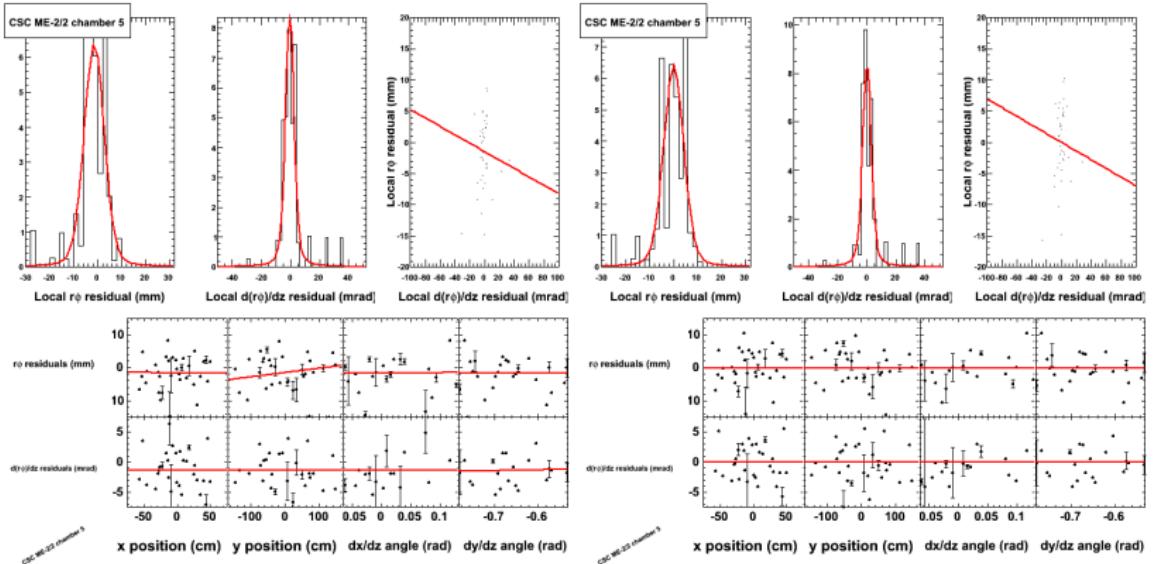


Fit functions

Jim Pivarski 270/21



before (left) and after (right) individual chamber alignment

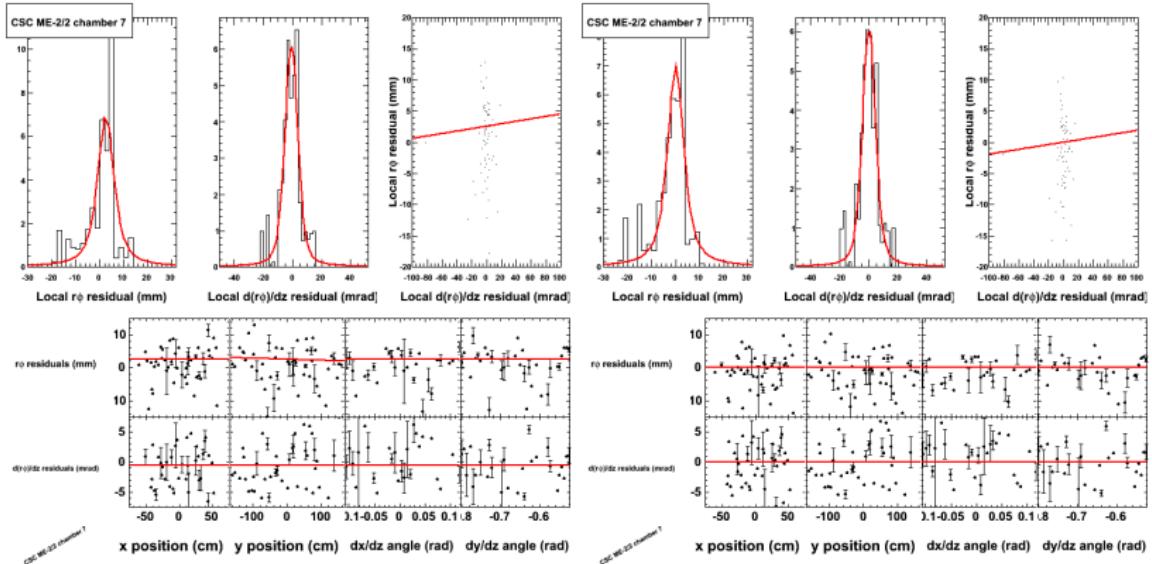


Fit functions

Jim Pivarski 271/21



before (left) and after (right) individual chamber alignment

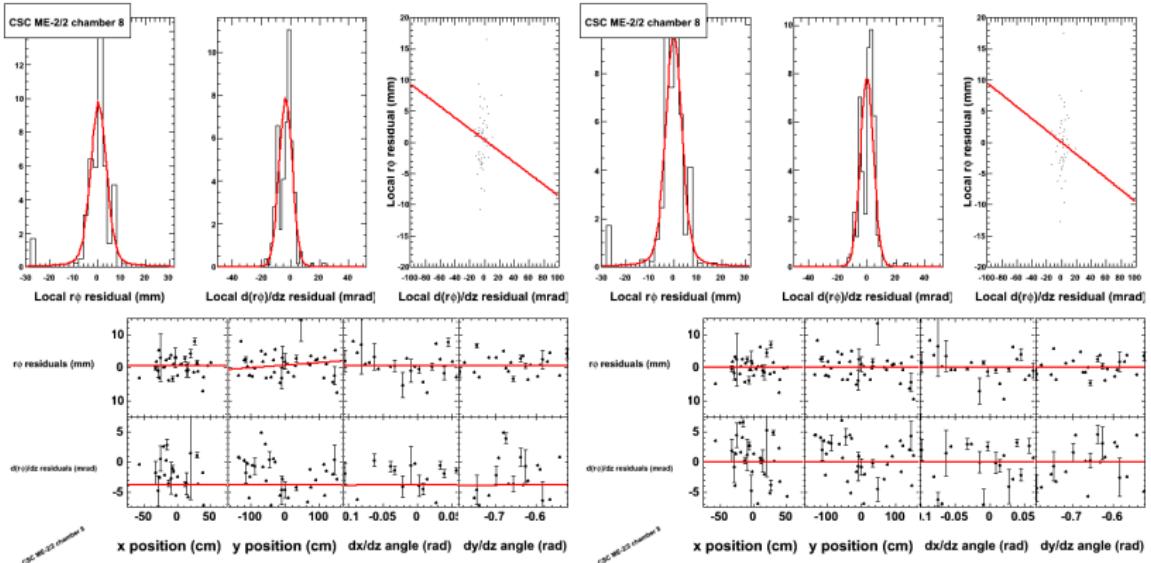


Fit functions

Jim Pivarski 272/21

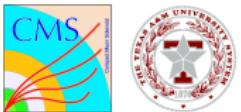


before (left) and after (right) individual chamber alignment

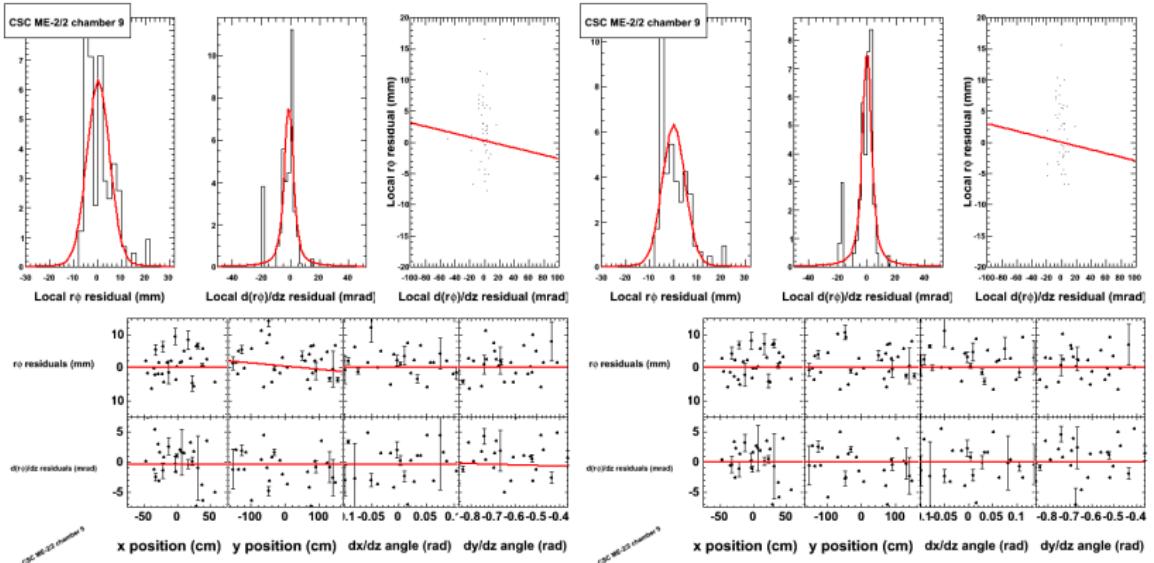


Fit functions

Jim Pivarski 273/21



before (left) and after (right) individual chamber alignment

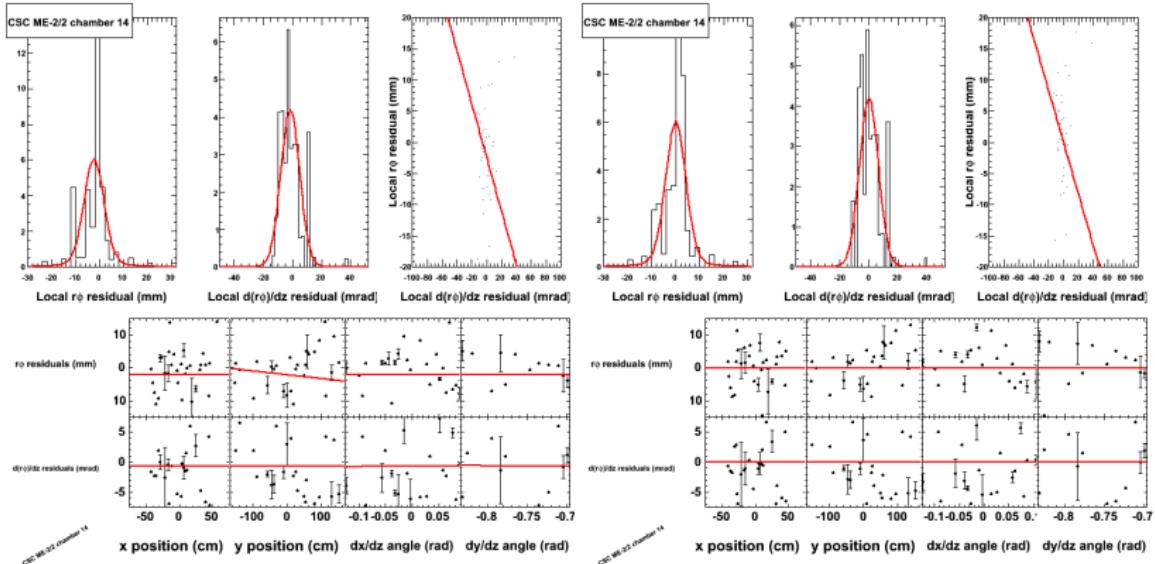


Fit functions

Jim Pivarski 274/21



before (left) and after (right) individual chamber alignment

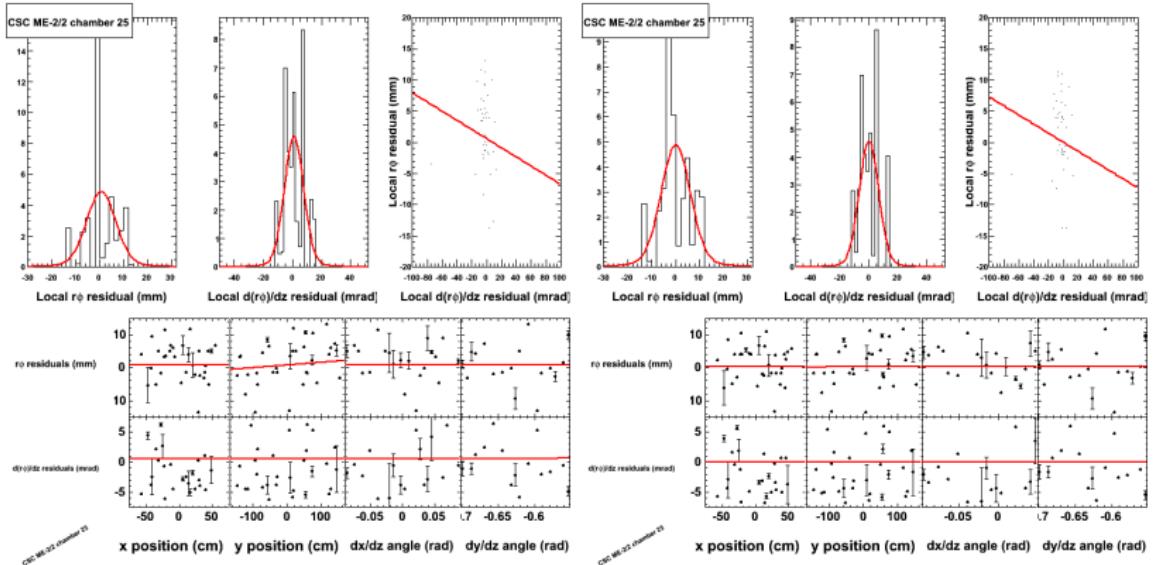


Fit functions

Jim Pivarski 275/21



before (left) and after (right) individual chamber alignment

