



Jefferson Lab Alignment Group

Data Transmittal

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Checked: cg

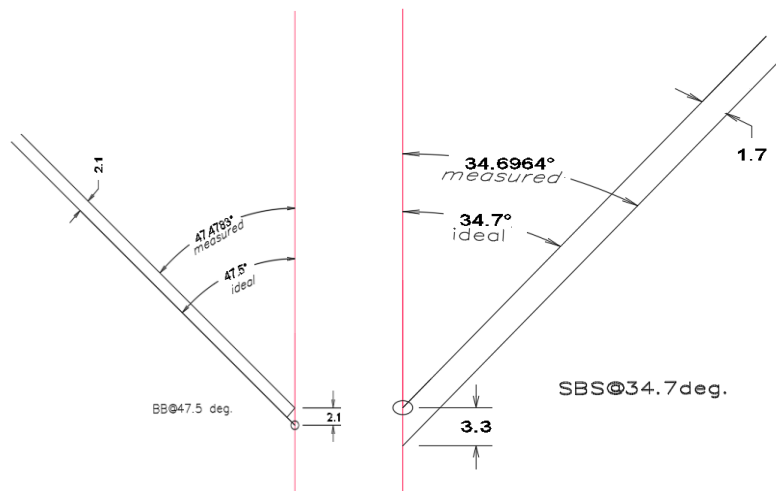
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DETAILS:

M:\align\DATA\Step2A\HALLA\GEN_22\220325A
M:\align\DATA\Step2B\HALLA\GEN_22\220706A
M:\align\DATA\Step2B\HALLA\GEN_22\220815A
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The survey results for a few of the components before Fall 2022 run are presented. Locations below are in a Beam Following System. In a BFS, a positive dx value is to the beam left looking downstream along beam from the ideal; a positive dy is higher vertically from ideal; a positive dz is downstream from ideal position. Additionally, the deltas from ideal rotation angles are shown in degrees. A positive dYaw is counter clockwise about the +y axis; a negative pitch is clockwise about the +x axis; a positive roll is clockwise about the +z axis.

	Beam Following (mm)			Rotations from Ideal (Degrees)		
	dx[mm]	dy [mm]	dz[mm]	RX(pitch)	RY(yaw)	RZ(roll)
Correctors						
G22BL201	0.27	0.22	-0.71	0.0986	0.4106	-0.0487
G22BL202	0.55	2.07	-1.14	0.1487	0.4041	0.0398
Big Bite @47.5 deg.						
MBBGEN1	-2.14	-1.74	-1.57	-0.0390	-0.0217	0.0080
DBBGEN2	15.91	6.93	87.47	0.2379	-0.3612	-0.2507
Super Big Bite						
SBSGEN1 @34.7 deg.	-1.71	5.32	-1.14	-0.0072	0.0036	0.0123
HCALGEN1 @34.7 deg	2.32	1.61	-4.11	0.1876	0.0443	0.0146



The following locations are referenced only to the *target ladder* at each of the 3 locations, not the actual cells or foils. For the Carbon Hole location, the ladder was positioned at the ideal height. For both the cell locations, the ladder was positioned at the height determined by the reference laser. The deltas are relative to ideal.

Target	dx[mm]	dy[mm]	dz[mm]	Pitch[deg.]	Yaw[deg.]	Roll[deg.]
WorkingCell	-0.25	3.83	-1.49	-0.0125	0.0624	0.0031
ReferenceCell	0.73	-4.06	-1.74	0.0109	0.0633	0.0579
CarbonHole	0.77	0.00	-1.97	0.0240	0.0702	

The sieve fiducials are reported relative to the ideal target center GEN22, and relative to the ideal Big Bite magnet position of 47.5 degrees.

Relative to GEN22			
Points	X[mm]	Y[mm]	Z[mm]
SP_1	831.92	294.25	927.02
SP_2	857.61	294.32	898.98
SP_3	856.90	-201.75	896.68
SP_4	934.41	-3.00	813.31
SP_5	934.87	294.49	814.65
Relative to BB @47.5deg.			
Points	X[mm]	Y[mm]	Z[mm]
SP_1	-121.43	294.25	1239.64
SP_2	-83.41	294.32	1239.64
SP_3	-82.19	-201.75	1237.56
SP_4	31.64	-3.00	1238.38
SP_5	30.97	294.49	1239.63



The Helmholtz coils as set positions are presented below:

Component	dx[mm]	dy[mm]	dz[mm]	Pitch[deg.]	Yaw[deg.]	Roll[deg.]
Coil @ -46.2 deg	-1.02	0.76	0.97	0.0198	-0.0314	0.0165
Coil @ -7.8deg.	0.70	2.10	3.49	-0.0226	0.0085	0.0405