



Jefferson Lab Alignment Group

Data Transmittal

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

DATE: 11/22/2016

FROM: Kelly Tremblay

Checked: (cwg)

: A1753

DETAILS:

data : step2b\halla\dvcs\161121a

Below are the results from the survey of the DVCS calorimeter on November 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
1	2497.06	-453.32	-1.09	2455.57	-10.6303	-0.0668	0.0753

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^o) are shown below.

Position 1			
Circle	x [mm]	y [mm]	z [mm]
ci_000	-680.44	-230.93	2412.90
ci_001	-679.61	-199.88	2413.10
ci_002	-681.79	-169.28	2412.73
ci_003	-679.75	-138.86	2413.16
ci_004	-680.36	-108.69	2413.08
ci_005	-678.63	-77.78	2413.44
ci_006	-680.41	-46.90	2413.16
ci_007	-679.63	-16.05	2413.34
ci_008	-679.64	14.46	2413.39
ci_009	-680.29	45.20	2413.31
ci_010	-679.43	75.72	2413.51
ci_011	-681.12	107.87	2413.24
ci_012	-679.93	138.22	2413.50
ci_013	-682.00	168.96	2413.17
ci_014	-679.92	199.72	2413.59
ci_015	-680.69	230.36	2413.48
ci_016	-650.45	-231.40	2418.38
ci_017	-649.49	-200.65	2418.60

ci_018	-651.55	-169.67	2418.26
ci_019	-650.01	-139.36	2418.59
ci_020	-650.16	-108.41	2418.60
ci_021	-648.63	-77.27	2418.92
ci_022	-650.27	-46.53	2418.67
ci_023	-649.49	-15.48	2418.85
ci_024	-649.50	15.26	2418.90
ci_025	-649.98	45.71	2418.85
ci_026	-649.38	76.23	2419.00
ci_027	-650.84	107.46	2418.78
ci_028	-649.89	137.38	2418.99
ci_029	-651.44	168.52	2418.75
ci_030	-649.54	199.48	2419.13
ci_031	-649.98	229.82	2419.10
ci_032	-620.04	-231.32	2423.94
ci_033	-619.32	-200.75	2424.12
ci_034	-620.96	-169.81	2423.86
ci_035	-619.46	-138.97	2424.17
ci_036	-619.74	-108.13	2424.17
ci_037	-618.60	-77.97	2424.42
ci_038	-619.89	-47.16	2424.22
ci_039	-619.35	-16.15	2424.36
ci_040	-619.16	14.71	2424.44
ci_041	-619.79	45.06	2424.36
ci_042	-619.30	75.92	2424.50
ci_043	-620.85	106.99	2424.25
ci_044	-619.73	137.46	2424.50
ci_045	-620.85	168.20	2424.34
ci_046	-619.28	199.48	2424.67
ci_047	-619.91	229.85	2424.59
ci_048	-589.67	-230.89	2429.50
ci_049	-588.68	-200.70	2429.72
ci_050	-590.91	-169.54	2429.35
ci_051	-589.35	-139.14	2429.68
ci_052	-589.86	-108.47	2429.63
ci_053	-588.21	-77.83	2429.97
ci_054	-589.84	-46.95	2429.72
ci_055	-589.05	-16.37	2429.90
ci_056	-589.02	13.95	2429.95
ci_057	-589.73	44.71	2429.86
ci_058	-589.43	75.00	2429.96
ci_059	-590.91	106.51	2429.73
ci_060	-589.92	136.84	2429.95

ci_061	-590.80	167.62	2429.83
ci_062	-589.20	198.15	2430.16
ci_063	-589.85	229.33	2430.09
ci_064	-559.40	-231.03	2435.03
ci_065	-558.50	-200.10	2435.23
ci_066	-560.48	-169.39	2434.92
ci_067	-558.32	-139.19	2435.35
ci_068	-559.38	-107.89	2435.20
ci_069	-558.18	-77.95	2435.45
ci_070	-559.62	-47.47	2435.24
ci_071	-559.20	-16.69	2435.36
ci_072	-558.81	14.05	2435.46
ci_073	-559.50	44.78	2435.39
ci_074	-559.27	75.54	2435.47
ci_075	-560.73	106.22	2435.25
ci_076	-559.36	136.72	2435.53
ci_077	-560.42	167.71	2435.39
ci_078	-559.28	198.29	2435.64
ci_079	-559.75	228.99	2435.59
ci_080	-529.53	-230.67	2440.49
ci_081	-528.69	-200.50	2440.68
ci_082	-530.09	-170.04	2440.47
ci_083	-528.72	-139.51	2440.76
ci_084	-529.30	-108.81	2440.70
ci_085	-528.49	-78.69	2440.89
ci_086	-529.33	-47.22	2440.77
ci_087	-528.69	-16.48	2440.93
ci_088	-528.69	13.95	2440.98
ci_089	-529.54	44.46	2440.86
ci_090	-528.99	74.74	2441.00
ci_091	-530.57	106.16	2440.76
ci_092	-529.09	136.57	2441.07
ci_093	-530.37	167.25	2440.87
ci_094	-528.98	197.56	2441.17
ci_095	-529.69	228.05	2441.09
ci_096	-499.35	-230.96	2446.00
ci_097	-498.50	-200.67	2446.20
ci_098	-500.01	-169.39	2445.97
ci_099	-498.34	-138.75	2446.31
ci_100	-499.10	-108.44	2446.21
ci_101	-498.23	-77.45	2446.41
ci_102	-499.27	-46.77	2446.27
ci_103	-498.51	-16.37	2446.45