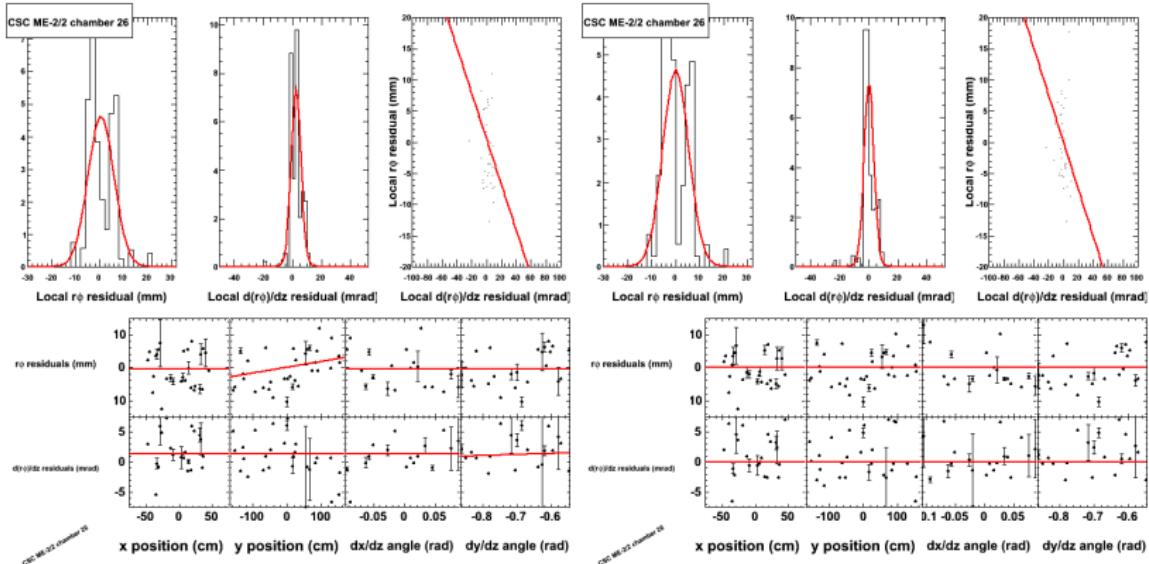


Fit functions

Jim Pivarski 276/21



before (left) and after (right) individual chamber alignment

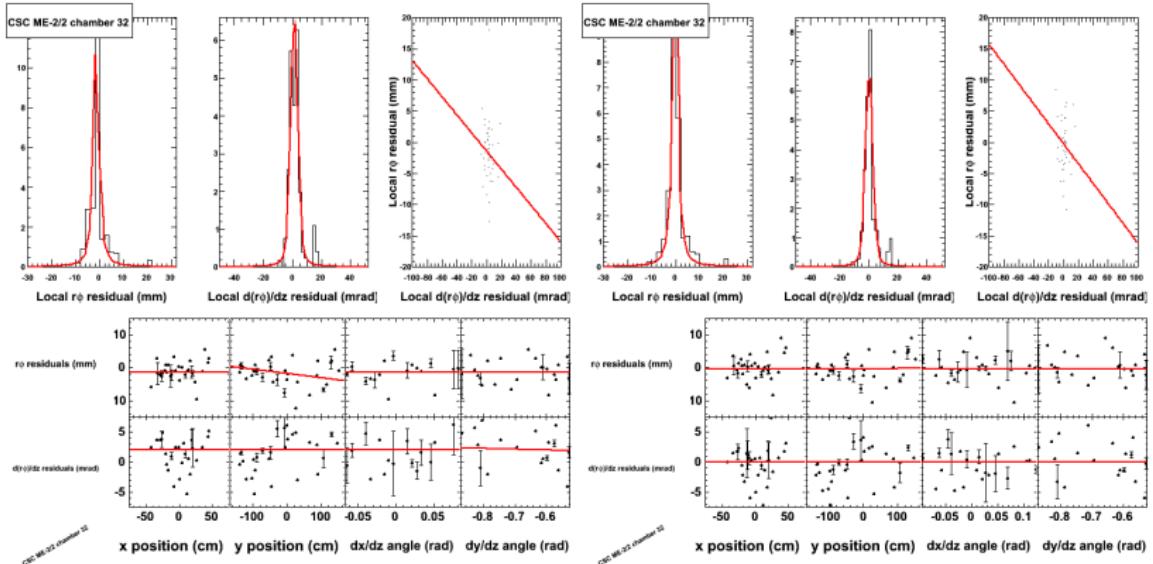


Fit functions

Jim Pivarski 277/21

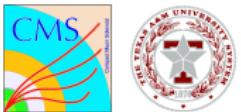


before (left) and after (right) individual chamber alignment

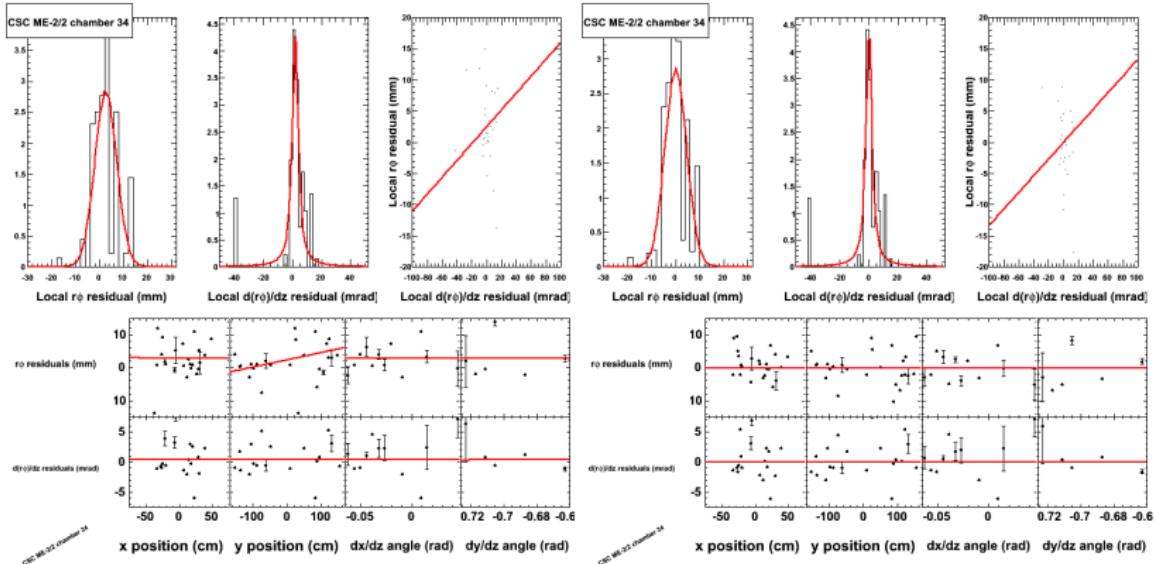


Fit functions

Jim Pivarski 278/21



before (left) and after (right) individual chamber alignment

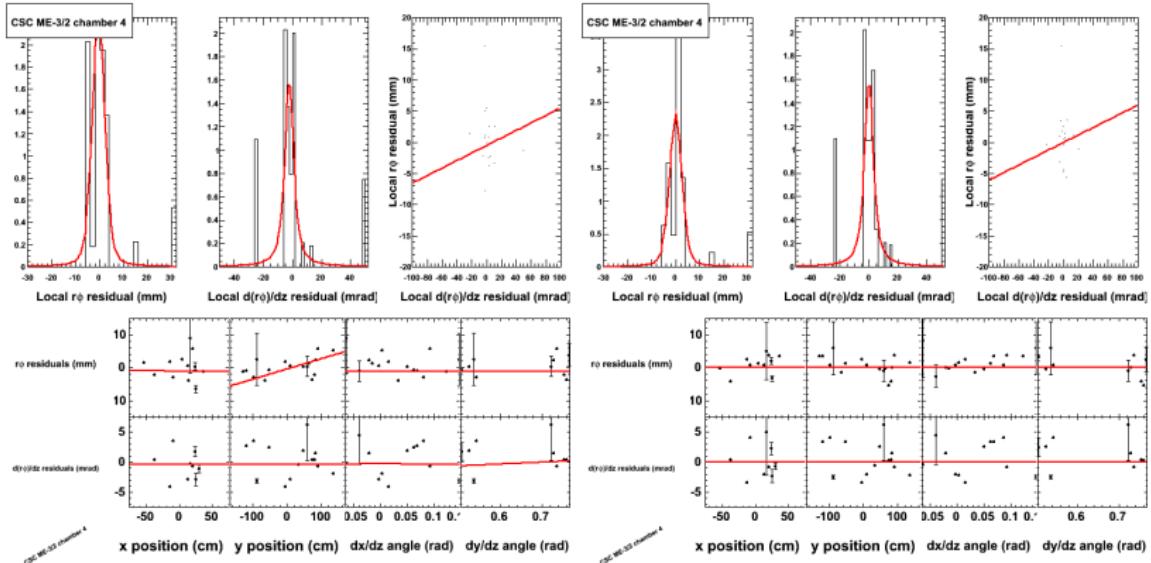


Fit functions

Jim Pivarski 279/21



before (left) and after (right) individual chamber alignment

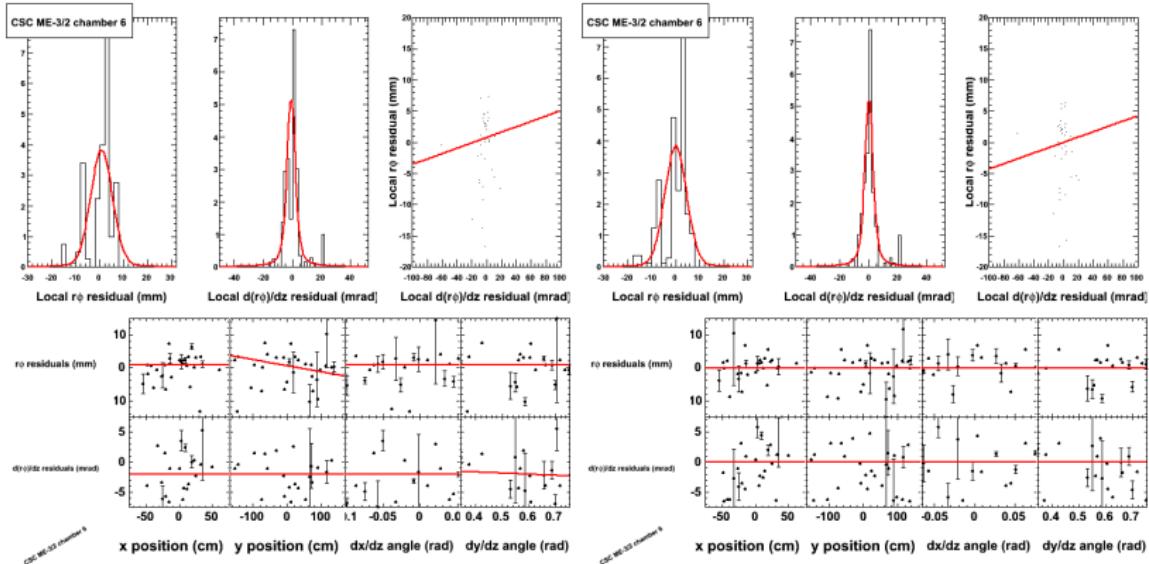


Fit functions

Jim Pivarski 280/21



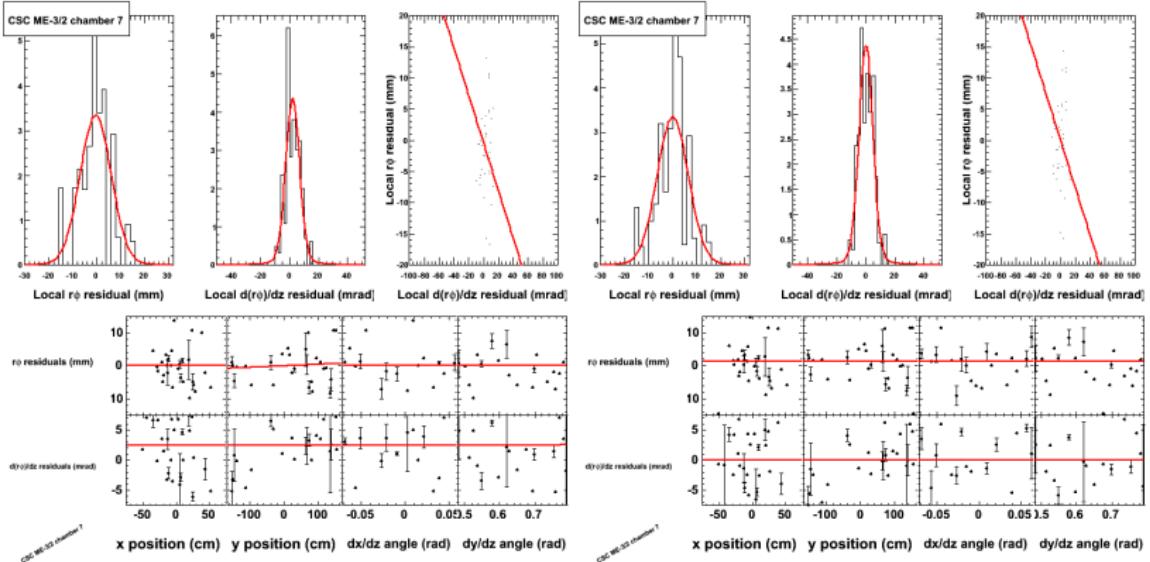
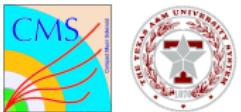
before (left) and after (right) individual chamber alignment



