Jefferson Lab Alignment Group

Data Transmittal

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DETAILS: M:\align\DATA\Step2B\HALLB\170518A, M:\align\DATA\Step2A\BSY\2C_12\170516A

Below are the survey results of the I-Beam cross-sections for the 2H00 girder and the as-found and as-set Collimator locations. Coordinate systems are in both the CEBAF Mechanical system and a Beam Following System. In the BFS, a +X is beam left and a +Y is up.

12Gev HALL B CENTER IDEAL (METERS)		
X	Y	Z
-80.60000	103.35526	-398.82153

	FOUND MECHANICAL (METERS)						BFS DELTA (mm)	
I-BEAM	**X**	**Y**	**Z**				**X**	**Y**
US1	-80.49879	102.45213	-384.92249				-101.21	-903.13
US1	-80.70948	102.45239	-384.93021				109.48	-902.87
US2	-80.49734	102.45115	-385.22310				-102.66	-904.11
US2	-80.70818	102.45116	-385.22618				108.18	-904.10
MID1	-80.49697	102.45241	-386.18250				-103.03	-902.85
MID1	-80.70750	102.45267	-386.18358				107.50	-902.59
MID2	-80.49653	102.45178	-386.86012				-103.47	-903.48
MID2	-80.70716	102.45194	-386.85960				107.16	-903.32
DS1	-80.49638	102.45157	-387.62723				-103.62	-903.69
DS1	-80.70735	102.45134	-387.62780				107.35	-903.92
COLL AS-FOUND	**X**	**Y**	**Z**		**ENCODER**		**X**	**Y**
20MM_US	-80.60100	103.35473	-383.82959		2.9149		1.00	-0.53
20MM_DS	-80.60095	103.35486	-384.03521				0.95	-0.40
BLANK_US	-80.60196	103.35487	-383.82959		7.008		1.96	-0.39
BLANK_DS	-80.60199	103.35517	-384.03521				1.99	-0.09
12.8MM_US	-80.60178	103.35454	-383.82959		11.1108		1.78	-0.72
12.8MM_DS	-80.60197	103.35476	-384.03521				1.97	-0.50
COLL AS-SET	**X**	**Y**	**Z**				**X**	**Y**
20MM_US	-80.59998	103.35565	-383.82959		2.9801		-0.02	0.39
20MM_DS	-80.59999	103.35601	-384.03521				-0.01	0.75
BLANK_US	-80.60005	103.35496	-383.82959		7.0837		0.05	-0.30
BLANK_DS	-80.60006	103.35512	-384.03521				0.06	-0.14
12.8MM_US	-80.59997	103.35600	-383.82959		11.1848		-0.03	0.74
12.8MM_DS	-80.60017	103.35583	-384.03521				0.17	0.57

Below are the as-found and as-set locations of the Beam Stopper and the Faraday Cup. The locations for the Beam Stopper are to the upstream and downstream ends of the cylinder. The X correction should be made using the stepper motor. The Faraday Cup locations are to the two large upstream and downstream flanges. Unsuccessful efforts were made to move the Faraday Cup to the beam left (X ~6mm).

Beam Stopper	**FOUND MECHANICAL (METERS)**						**BFS DELTA (mm)**	
AS-Found	**X**	**Y**	**Z**				**X**	**Y**
Upstream	-80.60864	103.35037	-430.40817				8.64	-4.89
Downstream	-80.60966	103.34640	-430.66655				9.66	-8.86
Beam Stopper								
As-Set								
Upstream	-80.61094	103.35588	-430.40834				10.94	0.62
Downstream	-80.61175	103.35510	-430.66672				11.75	-0.16
Faraday Cup								
As-Found								
Upstream	-80.60590	103.33746	-430.95893				5.90	-17.80
Downstream	-80.60538	103.34005	-431.55455				5.38	-15.21
Faraday Cup								
As-Set								
Upstream	-80.59356	103.35411	-430.95884				-6.44	-1.15
Downstream	-80.59363	103.35516	-431.55447				-6.37	-0.10