



Jefferson Lab Alignment Group

Data Transmittal

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FROM: J. Dahlberg

Checked:

: A1556

DETAILS:

Data: 2B\Halla\tgtcan\140313a, 2B\Halla\tgt\2014\140305a-140228a, Aalign\E031314a-H031314a

Below are the results from the recent surveys carried out on the Hall A spectrometers and targets for the GMP experiment. Values for the targets, (in millimeters and degrees) are relative to ideal Hall A pivot center with a +X to the beam left, a +Y above, and a +Z downstream.

SPECTROMETER POINTING LEFT:

The central ray of the spectrometer is at -15.005 deg. The central ray is missing the defined target center by -1.90 mm upstream and -1.42 mm vertically (positive value is up). If the offset is corrected by secondary alignment, the spectrometer will be at -15.018 deg. To achieve this optimal setting, make the following adjustments. Horizontal corrections: Move rear jacks along tangent -1.93 mm upstream. 9 Par Aposter Val : 0.11 (mm) 3dd stdev : 1.63

SPECTROMETER POINTING RIGHT:

The central ray of the spectrometer is at 33.020 deg. The central ray is missing the defined target center by -3.40 mm upstream and -2.11 mm vertically (positive value is up). If the offset is corrected by secondary alignment, the spectrometer will be at 32.996 deg. To achieve this optimal setting, make the following adjustments. Horizontal corrections: Move rear jacks along tangent -3.46 mm upstream. 9 Par Aposter Val : 0.24 (mm) 3dd stdev : 2.13

COLLIMATORS (coordinates on upstream face at fiducial holes at specified angle):

FIDUCIAL	Z	X	Y	ANGLE	FIDUCIAL	Z	X	Y	ANGLE
LCOLA	1009.12	-53.57	-87.75		RCOLA	1023.08	-53.62	-93.72	
LCOLB	1009.37	53.75	-87.57		RCOLB	1023.05	53.64	-93.64	
LCOLC	1010.47	53.4	94.8		RCOLC	1022.97	53.62	88.64	
LCOLD	1009.98	-53.87	94.61		RCOLD	1022.81	-53.66	88.67	
LCOLE	1003.34	0	3.61	15.1787	RCOLE	1016.57	0	-2.54	32.7975

TARGET STACK	Z	X	Y	TARGET STACK	Z	X	Y
LOOP 1 US FLNG	-220.78	-0.82	-0.29	LOOP 1 US REP	-220.87	-0.85	-0.27
LOOP 1 DS FLNG	-105.13	0	0.04	LOOP 1 DS REP	-105.16	-0.05	0.05
LOOP 2 US FLNG	-220.37	0.63	-0.32				
LOOP 2 DS FLNG	-104.69	1.26	-0.17				
EMPTY 2	-1.09	0.96	0.01	EMPTY 2 REP	-1.22	0.81	0.02
Carbon	0.23	1.29	-0.19				
OPTICS YAW	0.4668	CW from above		SOL LADD YAW	2.3362	CW from above	
OPTICS PITCH	0.0891	CW from beam left		SOL LADD PITCH	0.1191	CCW from beam left	

WIRE TARGET

	Z	X	Y
WIRE	0.39	0.19	-0.23
WIRE rep	0.41	0.08	-0.16