Fit functions

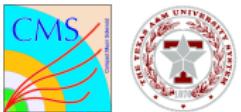
Jim Pivarski 281/21

before (left) and after (right) individual chamber alignment

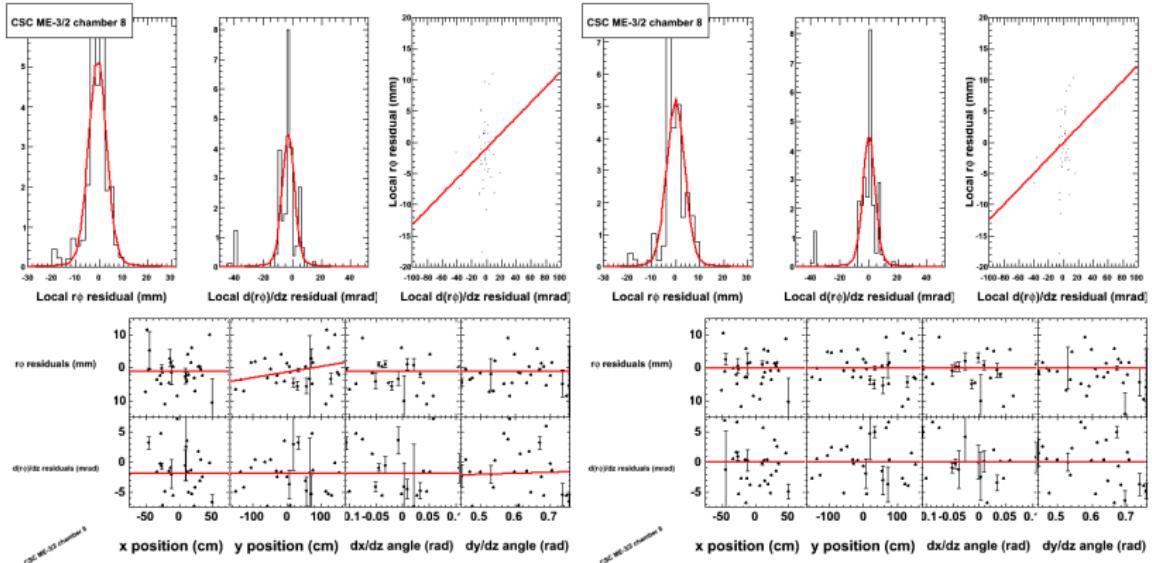


Fit functions

Jim Pivarski 282/21



before (left) and after (right) individual chamber alignment

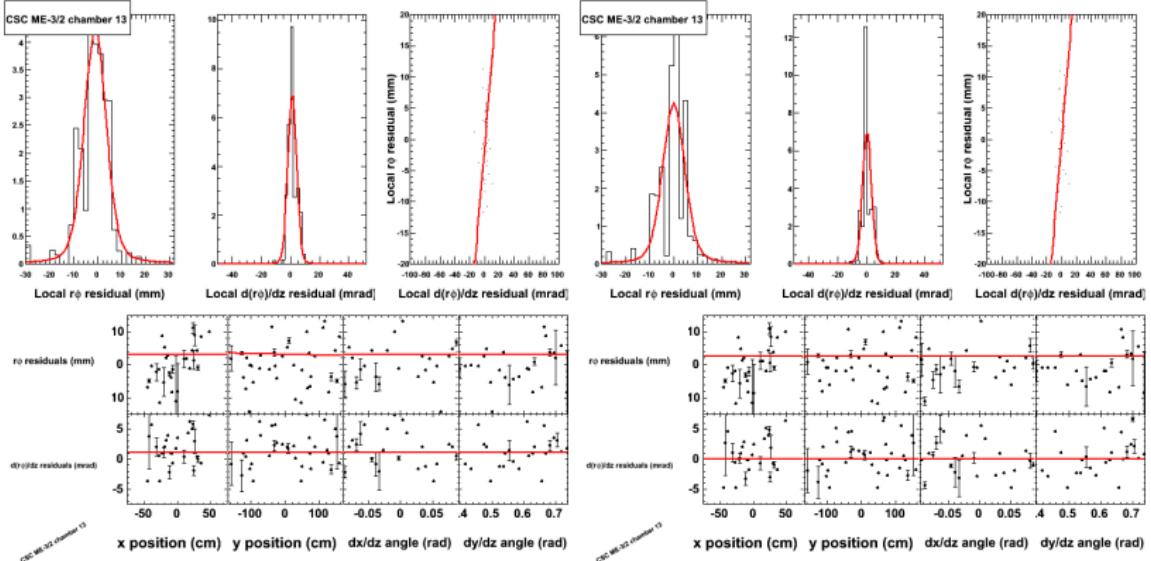


Fit functions

Jim Pivarski 283/21

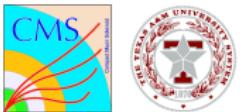


before (left) and after (right) individual chamber alignment

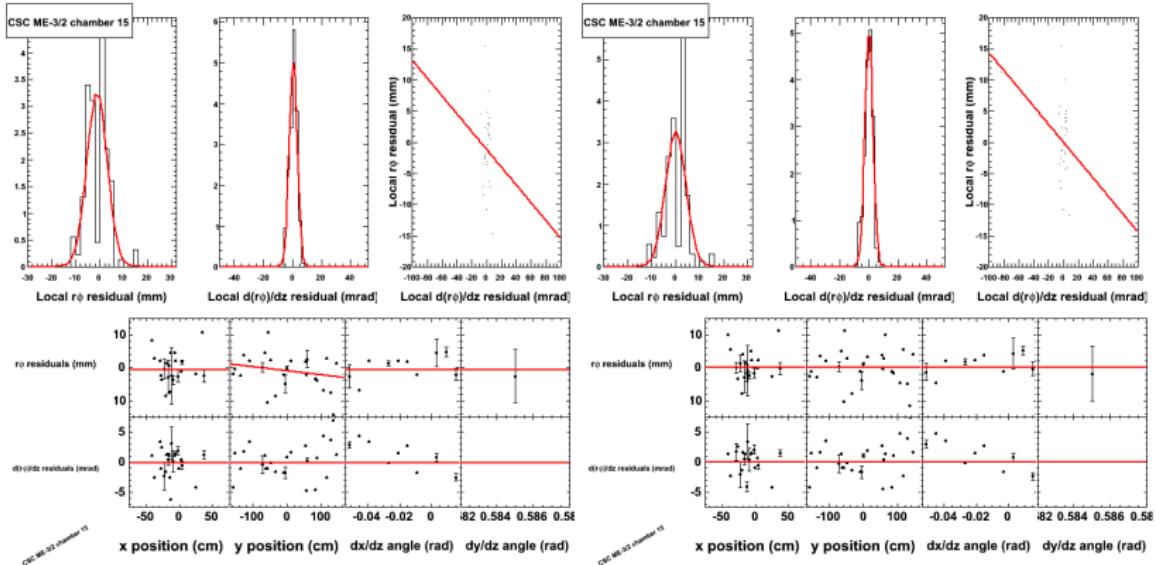


Fit functions

Jim Pivarski 284/21



before (left) and after (right) individual chamber alignment

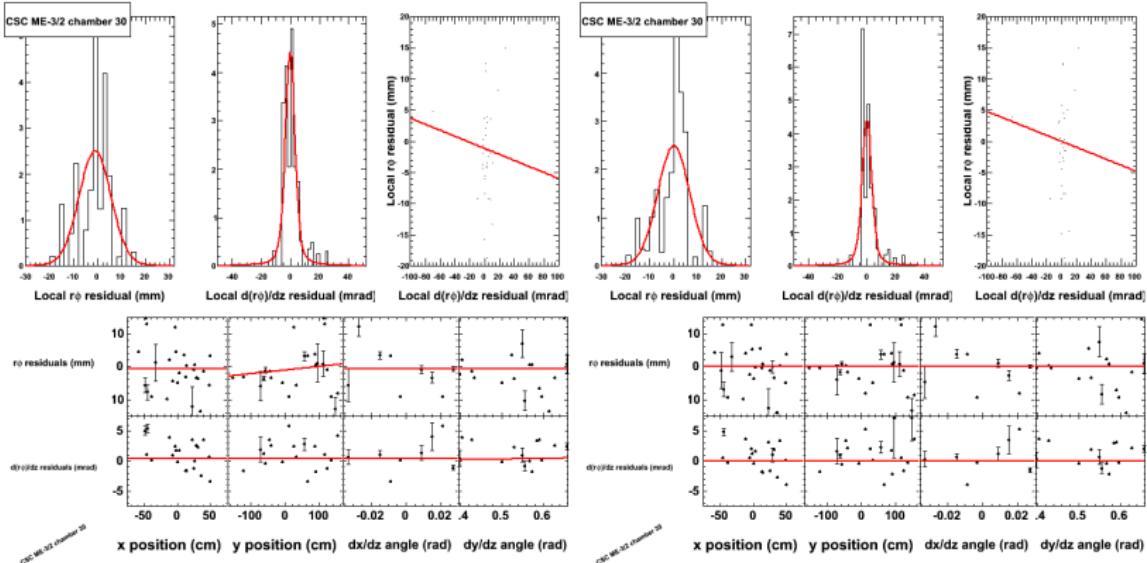


Fit functions

Jim Pivarski

285/21

before (left) and after (right) individual chamber alignment

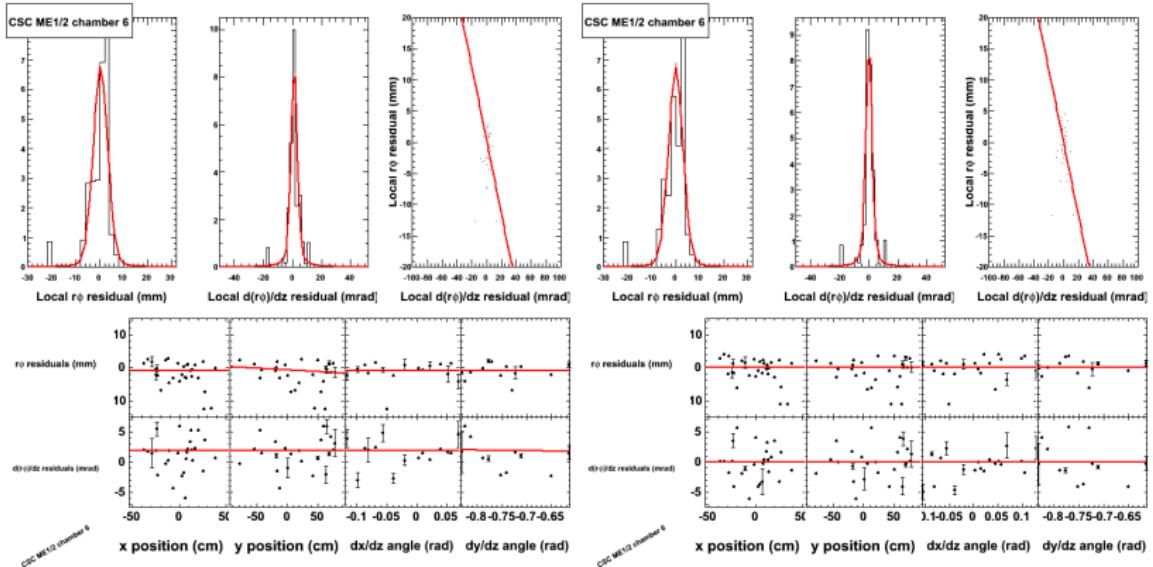


Fit functions

Jim Pivarski 286/21



before (left) and after (right) individual chamber alignment

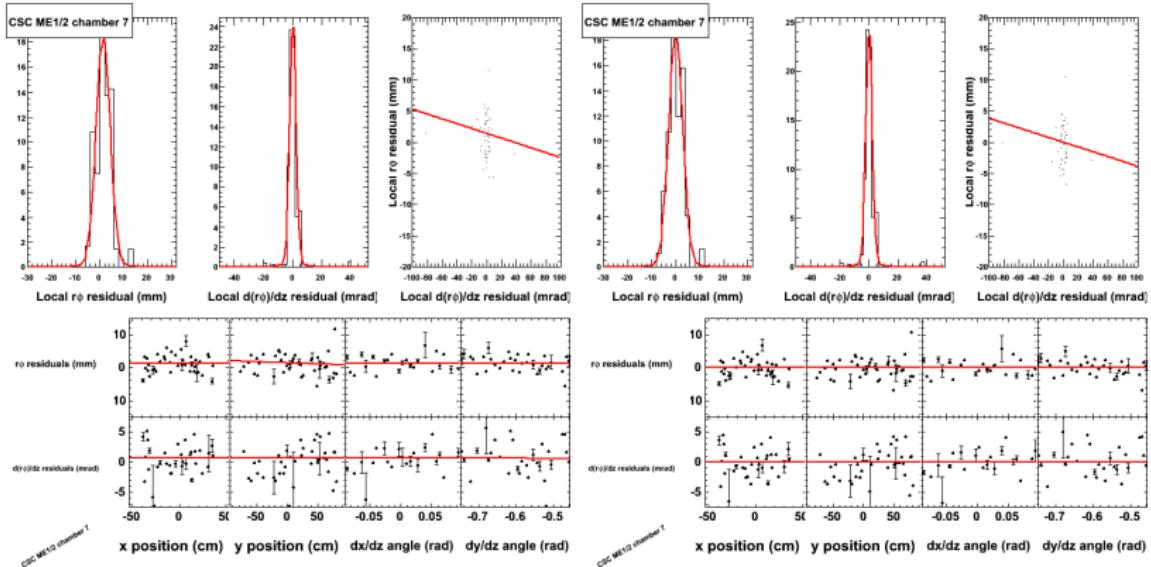


Fit functions

Jim Pivarski 287/21



before (left) and after (right) individual chamber alignment

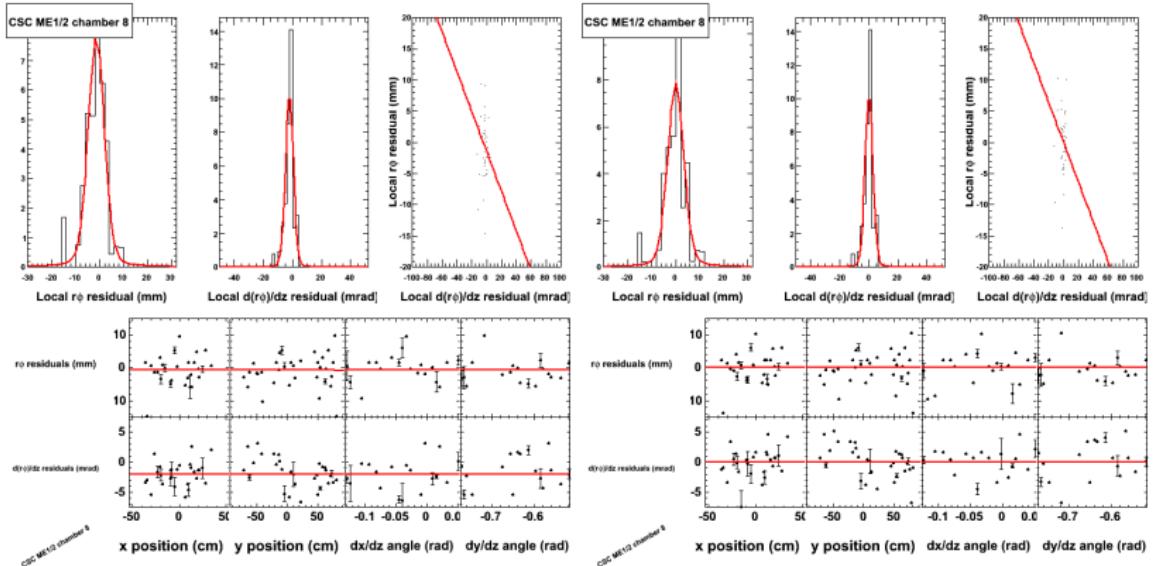


Fit functions

Jim Pivarski 288/21



before (left) and after (right) individual chamber alignment

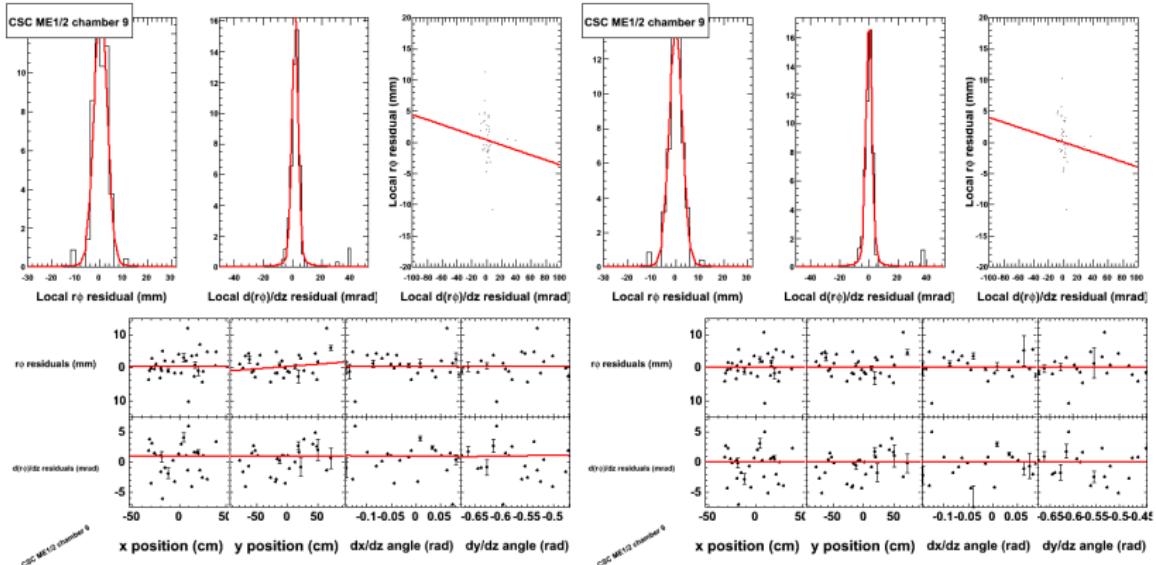


Fit functions

Jim Pivarski 289/21



before (left) and after (right) individual chamber alignment

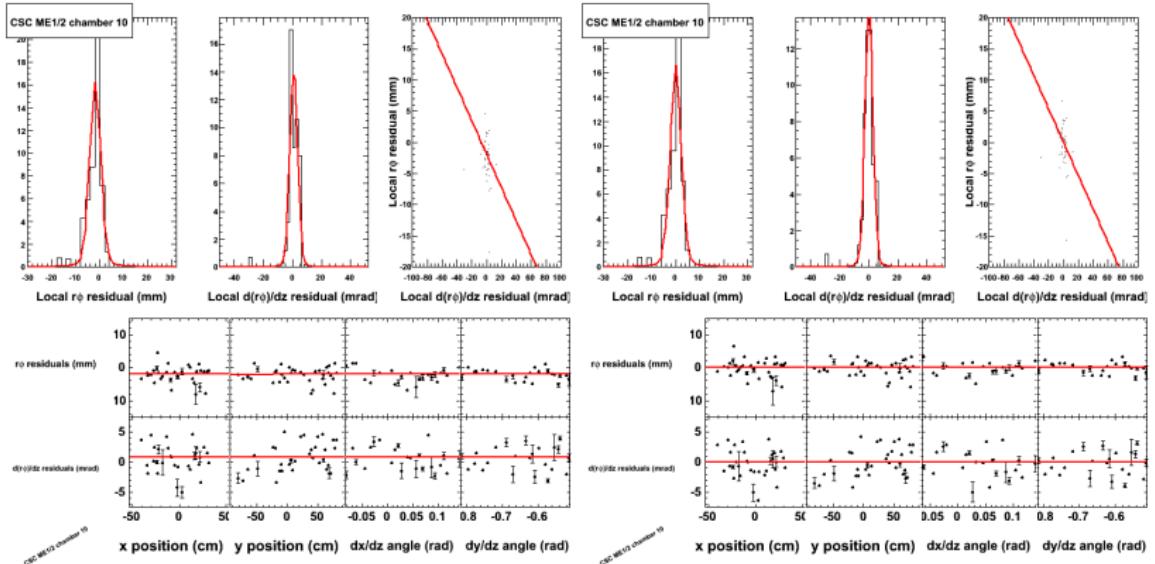


