Jefferson Lab Alignment Group

Data Transmittal

TO: D. Meekins, D. Gaskell | **DATE:** 05/31/2022

FROM: L. Balan | **Checked:** cg | **# :** C2034

DETAILS:

M:\align\DATA\Step2B\HALLC\Target\220509A
M:\align\DATA\Step2B\BSY\3C_12\220518A

Below are the results of the 05/22/2022 Hall C target survey. The upstream loop positions were determined by measuring the downstream face of the target block and projecting the location of the adjacent flange to it. The loop position at target centerline was calculated by shifting the upstream loop location normal to the block face the found distance. The ideal Z value of the downstream target block face is 103.02mm to target centerline (DWG TGT-301-1001-0110). The results are relative to a beam-following coordinate system; +X is left of beam, +Y is above beam, +Z is downstream. Angles are reported using the right-hand rule; +Pitch is a counter-clockwise rotation looking from left, +Yaw is a counter-clockwise rotation looking from above.

	Beam Following				
	X[mm]	Y[mm]	Z[mm]	Yaw[deg.]	Pitch[deg.]
Loop 1	-0.32	-0.02	-102.56	0.1116	0.0304
Loop 2	-0.24	-0.03	-103.04	0.1009	0.0328
Loop 3	-0.04	0.01	-103.31	0.1596	0.0013
Loop 1_Repeat	-0.32	0	-102.55	0.1185	0.0398
Carbon_Hole	0.48	-0.12	0.95		
Carbon_Hole_Repeat	0.43	-0.12	0.94		

Below are the results of the 05/18/2022 Hall C components survey. The found coordinates are in the CEBAF coordinate system. The Beam Following coordinates are the amount offset from the design (ideal) location. Distance to target is upstream of the design Hall C target.

	As Found			Beam Following			Distance
Component	X[m]	Y[m]	Z[m]	X[mm]	Y[mm]	Z[mm]	to target[m]
IPM3H07A	-122.67190	99.99732	-385.75428	-0.03	-0.18		3.2021
IHA3H07A	-122.82501	99.99742	-385.95351	-0.15	-0.08	-0.12	2.9509
IPM3H07B	-123.25322	99.99705	-386.51288	-0.79	-0.45		2.2464
IHA3H07B	-123.68038	99.99757	-387.06748	-0.64	0.07	-0.66	1.5464
IPM3H07C	-123.84087	99.99755	-387.27714	0.30	-0.54		1.2823