ci_104	-498.70	14.30	2446.45
ci_105	-499.32	44.57	2446.38
ci_106	-499.06	75.45	2446.47
ci_107	-500.37	106.44	2446.28
ci_108	-499.43	136.72	2446.49
ci_109	-499.84	167.22	2446.46
ci_110	-498.91	197.99	2446.67
ci_111	-499.56	228.85	2446.59
ci_112	-468.89	-231.07	2451.57
ci_113	-468.61	-200.48	2451.67
ci_114	-469.63	-169.09	2451.52
ci_115	-468.49	-138.78	2451.77
ci_116	-469.07	-108.37	2451.71
ci_117	-468.20	-77.53	2451.90
ci_118	-468.98	-46.94	2451.80
ci_119	-468.48	-16.16	2451.93
ci_120	-468.58	14.15	2451.96
ci_121	-469.13	44.79	2451.91
ci_122	-468.93	75.70	2451.98
ci_123	-469.97	105.87	2451.83
ci_124	-469.31	136.71	2452.00
ci_125	-469.80	167.48	2451.95
ci_126	-468.99	198.24	2452.14
ci_127	-469.71	228.33	2452.05
ci_128	-438.74	-230.88	2457.08
ci_129	-438.23	-200.41	2457.22
ci_130	-439.19	-169.36	2457.08
ci_131	-438.07	-139.22	2457.33
ci_132	-438.92	-108.23	2457.22
ci_133	-438.01	-77.50	2457.42
ci_134	-438.88	-47.26	2457.31
ci_135	-438.52	-16.11	2457.41
ci_136	-438.72	14.26	2457.42
ci_137	-438.80	44.71	2457.45
ci_138	-439.04	75.19	2457.44
ci_139	-440.00	106.28	2457.31
ci_140	-439.09	136.52	2457.52
ci_141	-439.69	167.54	2457.45
ci_142	-438.76	197.94	2457.67
ci_143	-439.38	228.66	2457.59
ci_144	-408.39	-230.84	2462.63
ci_145	-408.28	-200.07	2462.69
ci_146	-408.96	-169.21	2462.61

ci_147	-408.25	-138.98	2462.78
ci_148	-408.45	-108.59	2462.78
ci_149	-408.03	-77.97	2462.90
ci_150	-408.75	-47.09	2462.81
ci_151	-408.41	-15.78	2462.92
ci_152	-408.33	14.54	2462.97
ci_153	-408.54	45.54	2462.98
ci_154	-409.08	76.53	2462.93
ci_155	-409.38	107.06	2462.91
ci_156	-408.87	137.66	2463.05
ci_157	-409.43	168.51	2462.98
ci_158	-408.66	199.23	2463.17
ci_159	-409.32	229.43	2463.09
ci_160	-378.33	-230.91	2468.12
ci_161	-378.46	-200.27	2468.14
ci_162	-378.73	-169.44	2468.14
ci_163	-378.12	-139.11	2468.29
ci_164	-377.87	-107.82	2468.37
ci_165	-378.00	-77.53	2468.40
ci_166	-378.59	-47.13	2468.33
ci_167	-378.53	-16.48	2468.38
ci_168	-378.12	14.54	2468.49
ci_169	-378.41	45.74	2468.49
ci_170	-379.00	76.06	2468.42
ci_171	-378.98	106.65	2468.47
ci_172	-378.70	137.73	2468.56
ci_173	-378.87	168.12	2468.57
ci_174	-378.68	199.11	2468.64
ci_175	-379.28	229.75	2468.58
ci_176	-348.32	-230.63	2473.61
ci_177	-348.23	-200.16	2473.66
ci_178	-348.65	-168.95	2473.63
ci_179	-347.86	-138.76	2473.81
ci_180	-347.54	-107.60	2473.92
ci_181	-348.06	-77.33	2473.86
ci_182	-348.13	-46.93	2473.90
ci_183	-348.44	-15.64	2473.88
ci_184	-348.03	15.13	2473.99
ci_185	-348.55	45.62	2473.94
ci_186	-348.87	76.03	2473.93
ci_187	-348.81	107.52	2473.98
ci_188	-348.62	137.80	2474.05
ci_189	-348.79	168.25	2474.07

ci_190	-348.64	198.55	2474.13
ci_191	-349.31	229.64	2474.05
ci_192	-318.12	-230.65	2479.12
ci_193	-318.13	-199.89	2479.17
ci_194	-318.28	-168.99	2479.18
ci_195	-318.27	-138.20	2479.23
ci_196	-317.72	-107.96	2479.37
ci_197	-318.21	-77.33	2479.32
ci_198	-317.99	-46.46	2479.40
ci_199	-318.20	-15.49	2479.41
ci_200	-318.22	15.12	2479.45
ci_201	-318.28	45.91	2479.47
ci_202	-318.88	76.85	2479.40
ci_203	-318.34	107.10	2479.55
ci_204	-318.45	137.96	2479.57
ci_205	-318.52	168.87	2479.60
ci_206	-318.56	199.49	2479.64
ci_207	-319.13	230.09	2479.58