Fit functions

Jim Pivarski 290/21



before (left) and after (right) individual chamber alignment

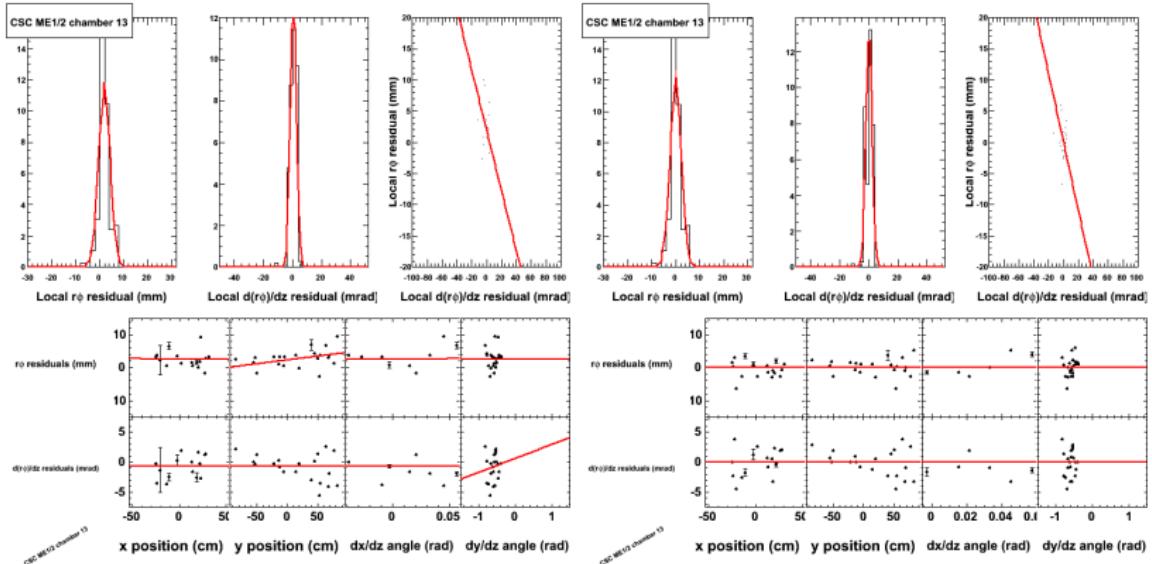


Fit functions

Jim Pivarski 291/21



before (left) and after (right) individual chamber alignment

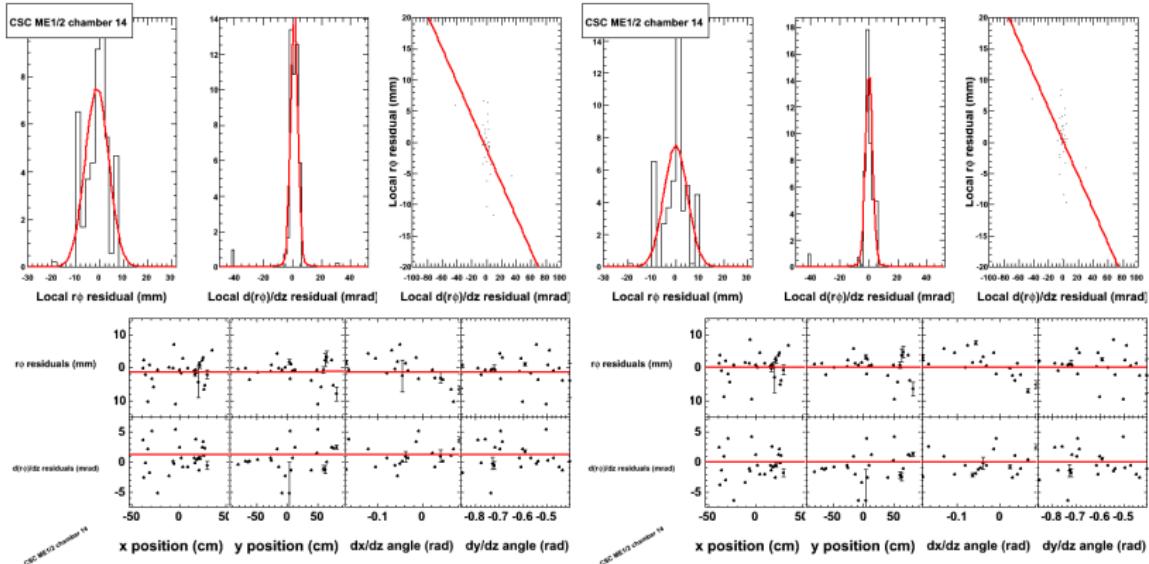


Fit functions

Jim Pivarski 292/21



before (left) and after (right) individual chamber alignment

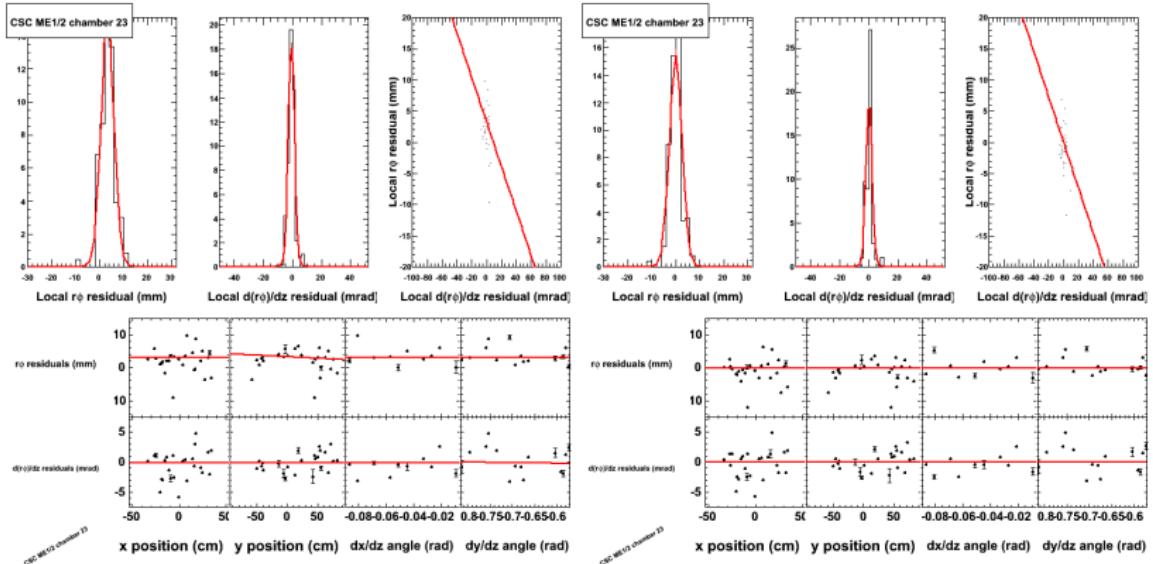


Fit functions

Jim Pivarski 293/21



before (left) and after (right) individual chamber alignment

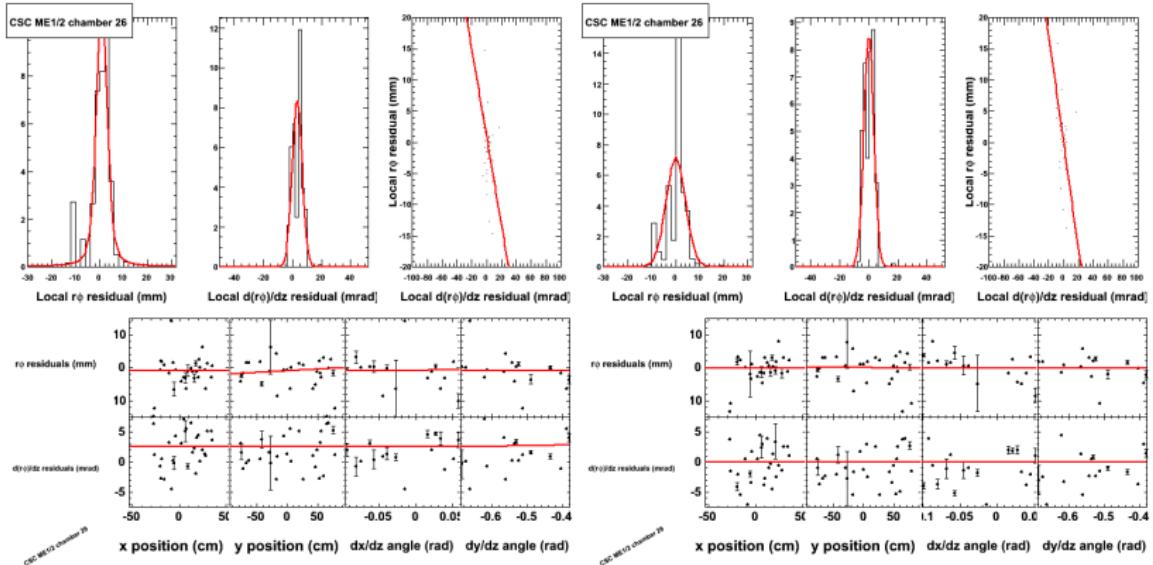


Fit functions

Jim Pivarski 294/21



before (left) and after (right) individual chamber alignment

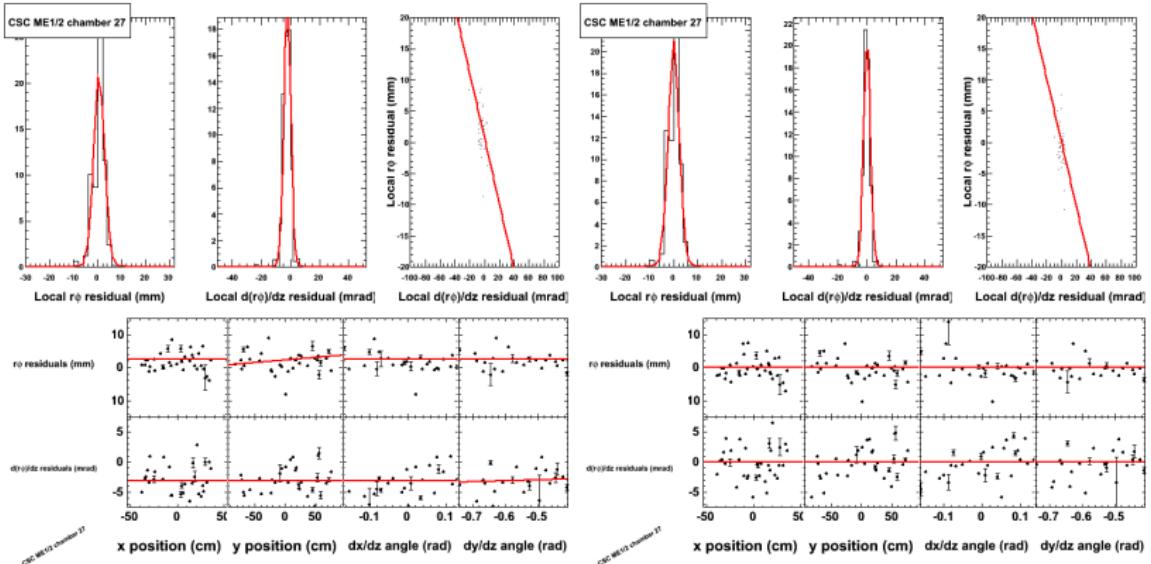


Fit functions

Jim Pivarski 295/21



before (left) and after (right) individual chamber alignment

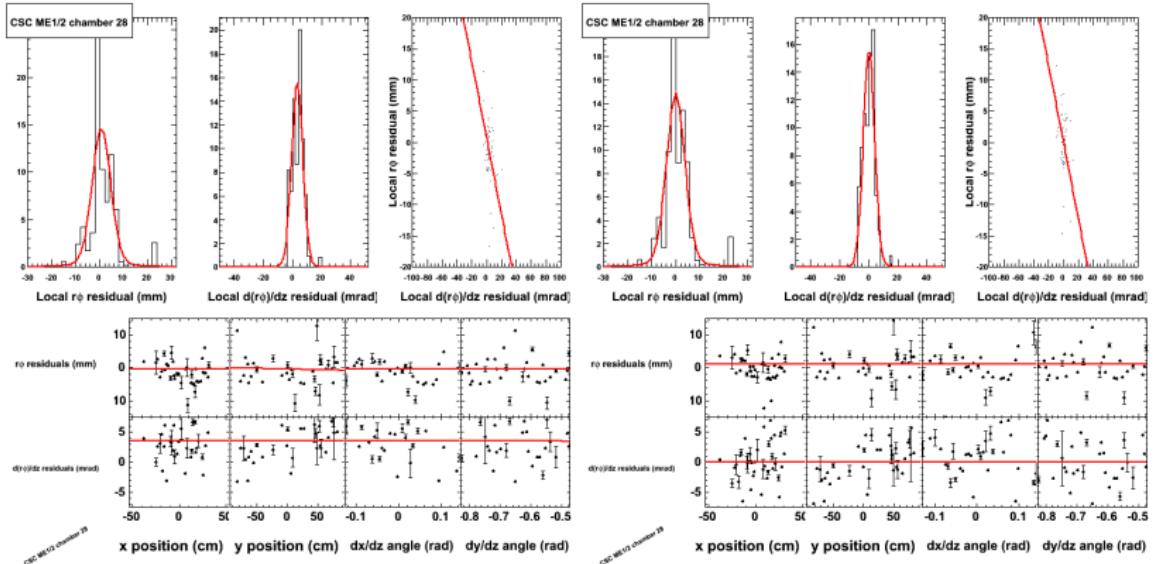


Fit functions

Jim Pivarski 296/21



before (left) and after (right) individual chamber alignment

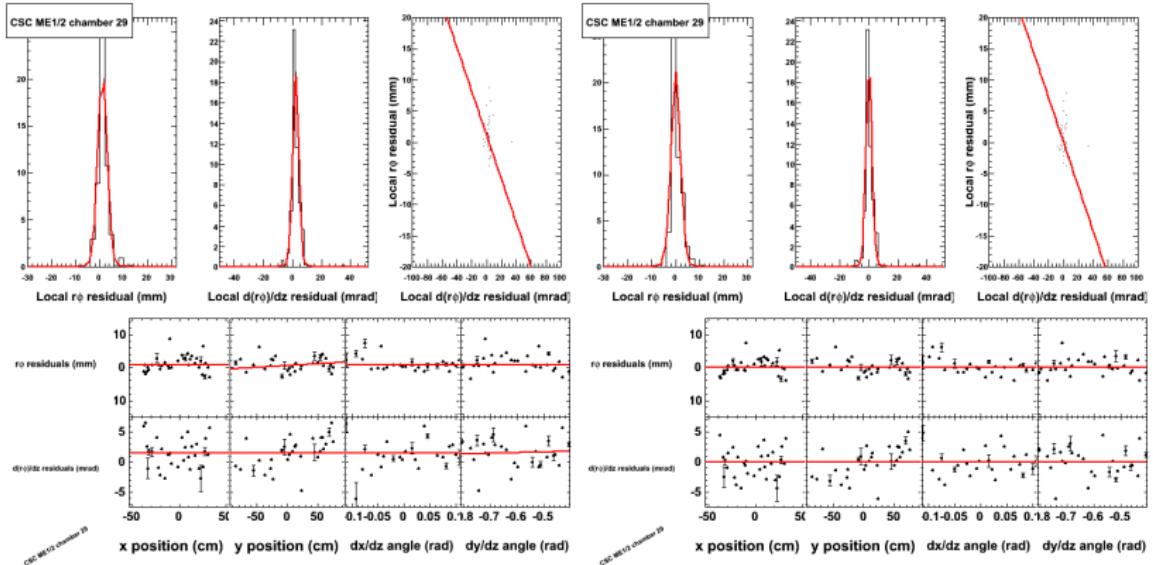


Fit functions

Jim Pivarski 297/21



before (left) and after (right) individual chamber alignment

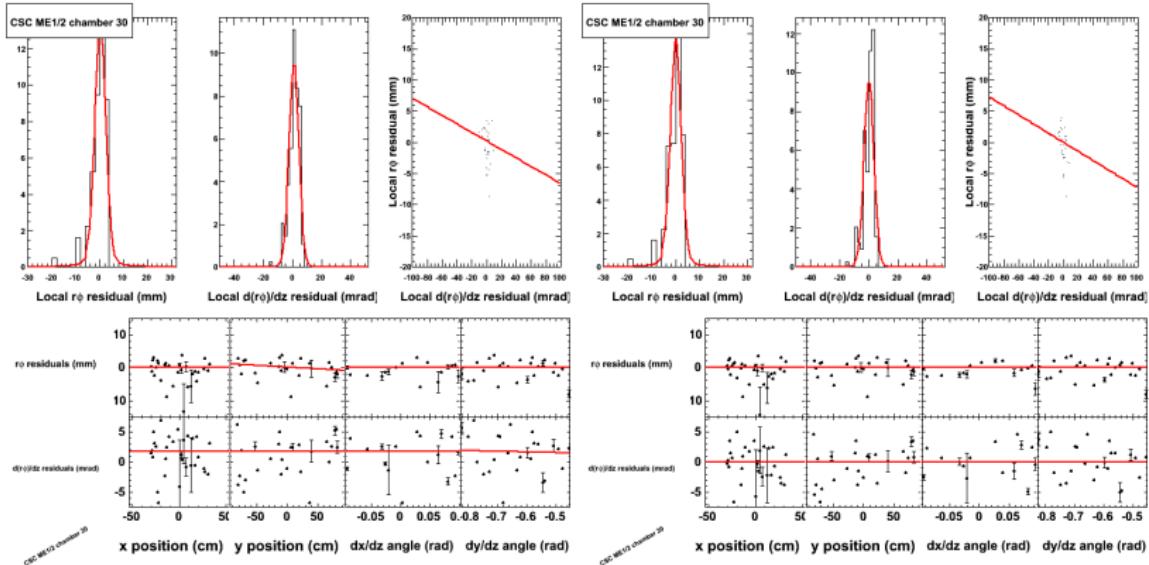


Fit functions

Jim Pivarski 298/21



before (left) and after (right) individual chamber alignment

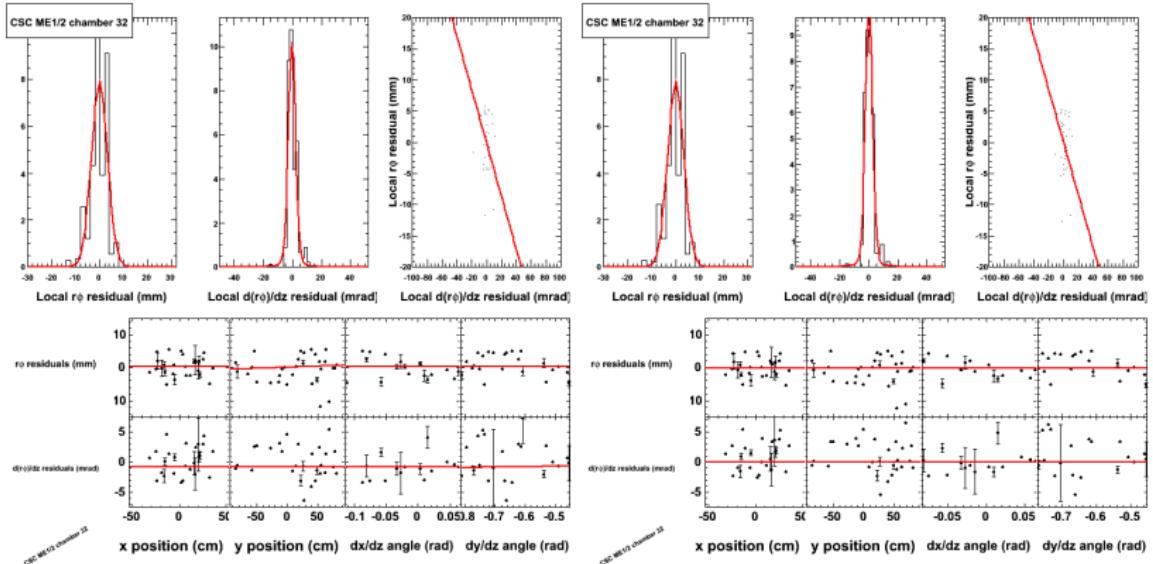


Fit functions

Jim Pivarski 299/21



before (left) and after (right) individual chamber alignment

