



Jefferson Lab Alignment Group

Data Transmittal

TO: J.P.Chen, A. Deur, J. LeRose

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FROM: J. Dahlberg

Checked:

DT_A859

Details:

Below are the results of the Hall A He3 collimator block survey. The coordinates are based on the relative position of the collimator blocks and base plate tooling balls measured prior to installation, and the as-set location of the tooling balls. The collimator blocks should always be slid into position till they hit the alignment pins, and then rotated clockwise slightly. This will reduce the repeatability error resulting from undersized pin diameters. The coordinates for the corner points are projected from two sides of the block. There is a small error on these points due to the radius cut from machining. The second set of data was taken after the target was aligned. The upstream base plate shifted 0.37mm upstream and 0.10 mm to the beam left at the downstream end. Without allowing for the uncertain error resulting from movement in the base plates, the relative accuracy of the survey is estimated to be within 0.12mm. The values are relative to ideal target center with +Z downstream and -X to the beam right.

LOCATION	(1 st Survey/Apr 17)		(2 nd Survey/ Apr 19)	
	Z	X	Z	X
BRI6U upst beam left X.		-17.98		-17.89
BRI6U upst beam left corner.	190.29	-17.98	189.92	-17.89
BRI6U dnst beam left Z.	219.93		219.56	
BRI6U dnst beam left corner.	219.94	-22.02	219.57	-21.91
BRS6U upst beam left X.		-14.06		-14.07
BRS6U upst beam left corner.	29.09	-14.04	28.72	-14.05
BRS6U dnst beam left Z.	58.88		58.51	
BRS6U dnst beam left corner.	58.90	-18.25	58.54	-18.24
BRS9U upst beam left X.		-14.20		-14.20
BRS9U upst beam left corner.	23.28	-14.17	22.91	-14.18
BRS9U dnst beam left Z.	52.70		52.33	
BRS9U dnst beam left corner.	52.73	-19.93	52.36	-19.92
BRI6D upst beam right Z.	338.48		338.50	
BRI6D upst beam right corner.	338.47	-29.08	338.49	-29.05
BRI6D dnst beam right X.		-31.55		-31.53
BRI6D dnst beam right corner.	368.46	-31.58	368.48	-31.56
BRS6D upst beam right Z.	417.96		417.98	
BRS6D upst beam right corner.	417.93	-38.19	417.95	-38.16
BRS6D dnst beam right X.		-40.59		-40.56
BRS6D dnst beam right corner.	447.99	-40.61	448.02	-40.58
BRS9D upst beam right Z.	302.16		302.18	
BRS9D upst beam right corner.	302.12	-32.09	302.14	-32.07
BRS9D dnst beam right X.		-36.15		-36.13
BRS9D dnst beam right corner.	331.84	-36.18	331.86	-36.16