



Jefferson Lab Alignment Group

Data Transmittal

TO: P. King, T. Horn, C. Munoz Camacho, J. Butler

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FROM: Kelly Tremblay

Checked:

: A1761

DETAILS:

data : step2b\halla\dvcs\161221a

Below are the results from the survey of the DVCS calorimeter on December 21st, 2016. The coordinates are based as follows. The origin is the hall A target. The positive z axis is along the incoming beam pointing downstream towards the dump; positive x is to the beam left; positive y is vertical. Units are millimeters. Angular units are degrees with positive yaw counter clockwise about the y axis; positive pitch is clockwise about the x axis; positive roll is clockwise about the z axis. The S value is the distance in the horizontal plane from the target.

The surveyed position is as follows:

Position	S[mm]	x[mm]	y[mm]	z[mm]	yaw ^o	pitch ^o	roll ^o
Pointing 1	1497.65	1443.27	-399.90	-2.61	-15.9214	-0.0865	-0.0733

The reference point for the calorimeter is the upstream face of the PbF2 crystals at a location as shown on drawing A00000-01-14-0900 sheet 2. The crystals were re-stacked and re-fiducialized on October 28th, 2016. The coordinates of the crystals relative to the reference coordinate system (yaw=pitch=yaw = 0.0°) are shown below.

Position 1			
Circle	x [mm]	y [mm]	z [mm]
ci_000	-622.68	-231.80	1379.60
ci_001	-621.80	-200.75	1379.91
ci_002	-623.86	-170.15	1379.37
ci_003	-621.79	-139.73	1380.02
ci_004	-622.32	-109.56	1379.92
ci_005	-620.55	-78.66	1380.47
ci_006	-622.23	-47.77	1380.05
ci_007	-621.39	-16.93	1380.34
ci_008	-621.34	13.59	1380.41
ci_009	-621.90	44.33	1380.30
ci_010	-620.99	74.85	1380.62
ci_011	-622.57	107.00	1380.23
ci_012	-621.34	137.35	1380.63
ci_013	-623.29	168.09	1380.13
ci_014	-621.18	198.85	1380.78
ci_015	-621.88	229.49	1380.64
ci_016	-593.32	-232.34	1387.83
ci_017	-592.31	-201.61	1388.16

Position 1			
Circle	x [mm]	y [mm]	z [mm]
ci_018	-594.25	-170.61	1387.67
ci_019	-592.69	-140.32	1388.16
ci_020	-592.76	-109.37	1388.20
ci_021	-591.19	-78.23	1388.69
ci_022	-592.72	-47.49	1388.32
ci_023	-591.90	-16.44	1388.60
ci_024	-591.82	14.30	1388.68
ci_025	-592.22	44.75	1388.63
ci_026	-591.56	75.27	1388.85
ci_027	-592.93	106.50	1388.53
ci_028	-591.94	136.41	1388.86
ci_029	-593.38	167.56	1388.51
ci_030	-591.46	198.51	1389.11
ci_031	-591.81	228.86	1389.06
ci_032	-563.54	-232.35	1396.17
ci_033	-562.78	-201.79	1396.44
ci_034	-564.31	-170.84	1396.06
ci_035	-562.77	-140.01	1396.55
ci_036	-562.98	-109.17	1396.54
ci_037	-561.80	-79.01	1396.93
ci_038	-562.99	-48.20	1396.65
ci_039	-562.39	-17.19	1396.87
ci_040	-562.13	13.66	1396.99
ci_041	-562.68	44.02	1396.89
ci_042	-562.13	74.88	1397.11
ci_043	-563.57	105.95	1396.75
ci_044	-562.41	136.42	1397.14
ci_045	-563.43	167.16	1396.90
ci_046	-561.82	198.44	1397.41
ci_047	-562.38	228.81	1397.30
ci_048	-533.82	-232.01	1404.49
ci_049	-532.79	-201.82	1404.84
ci_050	-534.90	-170.65	1404.30
ci_051	-533.30	-140.26	1404.80
ci_052	-533.72	-109.59	1404.73
ci_053	-532.05	-78.95	1405.26
ci_054	-533.57	-48.07	1404.88
ci_055	-532.73	-17.49	1405.18
ci_056	-532.63	12.83	1405.26
ci_057	-533.26	43.59	1405.13
ci_058	-532.89	73.88	1405.29