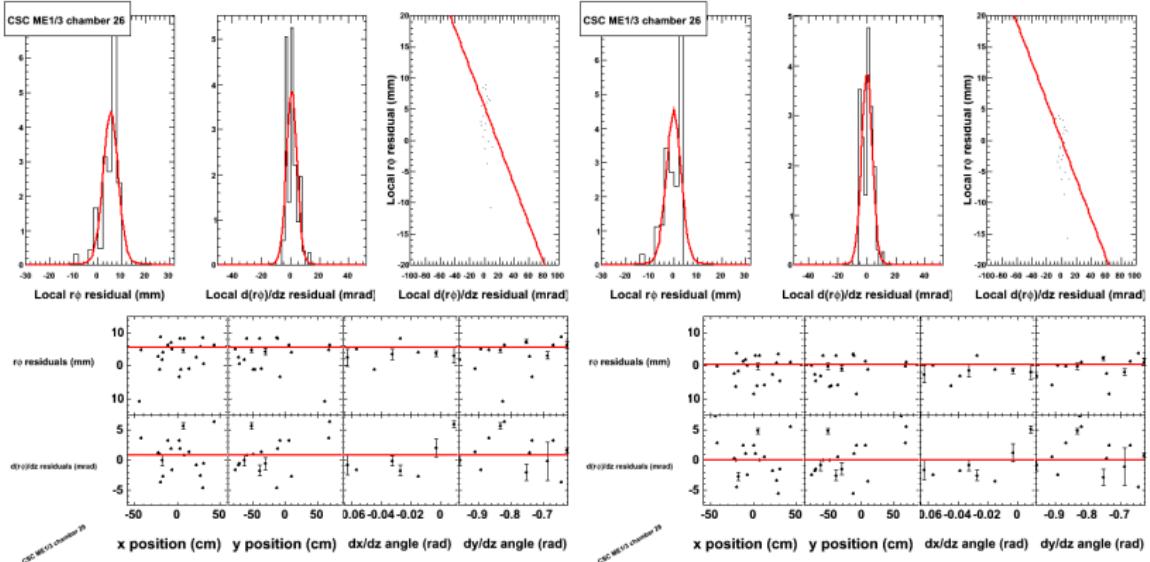


Fit functions

Jim Pivarski 300/21



before (left) and after (right) individual chamber alignment

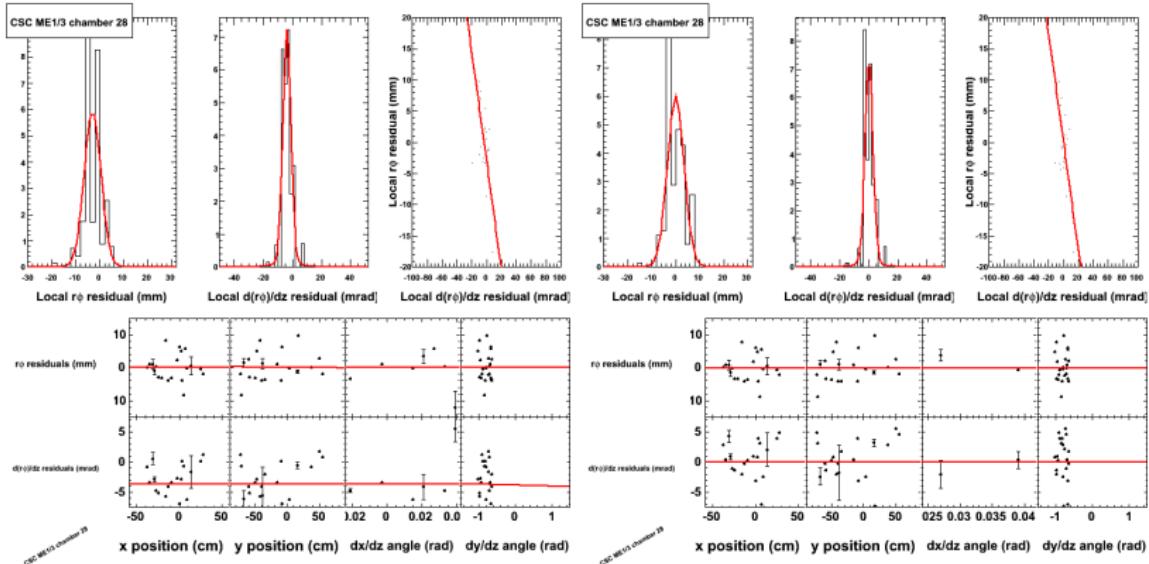


Fit functions

Jim Pivarski 301/21

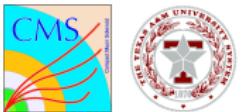


before (left) and after (right) individual chamber alignment

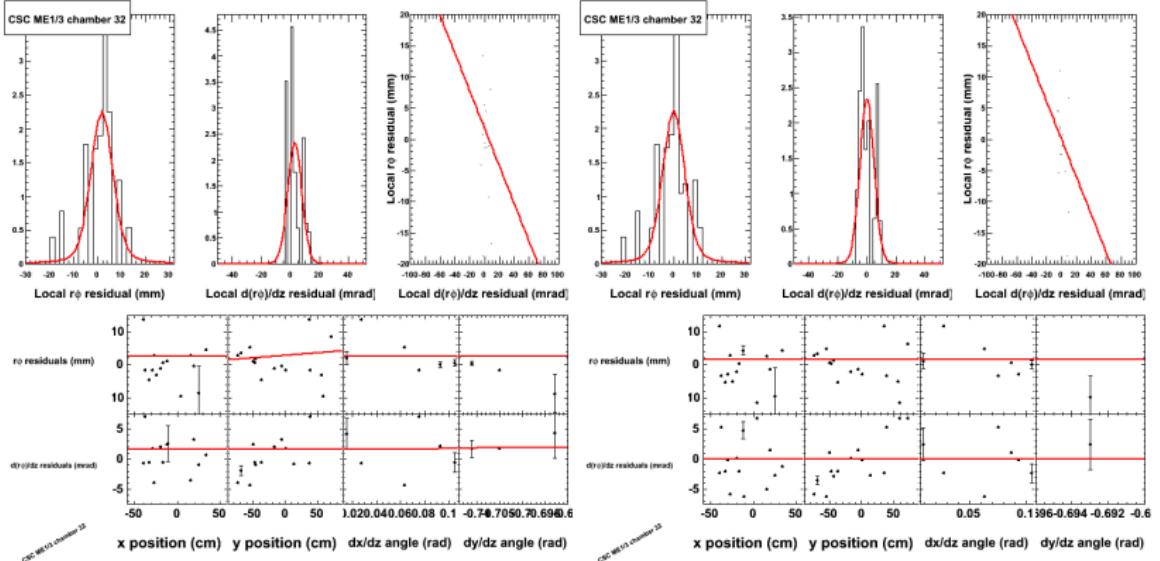


Fit functions

Jim Pivarski 302/21



before (left) and after (right) individual chamber alignment

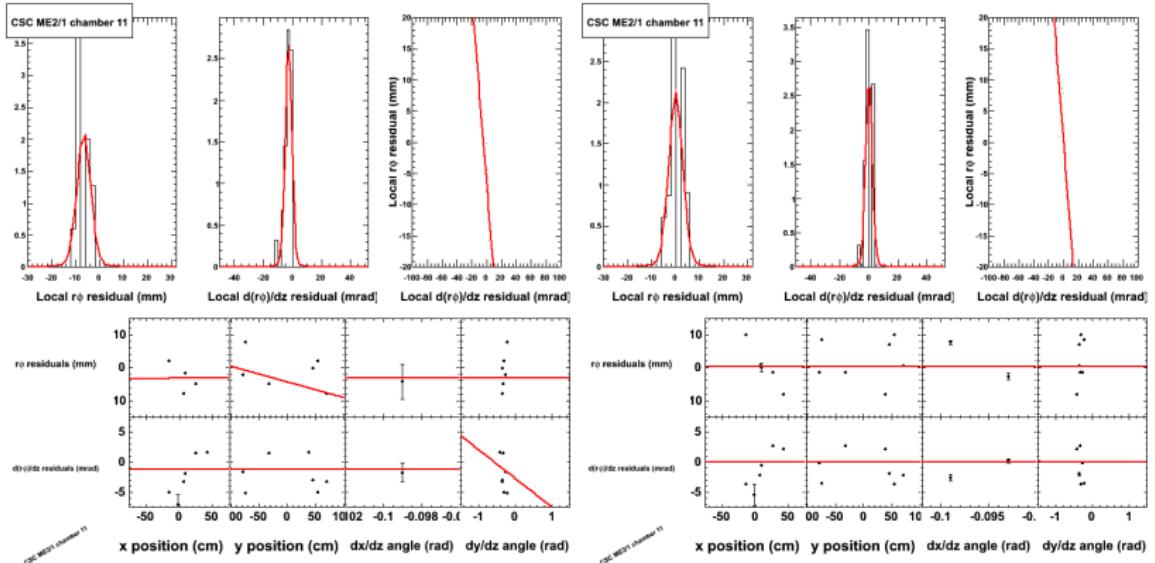


Fit functions

Jim Pivarski 303/21



before (left) and after (right) individual chamber alignment

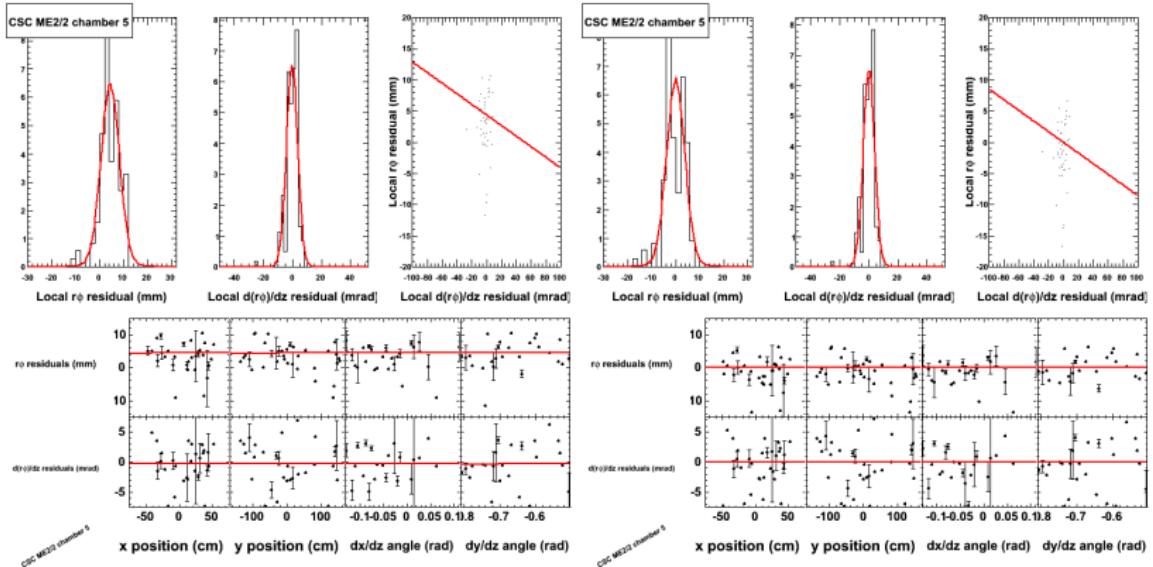


Fit functions

Jim Pivarski 304/21



before (left) and after (right) individual chamber alignment

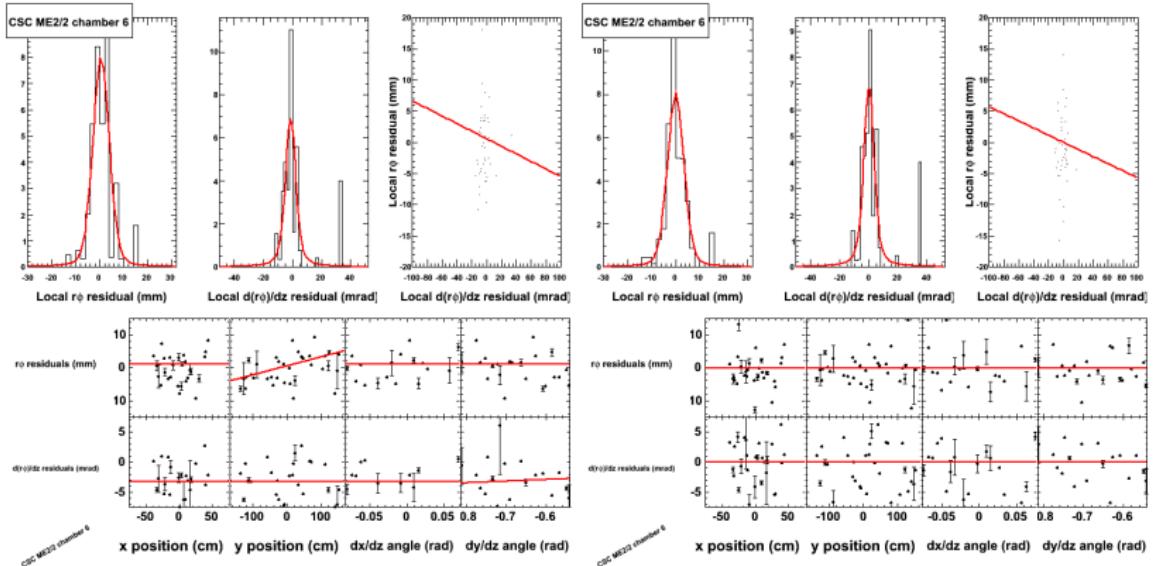


Fit functions

Jim Pivarski 305/21



before (left) and after (right) individual chamber alignment

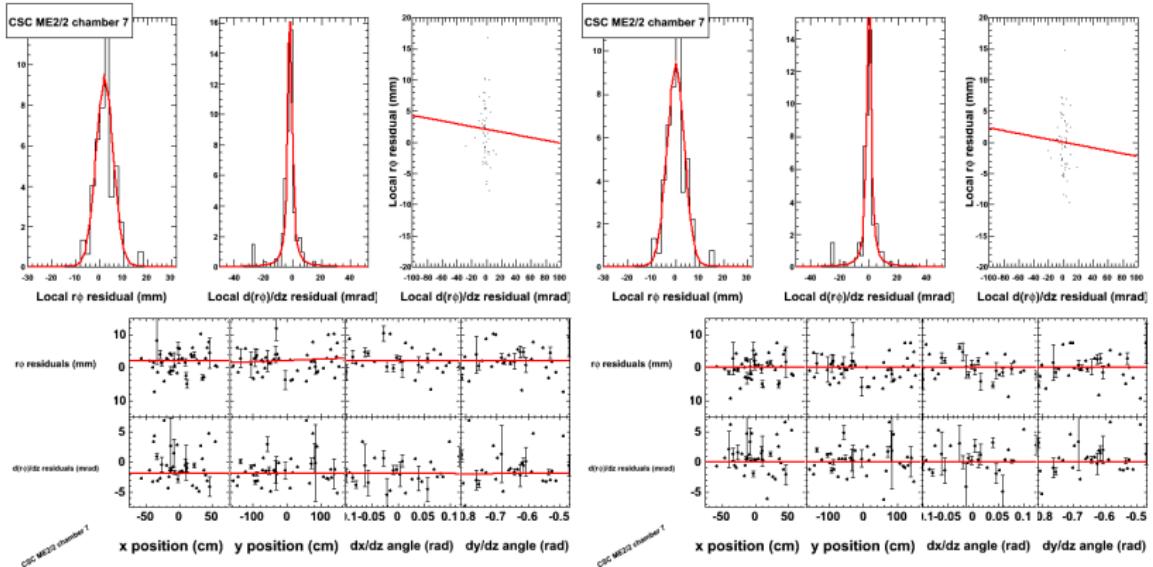


Fit functions

Jim Pivarski 306/21

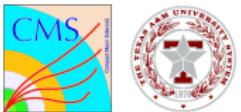


before (left) and after (right) individual chamber alignment

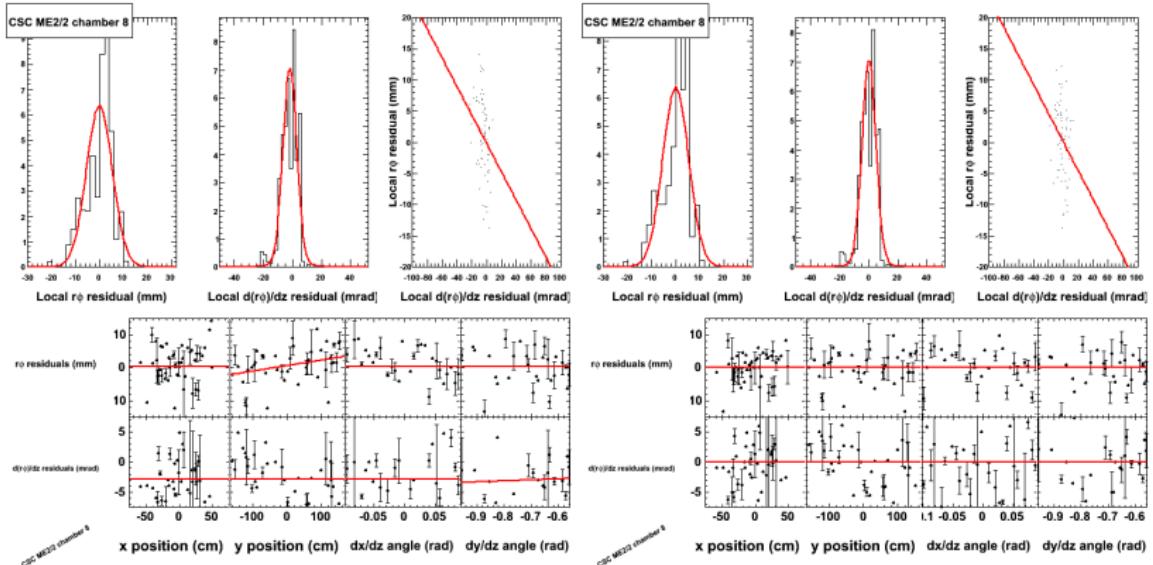


Fit functions

Jim Pivarski 307/21



before (left) and after (right) individual chamber alignment

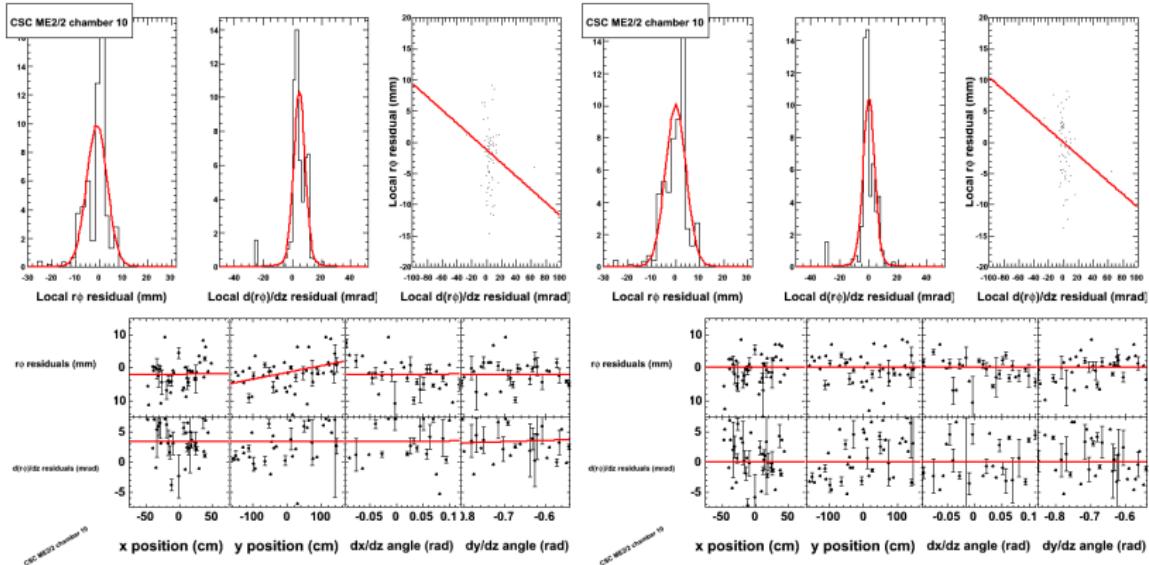


Fit functions

Jim Pivarski 308/21



before (left) and after (right) individual chamber alignment

