

Jefferson Lab Alignment Group

Data Transmittal

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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

FIDUCIAL Ζ Х Υ ANGLE FIDUCIAL Ζ Х Υ 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 RCOLC 1022.97 1010.47 53.4 94.8 53.62 88.64 LCOLD 1009.98 -53.87 94.61 RCOLD 1022.81 -53.66 88.67 LCOLE 1003.34 3.61 15.1787 RCOLE 1016.57 0 -2.54 32.7975 0

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

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 al	oove	SOL LADD YAW	2.3362	CW from a	bove
OPTICS PITCH	0.0891	CW from be	eam left	SOL LADD PITCH	0.1191	CCW from	beam left

WIRE TARGET

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