Position 1			
Circle	x [mm]	y [mm]	z [mm]
ci_059	-534.26	105.39	1404.96
ci_060	-533.24	135.72	1405.31
ci_061	-534.02	166.50	1405.14
ci_062	-532.38	197.03	1405.65
ci_063	-532.95	228.21	1405.54
ci_064	-504.18	-232.23	1412.80
ci_065	-503.25	-201.30	1413.11
ci_066	-505.10	-170.58	1412.65
ci_067	-502.92	-140.39	1413.30
ci_068	-503.89	-109.09	1413.09
ci_069	-502.65	-79.15	1413.50
ci_070	-503.98	-48.67	1413.17
ci_071	-503.51	-17.89	1413.36
ci_072	-503.06	12.85	1413.54
ci_073	-503.66	43.58	1413.43
ci_074	-503.36	74.34	1413.57
ci_075	-504.73	105.02	1413.24
ci_076	-503.32	135.52	1413.69
ci_077	-504.28	166.51	1413.47
ci_078	-503.10	197.09	1413.86
ci_079	-503.49	227.79	1413.80
ci_080	-474.95	-231.95	1420.98
ci_081	-474.06	-201.78	1421.28
ci_082	-475.35	-171.32	1420.98
ci_083	-473.95	-140.79	1421.43
ci_084	-474.45	-110.09	1421.34
ci_085	-473.59	-79.97	1421.63
ci_086	-474.34	-48.50	1421.48
ci_087	-473.63	-17.76	1421.73
ci_088	-473.58	12.67	1421.80
ci_089	-474.33	43.18	1421.64
ci_090	-473.73	73.46	1421.86
ci_091	-475.22	104.89	1421.50
ci_092	-473.69	135.30	1421.98
ci_093	-474.87	165.97	1421.70
ci_094	-473.44	196.28	1422.16
ci_095	-474.06	226.78	1422.04
ci_096	-445.41	-232.31	1429.26
ci_097	-444.52	-202.03	1429.56
ci_098	-445.91	-170.74	1429.23
ci_099	-444.20	-140.11	1429.76

Position 1			
Circle	x [mm]	y [mm]	z [mm]
ci_100	-444.89	-109.80	1429.62
ci_101	-443.96	-78.81	1429.94
ci_102	-444.91	-48.12	1429.72
ci_103	-444.11	-17.73	1430.00
ci_104	-444.22	12.94	1430.02
ci_105	-444.75	43.22	1429.93
ci_106	-444.43	74.09	1430.07
ci_107	-445.64	105.09	1429.79
ci_108	-444.65	135.36	1430.11
ci_109	-444.99	165.86	1430.07
ci_110	-444.01	196.63	1430.40
ci_111	-444.58	227.49	1430.30
ci_112	-415.59	-232.51	1437.61
ci_113	-415.24	-201.91	1437.76
ci_114	-416.17	-170.53	1437.56
ci_115	-414.99	-140.22	1437.95
ci_116	-415.49	-109.81	1437.86
ci_117	-414.57	-78.97	1438.17
ci_118	-415.27	-48.37	1438.02
ci_119	-414.70	-17.59	1438.24
ci_120	-414.73	12.72	1438.29
ci_121	-415.20	43.35	1438.20
ci_122	-414.93	74.26	1438.33
ci_123	-415.89	104.44	1438.12
ci_124	-415.17	135.27	1438.37
ci_125	-415.59	166.05	1438.32
ci_126	-414.72	196.81	1438.61
ci_127	-415.36	226.90	1438.48
ci_128	-386.08	-232.41	1445.88
ci_129	-385.51	-201.93	1446.09
ci_130	-386.38	-170.88	1445.90
ci_131	-385.22	-140.75	1446.27
ci_132	-385.98	-109.76	1446.12
ci_133	-385.02	-79.03	1446.44
ci_134	-385.80	-48.79	1446.28
ci_135	-385.38	-17.63	1446.45
ci_136	-385.49	12.73	1446.47
ci_137	-385.51	43.18	1446.52
ci_138	-385.68	73.67	1446.53
ci_139	-386.55	104.76	1446.33
ci_140	-385.59	134.99	1446.66