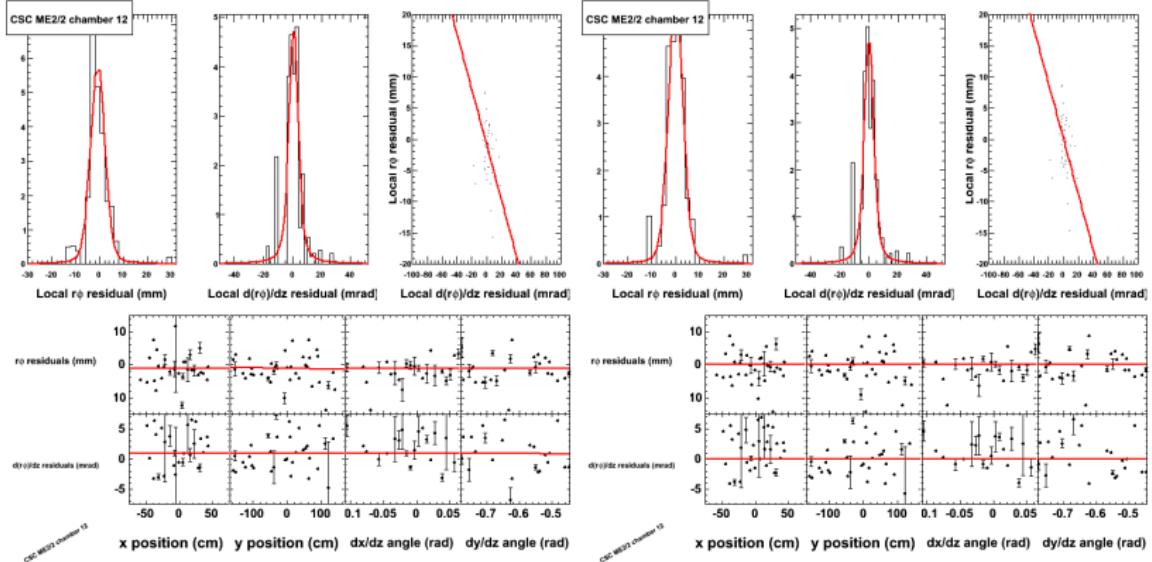


Fit functions

Jim Pivarski 309/21

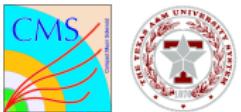


before (left) and after (right) individual chamber alignment

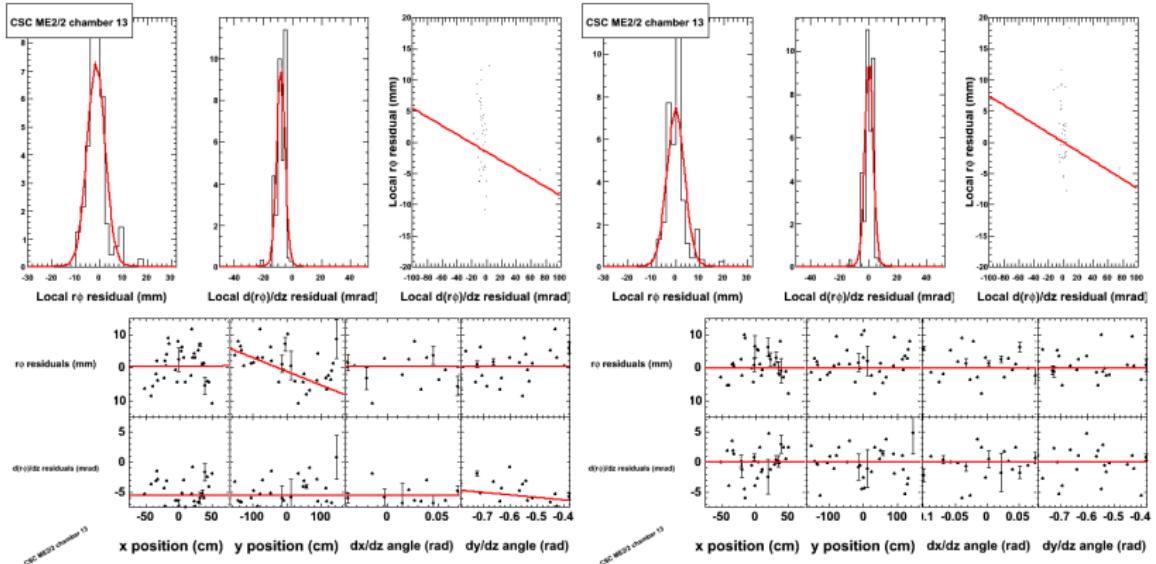


Fit functions

Jim Pivarski 310/21

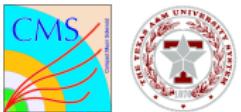


before (left) and after (right) individual chamber alignment

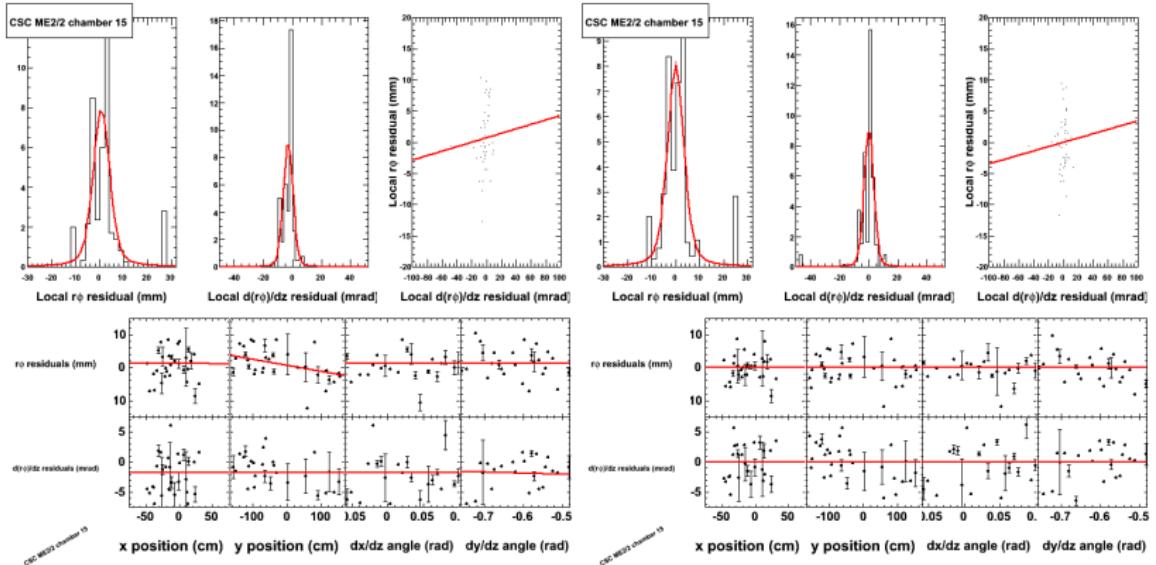


Fit functions

Jim Pivarski 311/21



before (left) and after (right) individual chamber alignment

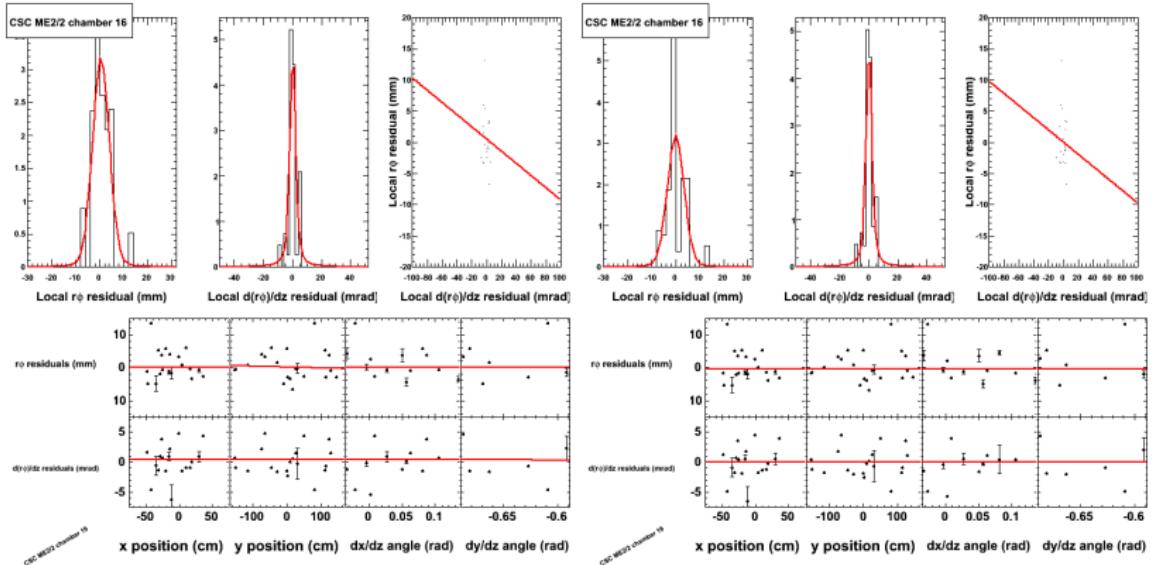


Fit functions

Jim Pivarski 312/21

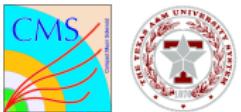


before (left) and after (right) individual chamber alignment

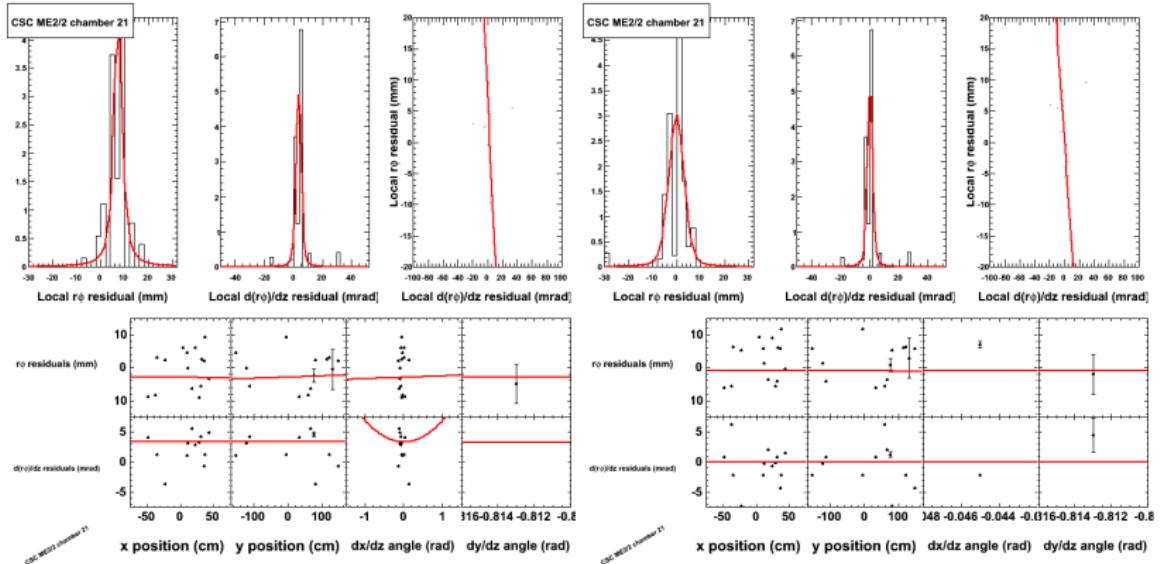


Fit functions

Jim Pivarski 313/21

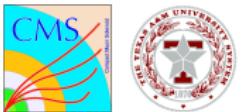


before (left) and after (right) individual chamber alignment

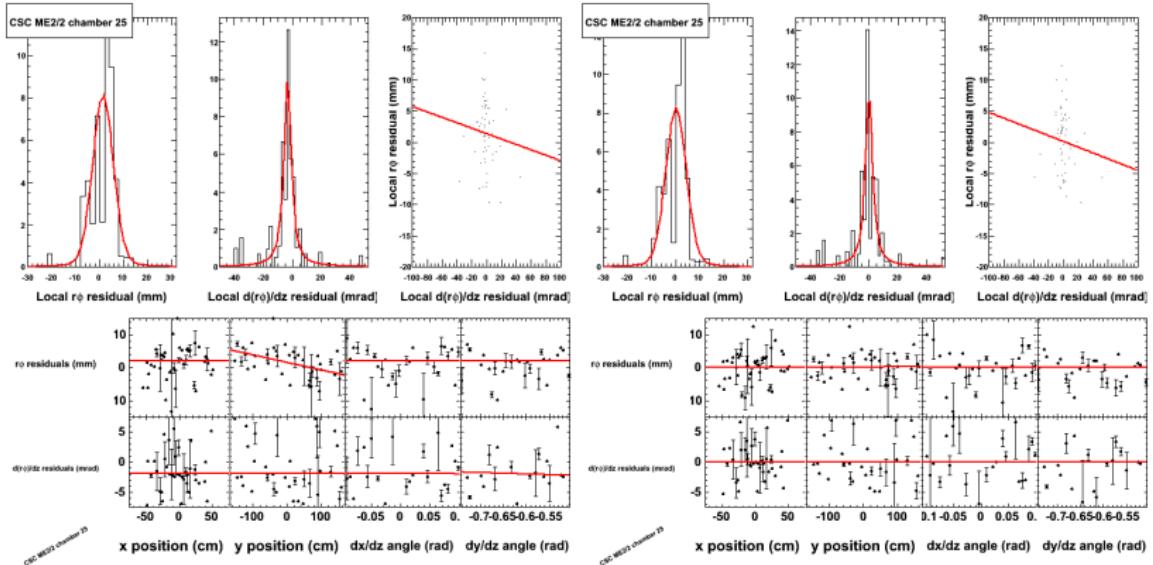


Fit functions

Jim Pivarski 314/21



before (left) and after (right) individual chamber alignment

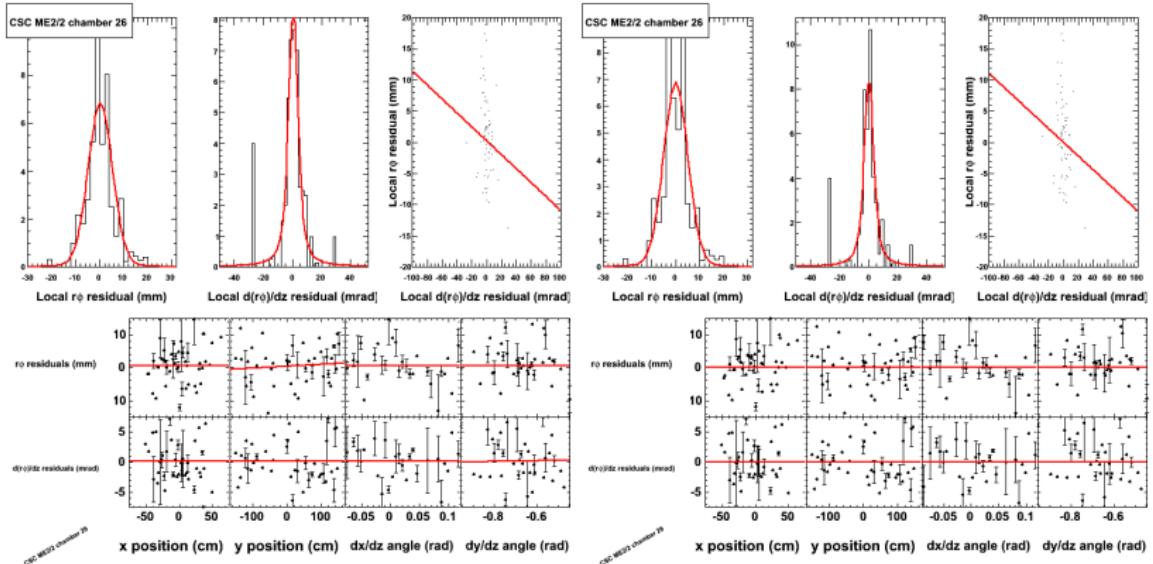


Fit functions

Jim Pivarski 315/21



before (left) and after (right) individual chamber alignment

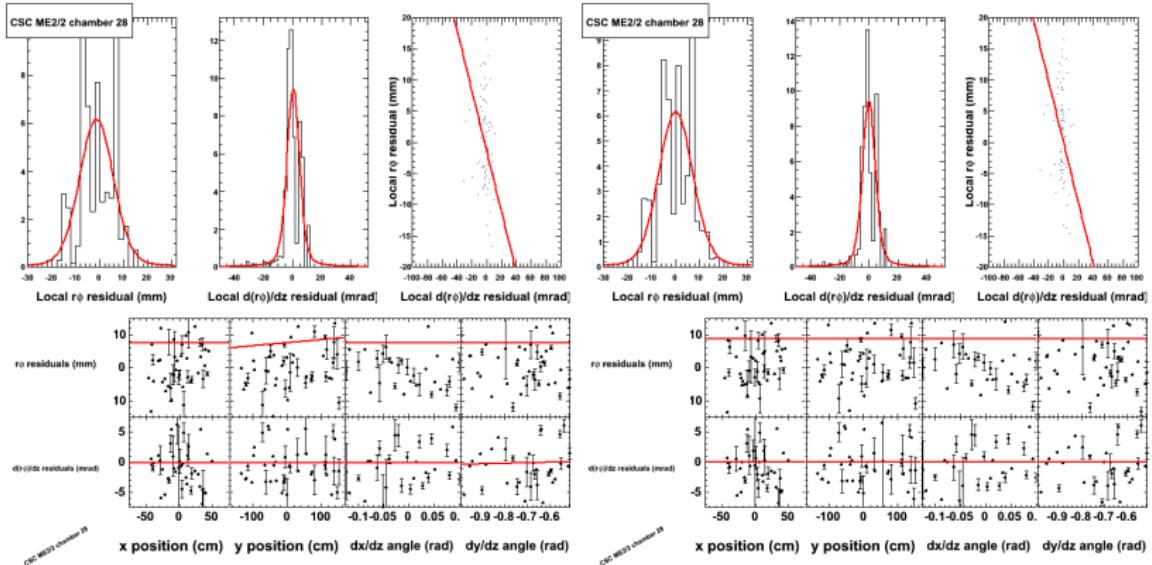


Fit functions

Jim Pivarski 316/21

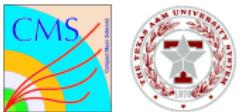


before (left) and after (right) individual chamber alignment

