



Jefferson Lab Alignment Group

Data Transmittal

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Checked:

: B1921

DETAILS:

data: step2b\hallb\hps_19\190429a

The Pair Spectrometer and downstream Frascatti magnets were surveyed April 24th, 2019. Additionally the 2 rails upstream were located.

The ideal and found coordinates are shown in meters relative to the CEBAF coordinate system. The beam following coordinates (millimeters) are also shown and are described as follows: Positive x is to the beam left from ideal beam looking downstream; Positive y is the amount lower than beamline; negative z is amount upstream from the ideal position.

The angular displacements are shown in degrees. Positive yaw is the counter clockwise rotation about the Y axis; negative pitch is the clockwise rotation about the X axis (physics standard); positive roll is the clockwise rotation about the Z axis.

Note that the Pair Spectrometer (MPS2H01) is offset by 88.6 mm beam left from the straight ahead beamline.

	Ideal [m]			Found [m]			Beam Following [mm]		
	x[m]	y[m]	x[m]	x[m]	y[m]	z[m]	dx[mm]	dy[mm]	dz[mm]
FRASC2	-80.60000	103.35526	-419.93398	-80.59993	103.35519	-419.93730	-0.070	-0.067	3.320
MPS2H01	-80.68860	103.35526	-417.75288	-80.68889	103.35471	-417.75671	0.290	-0.554	3.830
Angular Displacements BFS [degrees]									
							dYaw	dPitch	dRoll
FRASC2							-0.00659	-0.00516	0.01719
MPS2H01							-0.07133	0.00974	-0.00057

The two I-Beam rails upstream of the pair spectrometer were measured. A plane was formed from points taken on the rails. The coordinates are in meters from the upstream Frascotti magnet. X and y are from beamline, negative z from the Frascotti center.

plane ibeam left				plane ibeam right			
Point Name	X[m]	Y[m]	Z[m]	Point Name	X[m]	Y[m]	Z[m]
p1	0.480	-1.279	-0.995	p1	-0.645	-1.277	-0.988
p2	0.633	-1.277	-0.998	p2	-0.496	-1.275	-0.998
p3	0.478	-1.276	-1.484	p3	-0.656	-1.273	-1.586
p4	0.635	-1.274	-1.470	p4	-0.518	-1.271	-1.603
p5	0.642	-1.271	-2.024	p5	-0.494	-1.268	-1.997
p6	0.474	-1.272	-2.001	p6	-0.647	-1.271	-1.969