Position 1			
Circle	x [mm]	y [mm]	z [mm]
ci_141	-386.10	166.01	1446.57
ci_142	-385.12	196.41	1446.90
ci_143	-385.66	227.13	1446.80
ci_144	-356.37	-232.44	1454.20
ci_145	-356.19	-201.67	1454.30
ci_146	-356.78	-170.81	1454.19
ci_147	-356.02	-140.59	1454.46
ci_148	-356.14	-110.19	1454.48
ci_149	-355.66	-79.58	1454.67
ci_150	-356.30	-48.70	1454.54
ci_151	-355.90	-17.38	1454.71
ci_152	-355.76	12.94	1454.80
ci_153	-355.88	43.94	1454.82
ci_154	-356.34	74.93	1454.75
ci_155	-356.57	105.45	1454.73
ci_156	-356.00	136.05	1454.95
ci_157	-356.47	166.90	1454.87
ci_158	-355.65	197.63	1455.16
ci_159	-356.24	227.83	1455.05
ci_160	-326.95	-232.59	1462.44
ci_161	-326.99	-201.95	1462.48
ci_162	-327.19	-171.12	1462.48
ci_163	-326.53	-140.79	1462.72
ci_164	-326.22	-109.51	1462.86
ci_165	-326.26	-79.21	1462.90
ci_166	-326.79	-48.82	1462.81
ci_167	-326.65	-18.17	1462.91
ci_168	-326.19	12.85	1463.08
ci_169	-326.39	44.06	1463.08
ci_170	-326.90	74.37	1462.99
ci_171	-326.80	104.96	1463.07
ci_172	-326.47	136.05	1463.22
ci_173	-326.57	166.44	1463.25
ci_174	-326.31	197.42	1463.37
ci_175	-326.83	228.07	1463.28
ci_176	-297.57	-232.39	1470.67
ci_177	-297.41	-201.92	1470.77
ci_178	-297.75	-170.71	1470.73
ci_179	-296.91	-140.53	1471.01
ci_180	-296.52	-109.36	1471.17
ci_181	-296.96	-79.09	1471.11

Position 1			
Circle	x [mm]	y [mm]	z [mm]
ci_182	-296.96	-48.70	1471.16
ci_183	-297.21	-17.40	1471.15
ci_184	-296.73	13.37	1471.33
ci_185	-297.15	43.86	1471.27
ci_186	-297.40	74.26	1471.26
ci_187	-297.29	105.76	1471.34
ci_188	-297.02	136.04	1471.47
ci_189	-297.12	166.48	1471.49
ci_190	-296.91	196.79	1471.61
ci_191	-297.49	227.87	1471.50
ci_192	-268.02	-232.49	1478.95
ci_193	-267.94	-201.73	1479.02
ci_194	-268.03	-170.83	1479.06
ci_195	-267.94	-140.04	1479.13
ci_196	-267.33	-109.81	1479.35
ci_197	-267.74	-79.17	1479.29
ci_198	-267.46	-48.30	1479.43
ci_199	-267.59	-17.33	1479.44
ci_200	-267.54	13.27	1479.52
ci_201	-267.54	44.07	1479.57
ci_202	-268.05	75.01	1479.48
ci_203	-267.46	105.26	1479.69
ci_204	-267.49	136.12	1479.74
ci_205	-267.48	167.02	1479.80
ci_206	-267.46	197.64	1479.86
ci_207	-267.94	228.25	1479.77