Jefferson Lab Alignment Group

Data Transmittal

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DETAILS:

The Cerenkov chamber constructed by INFN to replace the existing JLAB sector 6 Cerenkov was pre-aligned on the Hall B floor. The pre-alignment involved adjusting the new chamber into the CLAS coordinate system, based on toolingball coordinates given to Jefferson Lab's alignment group by INFN.

The coordinates received by the alignment group are assumed to be the center of the toolingballs. The center of a standard 1/2 inch diameter toolingball is 5/16 of an inch above the reference shoulder of the tooling blocks.

The results below show the coordinates in the CLAS coordinate system, which is based on the center of CLAS with the +Z position following beam downstream, +X being transverse to the beam left, and +Y being up from the ZX plane. The deltas shown are locations. This means that a +Z would be further downstream, a +X would be further to the beam left and +Y would be higher than the ideal Y coordinate. The found standard errors are estimates from our least squares adjustment of the survey. Note that TP5 had been knocked off of the INFN chamber.

Target	X (mm)	Y (mm)	Z (mm)
TB1	1198.9	-764.9	4429.0
TB2	48.5	-1426.9	4439.3
TB3	2660.3	-2456.9	3203.6
TB4	2629.6	-2009.7	2824.4
TB5	1531.3	-2676.3	2857.1
TB6	1722.1	-2989.6	3199.2
TB7	794.9	-3541.6	3216.3
TB8	409.9	-3291.8	2836.5
TP1	1644.6	-1012.4	4066.6
TP2	2134.4	-1336.6	3550.2
TP3	1848.9	-1502.8	4154.8
TP4	31.0	-1893.0	4115.4
TP6	355.0	-2350.4	4167.5

- Deltas in the beam following system and coordinate standard error (millimeters)

Target	X bfs	Y bfs	Z bfs	X (se)	Y (se)	Z (se)
TB1	-13.4	4.8	-21.6	0.04	0.05	0.03
TB2	-12.5	3.2	-9.1	0.03	0.05	0.03
TB3	-11.4	-10.4	2.0	0.02	0.02	0.02
TB4	-10.2	-14.8	-3.3	0.03	0.05	0.02
TB5	-11.2	-12.7	3.1	0.02	0.02	0.02
TB6	-12.1	-9.0	6.7	0.02	0.02	0.02
TB7	-12.5	-8.2	10.8	0.04	0.02	0.04
TB8	-11.8	-11.5	8.0	0.05	0.02	0.03
TP1	-13.0	0.4	-18.0	0.04	0.04	0.03
TP2	-12.2	-6.3	-13.0	0.04	0.04	0.04
TP3	-12.2	1.8	-11.0	0.04	0.04	0.04
TP4	-12.3	0.4	-5.1	0.03	0.05	0.03
TP6	-12.9	0.8	-0.6	0.02	0.05	0.04