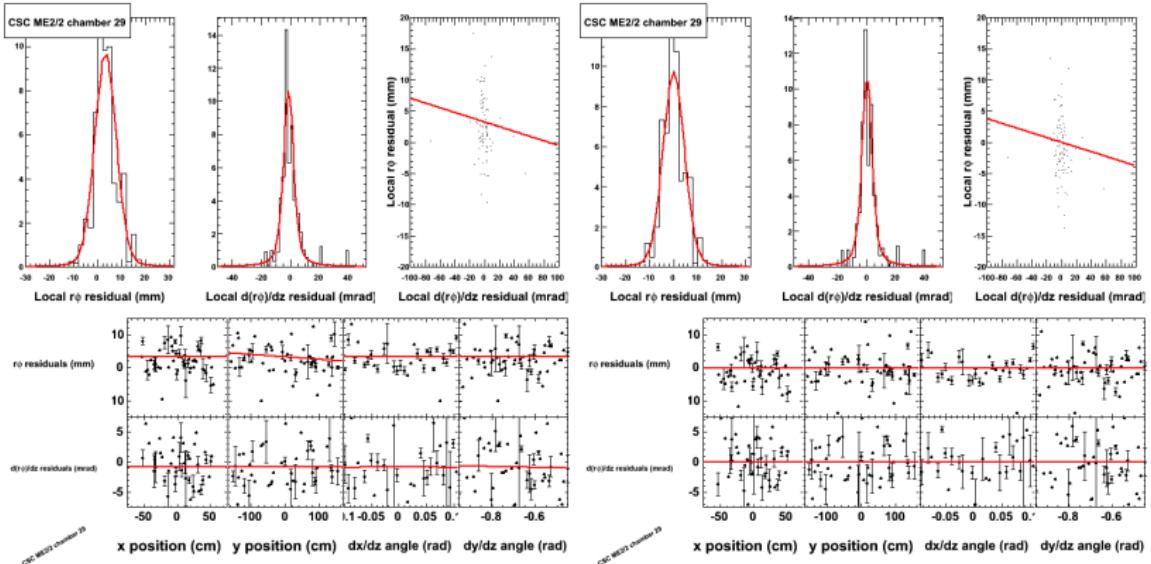


Fit functions

Jim Pivarski 317/21

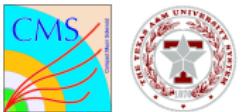


before (left) and after (right) individual chamber alignment

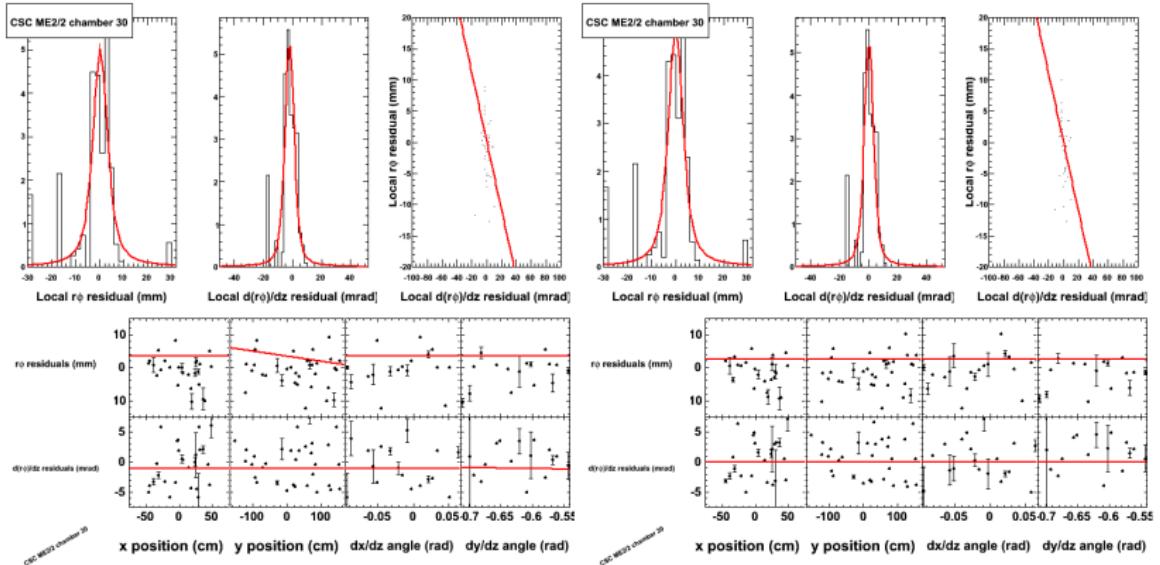


Fit functions

Jim Pivarski 318/21



before (left) and after (right) individual chamber alignment

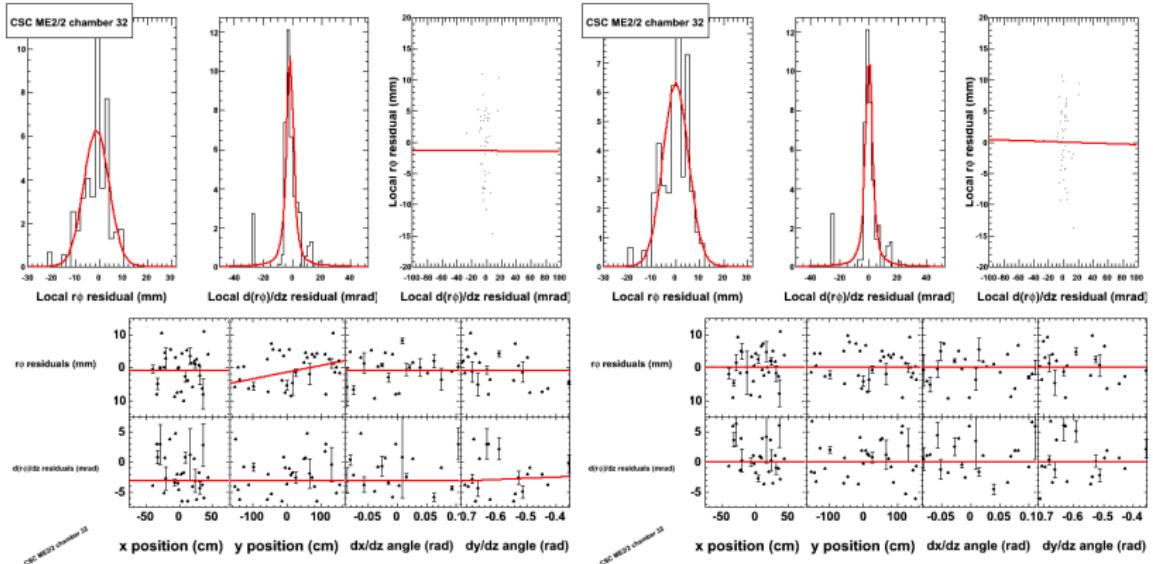


Fit functions

Jim Pivarski 319/21

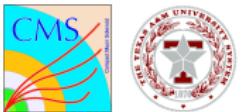


before (left) and after (right) individual chamber alignment

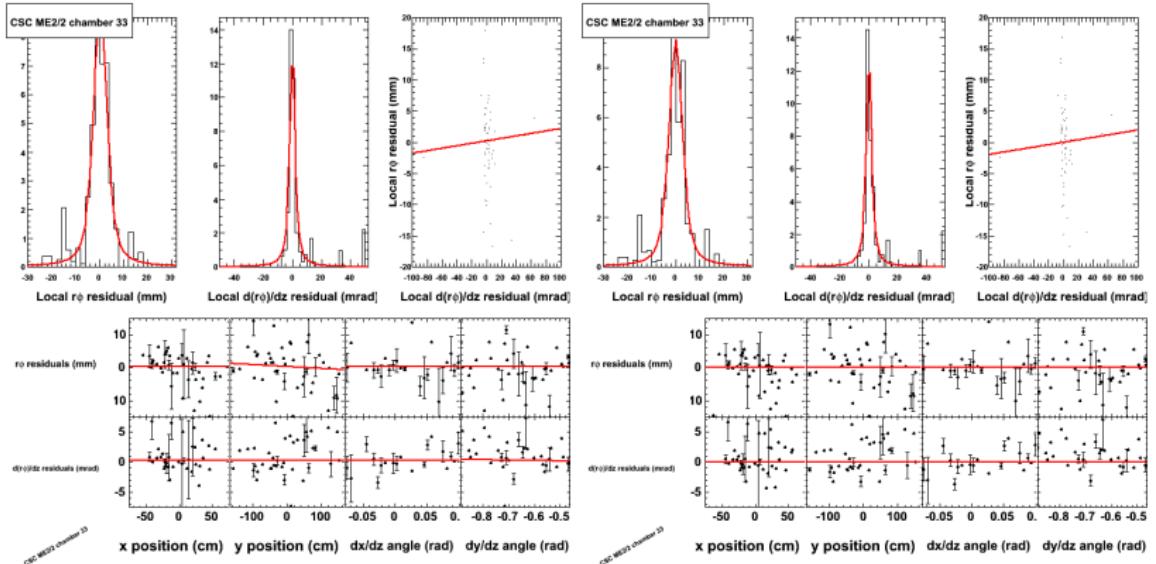


Fit functions

Jim Pivarski 320/21

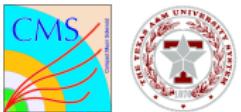


before (left) and after (right) individual chamber alignment

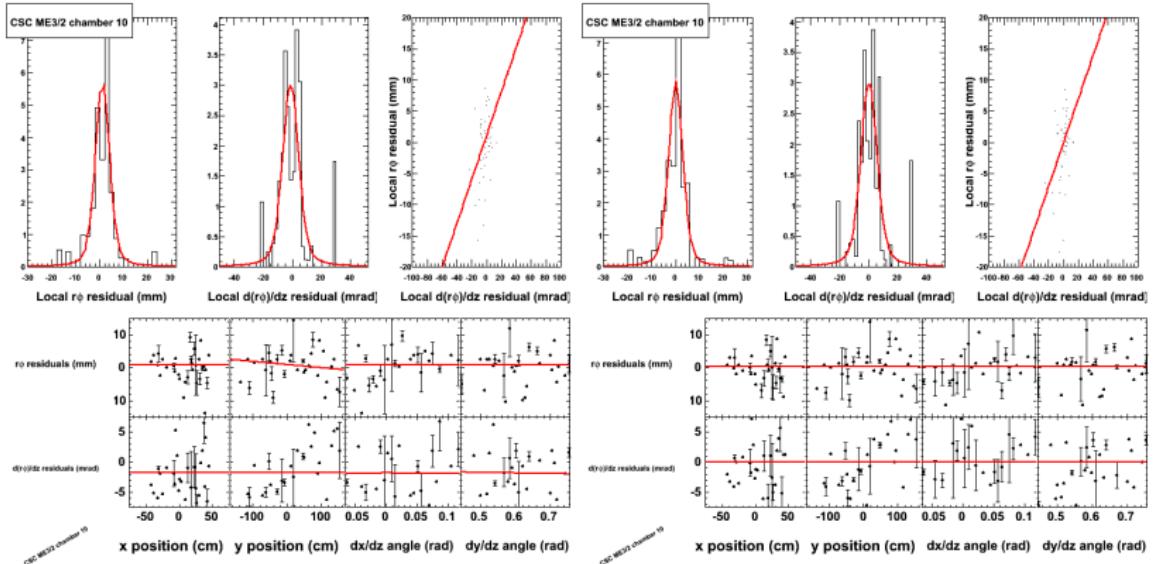


Fit functions

Jim Pivarski 321/21



before (left) and after (right) individual chamber alignment

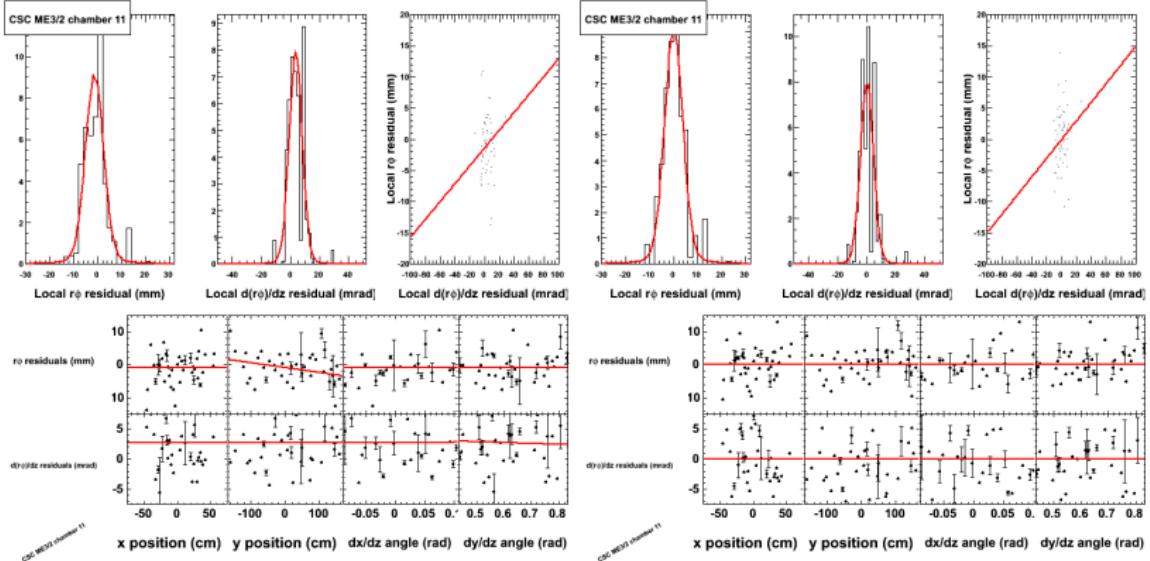


Fit functions

Jim Pivarski 322/21

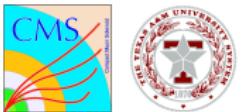


before (left) and after (right) individual chamber alignment

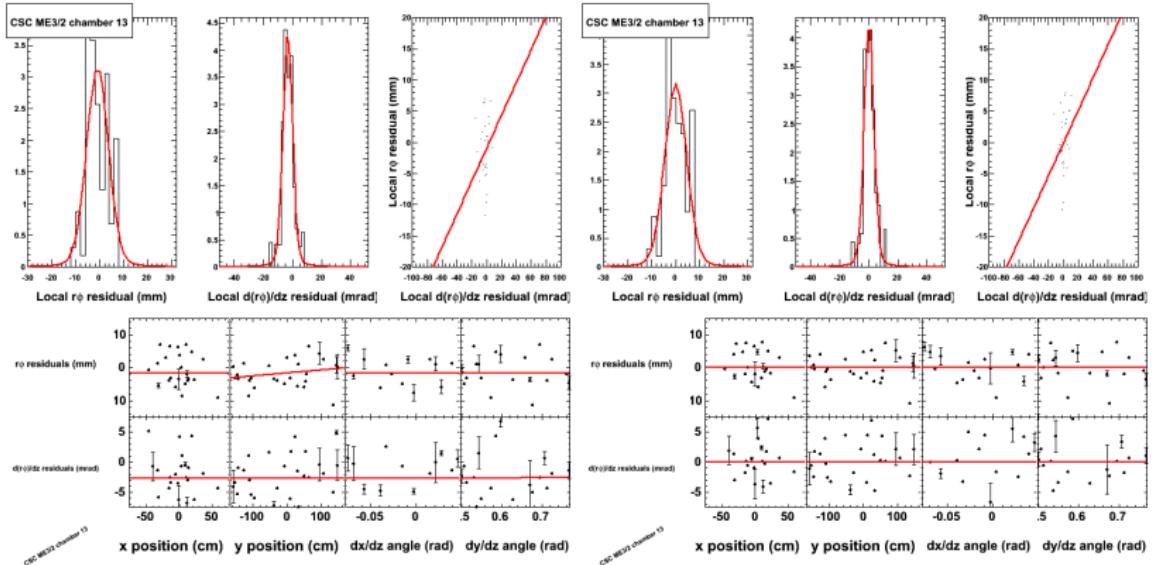


Fit functions

Jim Pivarski 323/21



before (left) and after (right) individual chamber alignment

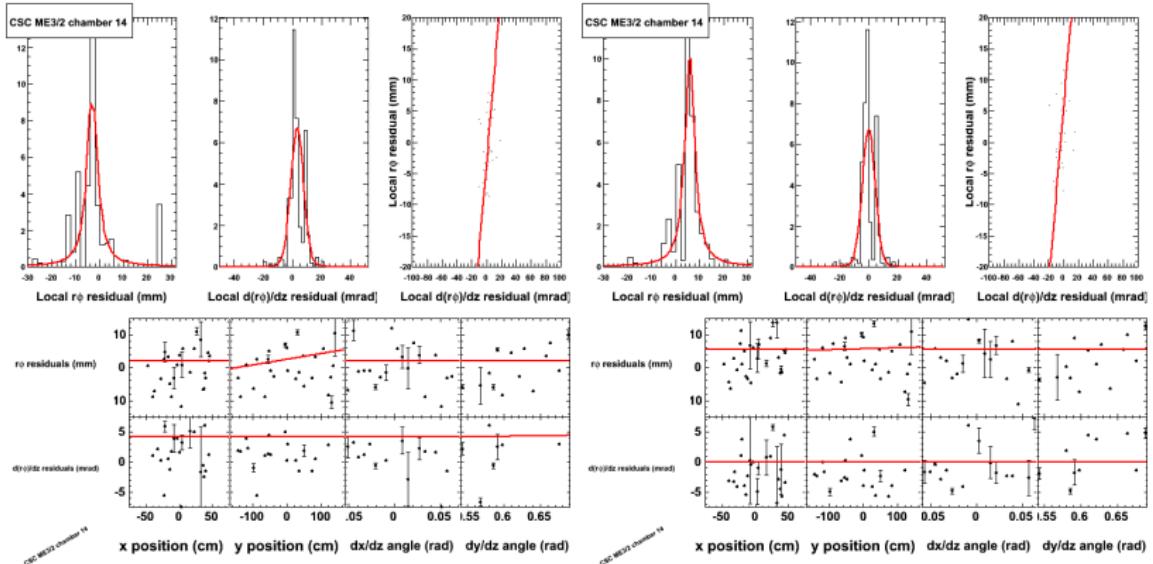


Fit functions

Jim Pivarski 324/21



before (left) and after (right) individual chamber alignment

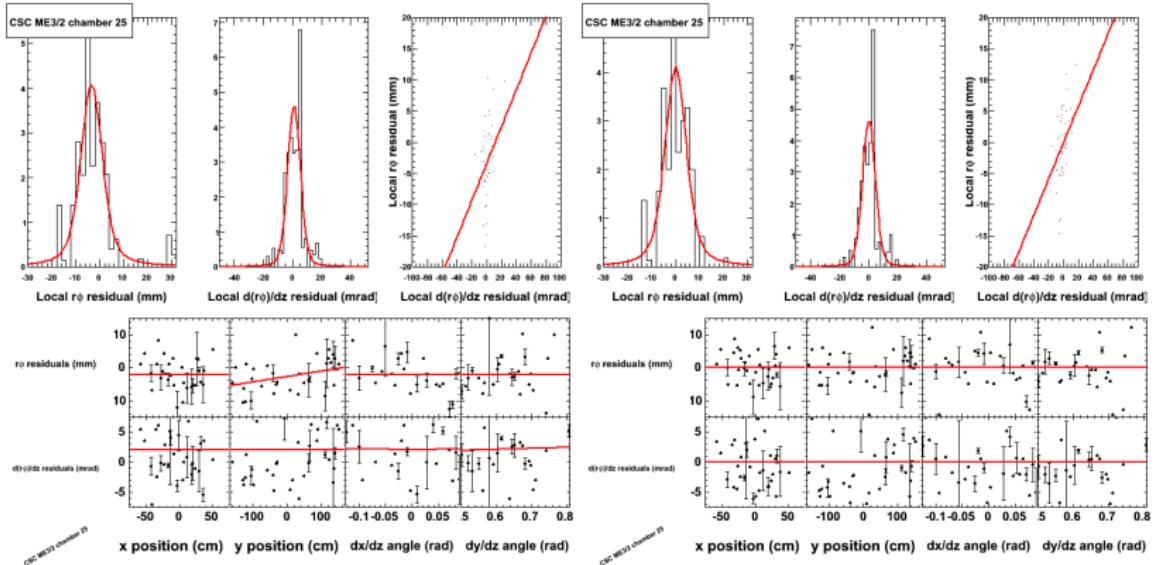


Fit functions

Jim Pivarski 325/21

