



Jefferson Lab Alignment Group

Data Transmittal

TO: J. Gubelli, S. Benson

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Checked:

: F1983

DETAILS:

data : step2b\lerfiso\190329a

Some of the Isotope components ideal, as-found and beam following coordinates are shown below in meters in the LERF coordinate system. The data is from March 2019. 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 also 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.

Additionally, a center of a beampipe is shown on the 1X line as well as the tungsten target location. As requested, the as-found location toolingball coordinates for the DQ dipole are shown.

	Ideal [m]			Found [m]			Beam Following [mm]		
	x[M]	Y[M]	Z[M]	X[M]	Y[M]	Z[M]	BFS Dx	BFS dY	Bfs dZ
MQX2F01	20.00000	105.00000	44.24948	20.00008	105.00000	44.24953	-0.080	0.000	-0.054
MQX2F03	20.00000	105.00000	42.02138	20.00014	105.00011	42.02138	-0.140	0.110	0.000
MDQ2F04	19.96269	105.00000	41.00448	19.96267	104.99709	41.00448	0.001	-2.910	-0.019
MQX1X01	19.36948	105.00000	39.90165	19.36970	105.00009	39.90206	0.006	0.090	-0.467
1X pipe cl				18.71363	104.99714	38.73713			
TungTgt				18.62649	104.99982	38.57973			
Angular Data									
							Angular deltas [deg]		
							dYaw	dPitch	dRoll
MQX2F01							0.0467	0.02779	0.01146
MQX2F03							-0.01805	0.01919	-0.02091
MDQ2F04							0.02665	-0.01432	-0.01261
MQX1X01							0.04850	0.00430	0.00458

As found Tooling Ball Locations MDQ2F04			
Target	x[M]	Y[M]	Z[M]
A	19.74460	105.16066	41.19698
B	20.26628	105.16044	41.13828
C	20.16180	105.16043	40.73900
D	19.67810	105.16049	40.94370