



Jefferson Lab Alignment Group

Data Transmittal

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Checked:

: B1730

DETAILS:

M:\align\DATA\Step2A\HALLB\Region 2\160914A

Below are the results of the recent Region 2 detector alignment. Sectors 2 and 3 were positioned relative to the Torus magnet centerline with Z=0 at the hall center. Values are in a beam following coordinate system where +Y is up, +X is to the beam left and a +Z is downstream. In addition to the deltas between the measured values and the ideal coordinates, a plane was constructed through the measured fiducials to determine the rotation angles.

	Measured			Nominal			delta			mag
	X	Y	Z	X	Y	Z	X	Y	Z	
Sector 2										
R2_N1	180.577	248.67	2394.606	180.292	248.773	2394.546	0.286	-0.103	0.06	0.31
R2_N2	125.677	280.634	2394.756	125.299	280.523	2394.546	0.378	0.111	0.21	0.446
R2_S2_2	2341.283	1578.757	1361.262	2340.974	1578.724	1361.507	0.309	0.033	-0.246	0.396
R2_S2_3	196.751	2816.605	1361.448	196.729	2816.703	1361.504	0.022	-0.098	-0.057	0.115
Sector 3										
R2_N1	-125.42	280.715	2394.635	-125.466	280.848	2394.571	0.046	-0.133	0.064	0.155
R2_S3_1	-196.676	2817.067	1361.11	-196.816	2816.877	1361.154	0.139	0.19	-0.044	0.239
R2_S3_2	-2341.21	1578.779	1360.996	-2341.03	1578.836	1361.016	-0.186	-0.057	-0.02	0.195

Sector 3 was measured then retracted and repositioned to check repeatability.

Repeatability	Set 1			Repeat			delta		
	X	Y	Z	X	Y	Z	X	Y	Z
Sector 3									
R2_N1	-125.42	280.715	2394.635	-125.475	280.659	2394.592	-0.055	-0.056	-0.043
R2_S3_1	-196.676	2817.067	1361.11	-196.709	2817.058	1361.159	-0.033	-0.009	0.049
R2_S3_2	-2341.21	1578.779	1360.996	-2341.23	1578.81	1360.927	-0.016	0.031	-0.069

Rotation Angles.

	Rotation angles		
	Rx from Y	Ry from Z	Rz from X
Sector 2	-111.841	-166.971	-120.000
Sector 3	-111.850	166.961	-59.992