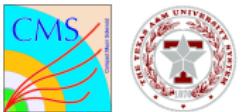


before (left) and after (right) individual chamber alignment

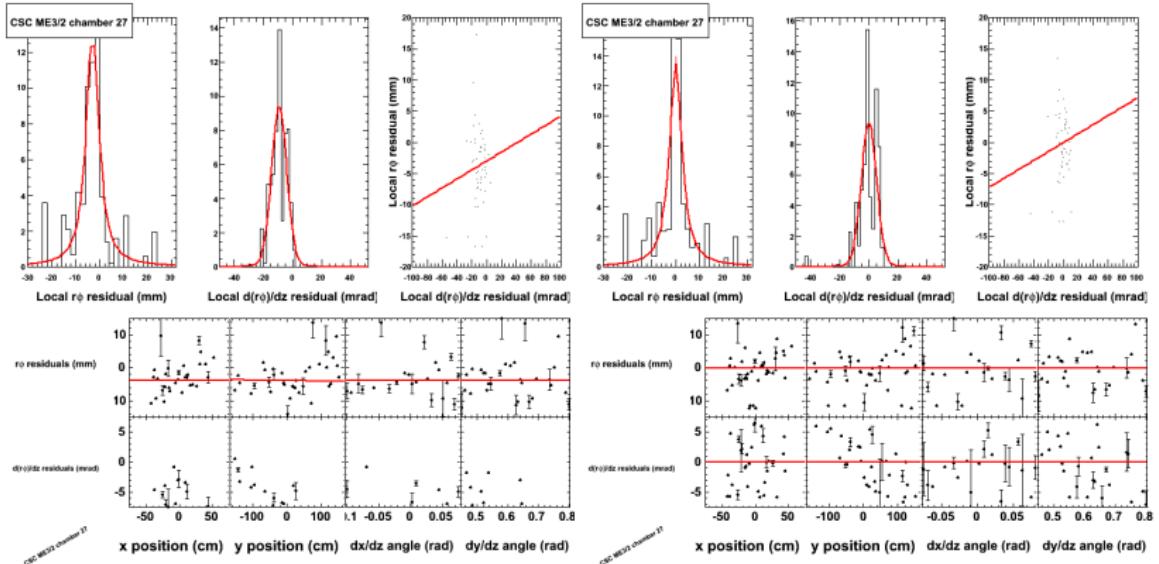


Fit functions

Jim Pivarski 326/21

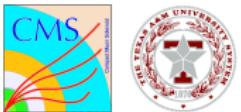


before (left) and after (right) individual chamber alignment

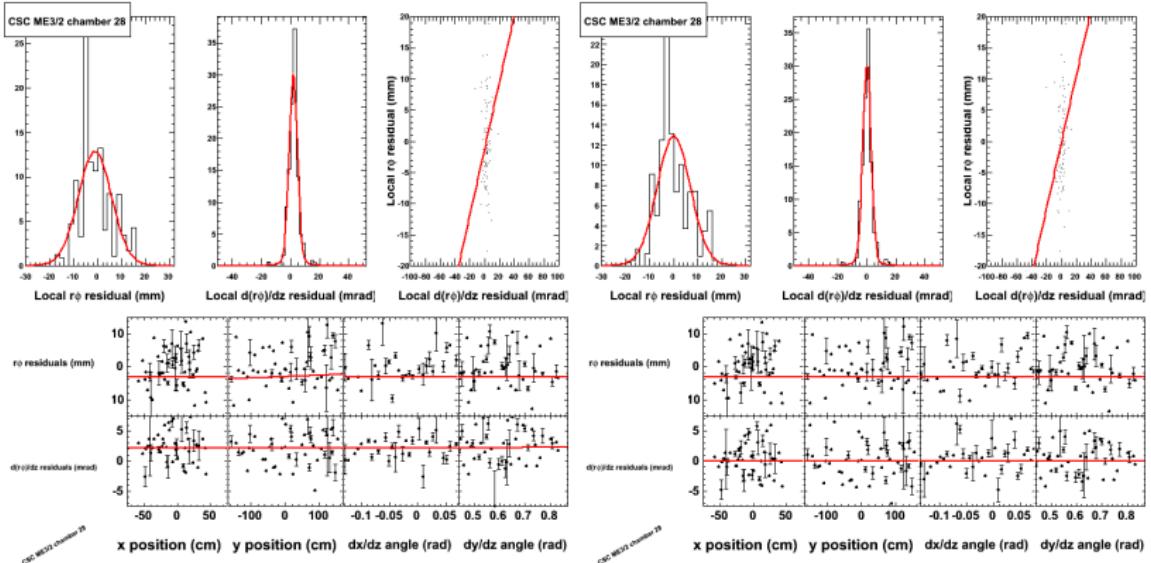


Fit functions

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before (left) and after (right) individual chamber alignment

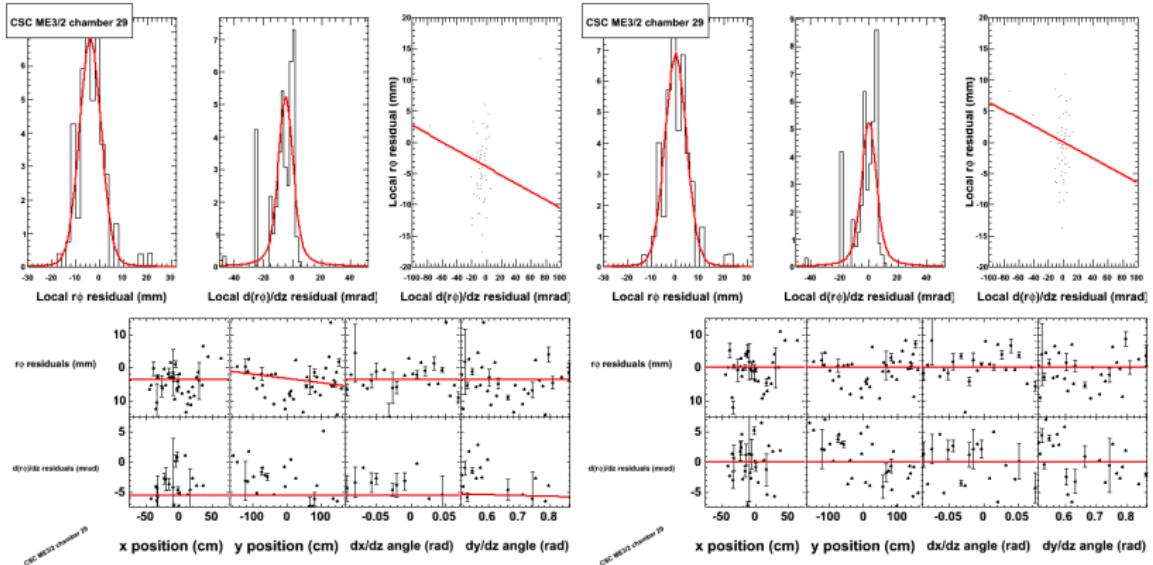


Fit functions

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before (left) and after (right) individual chamber alignment

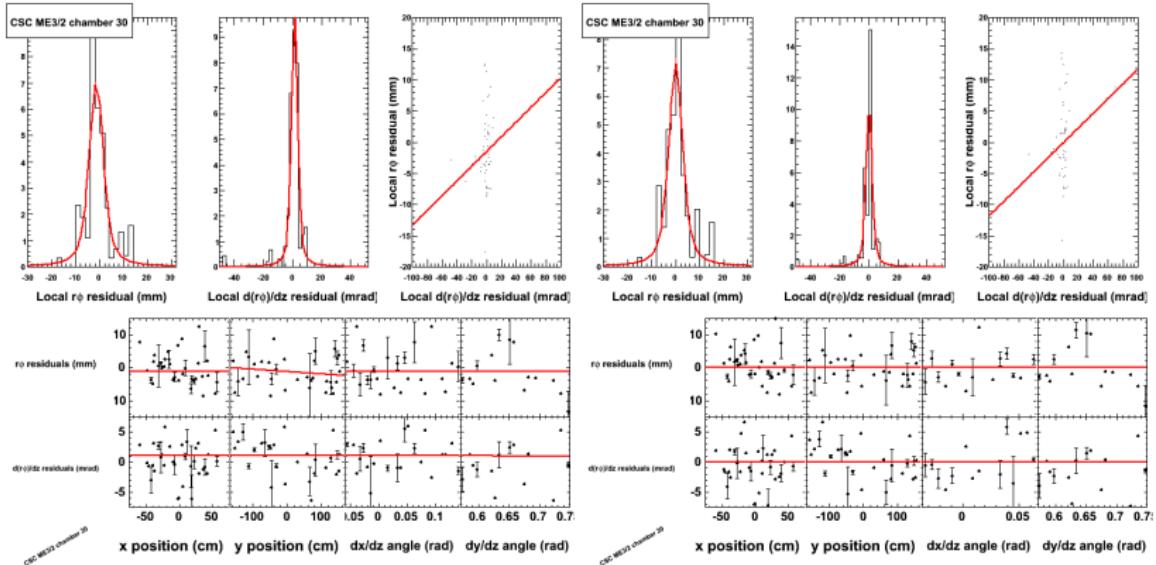


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before (left) and after (right) individual chamber alignment

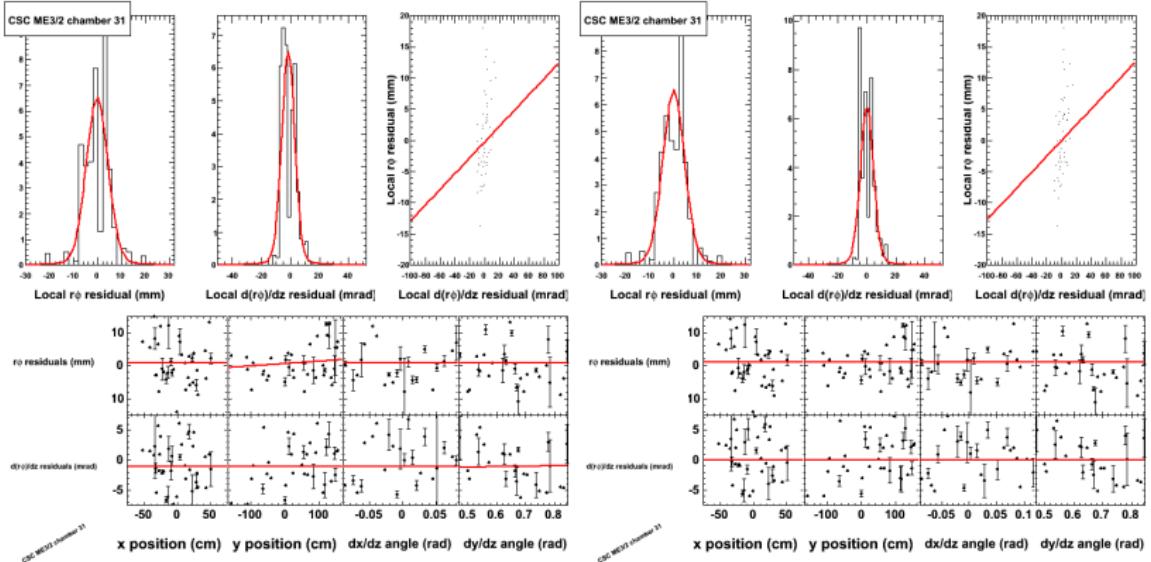


Fit functions

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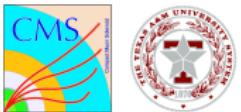
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before (left) and after (right) individual chamber alignment

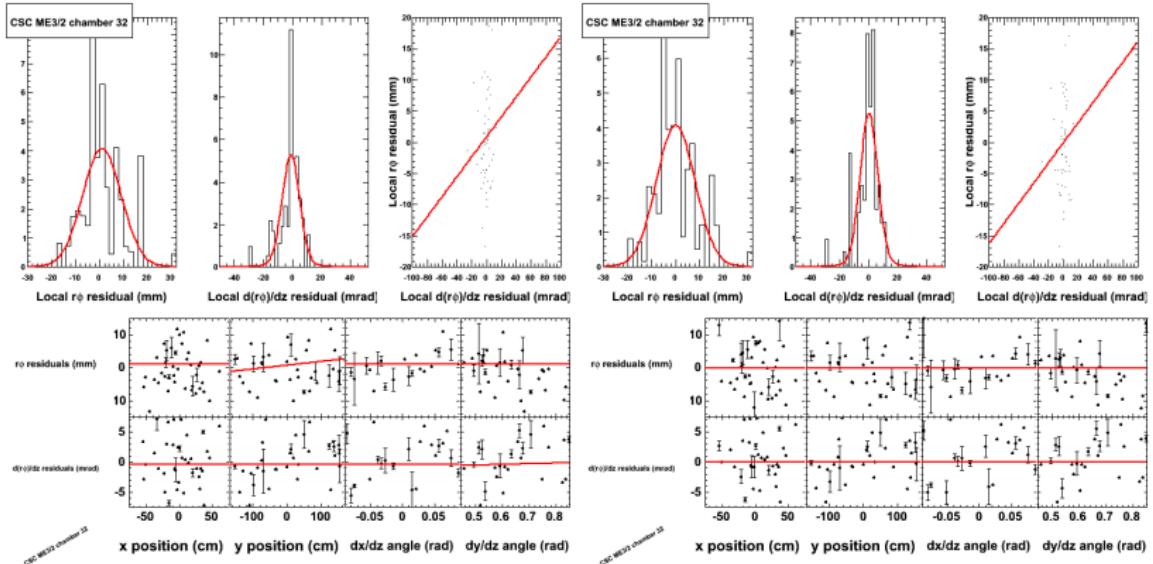


Fit functions

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before (left) and after (right) individual chamber alignment



Fit functions

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before (left) and after (right) individual chamber alignment

