



Jefferson Lab Alignment Group

Data Transmittal

TO: J. Segal, C. Munoz Camacho, J. LeRose

DATE: 22 Aug 2008

FROM: J. Dahlberg

Checked:

: A1181

DETAILS:

Below are the results of the recent survey performed on the Hall A Compton detector. The first set of data lists the height differences in a gravity based system between the bottom "strip" and the end of each wire where it intersects the frame. As requested, the detector was not leveled up for this survey. For the fiducialization surveys that follow, three separate coordinate systems were established. The first is centered on the large top support flange, the second on the lower beam right corner of the detector in the upper position, and the third on the detector in the lower position. Note that the 2nd and 3rd coordinate systems are rotated so that the Z axis is perpendicular to the upstream face of the detector. A +X is to the beam left, a +Z is downstream, and a +Y is up. All tooling ball coordinates are to the center of the sphere which is 7.94 millimeters above the surface and 1/4" hole it is placed in. Tooling ball #1 is the reference point on the top flange of the vertical drive.

HEIGHT DIFFERENCES FROM THE DETECTOR STRIP

Center of bottom strip - beam right	0.00
Center of bottom strip - beam left	-0.10
Beam left side of sloped wire	-0.10
Beam right side of sloped wire	-7.56
Beam left side of bottom wire.	-10.40
Beam right side of bottom wire.	-9.97

COORDINATE SYSTEM BASED ON TOP FLANGE

LOCATION	Z	X	Y
Top flange	0.00	0.00	0.00
T ball 1 upper position.	58.19	1.01	283.11
T ball 1 lower position.	59.28	1.27	153.39
T ball 2	88.23	81.83	8.02
T ball 3	91.38	-78.13	8.07
T ball 4	-127.18	-299.56	20.42
T ball 5	-185.63	-253.88	19.73
T ball 6	-190.94	-3.86	20.42
T Ball 7	-195.79	246.11	20.92
Det. upst bot br in upper pos	40.92	-39.36	-167.66
Det. upst bot bl in upper pos	40.76	40.48	-167.84
Det. upst bot br in lower pos	41.48	-39.15	-297.27
Det. upst bot bl in lower pos	41.39	40.75	-297.57

Date : 22 Aug 2008

Transmittal # : A1181

COORDINATE SYSTEM BASED ON DETECTOR IN UPPER POSITION

LOCATION	Z	X	Y
Top flange	-32.61	39.07	169.54
T ball 1 upper position	39.30	39.33	449.48
T ball 1 lower position	34.07	39.88	319.86
T ball 2	56.08	120.69	173.42
T ball 3	58.88	-39.27	172.98
T ball 4	-159.32	-260.26	195.50
T ball 5	-217.63	-214.45	197.76
T ball 6	-222.34	35.58	199.23
T ball 7	-226.60	285.55	200.50
Det. upst bot br in upper pos.	0.00	0.00	0.00
Det. upst bot bl in upper pos.	0.01	79.84	0.00
Det. upst bot br in lower pos.	-5.75	0.49	-129.49
Det upst bot bl in lower pos.	-5.68	80.40	-129.61

COORDINATE SYSTEM BASED ON DETECTOR IN LOWER POSITION

LOCATION	Z	X	Y
Top flange	-26.76	37.98	299.11
T ball 1 upper position.	45.43	38.15	578.98
T ball 1 lower position	40.06	38.87	449.37
T ball 2	61.55	120.02	303.04
T ball 3	65.11	-39.92	302.34
T ball 4	-152.00	-261.99	324.72
T ball 5	-210.53	-216.47	327.11
T ball 6	-216.43	33.53	328.98
T ball 7	-221.90	283.48	330.64
Det. upst bot br in upper pos.	5.88	-0.67	129.48
Det. upst bot bl in upper pos.	5.51	79.17	129.61
Det. upst bot br in lower pos.	0.00	0.00	0.00
Det. upst bot bl in lower pos.	-0.31	79.91	0.00