



Jefferson Lab Alignment Group

Data Transmittal

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Details:

Below are the results of the Hall A target cell, and sieve slit survey performed prior to the August 2003 run at 9 degrees. The deltas shown represent the offset from ideal (in millimeters and degrees). A positive X indicates the target is to the beam left, positive Y is up, and positive Z is downstream. A positive pitch is counter-clockwise looking from the beam right, and a positive yaw is clockwise looking from above.

TARGET CELL	Del Z	Del X	Del Y	Pitch	Yaw
Tgt. cell warm	-1.34	0.21	-0.49	0.13	0.07
Ref. Tgt. cell warm	-0.42	0.09	105.23	0.11	-0.29
Tgt. cell cool	-1.38	-0.18	-0.03	0.00	0.23

The ideal X values for the slits are calculated using the as found distance of the slit from the nominal He3 target, i.e. (Dist x sin 9°). For the reported locations and deltas the Z axis runs along the main Hall A beamline, not the 9° line. The survey was performed while the small hole slit was in place, and as a result, the large hole slit location is a calculated position using the fiducial data. This predicted location relies on the repeatability of the slit holder when it is attached to the slit box. A 12.7mm vertical correction is applied for the large hole shim plate.

HADRON SEPTUM SIEVE SLITS AT 9°

	Z	X	Y
As set (small hole)	789.10	-124.63	1.79
Ideal		-124.97	0.00
Delta (revised)		0.34	1.79

Revised to the average upstream/downstream center of the slit.

Predicted as-set (large hole)	788.70	-125.01	-10.75
Ideal		-124.92	-12.70 (shim cor.)
Delta		0.09	1.95