



Jefferson Lab Alignment Group

Data Transmittal

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

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FROM: Kelly Tremblay

Checked: (cwg)

: A1757

DETAILS:

data : step2b\halla\dvcs\161212a

Below are the results from the survey of the DVCS calorimeter on December 12th, 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	2497.02	2452.61	-468.83	-1.31	-11.0050	-0.0610	0.0834

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	-695.64	-231.17	2408.48
ci_001	-694.82	-200.12	2408.69
ci_002	-697.00	-169.53	2408.31
ci_003	-694.96	-139.11	2408.73
ci_004	-695.58	-108.94	2408.65
ci_005	-693.86	-78.03	2409.02
ci_006	-695.64	-47.14	2408.72
ci_007	-694.86	-16.30	2408.91
ci_008	-694.87	14.21	2408.94
ci_009	-695.53	44.95	2408.86
ci_010	-694.67	75.47	2409.05
ci_011	-696.36	107.62	2408.77
ci_012	-695.18	137.98	2409.04
ci_013	-697.25	168.72	2408.69
ci_014	-695.17	199.48	2409.12
ci_015	-695.96	230.11	2409.01
ci_016	-665.68	-231.64	2414.16
ci_017	-664.73	-200.89	2414.39

Position 1			
Circle	x [mm]	y [mm]	z [mm]
ci_018	-666.79	-169.91	2414.03
ci_019	-665.27	-139.61	2414.36
ci_020	-665.43	-108.65	2414.37
ci_021	-663.89	-77.51	2414.70
ci_022	-665.53	-46.77	2414.42
ci_023	-664.76	-15.72	2414.61
ci_024	-664.76	15.02	2414.65
ci_025	-665.25	45.47	2414.60
ci_026	-664.66	75.99	2414.75
ci_027	-666.12	107.22	2414.51
ci_028	-665.18	137.13	2414.72
ci_029	-666.73	168.28	2414.47
ci_030	-664.84	199.23	2414.86
ci_031	-665.28	229.58	2414.82
ci_032	-635.30	-231.55	2419.92
ci_033	-634.60	-200.98	2420.09
ci_034	-636.23	-170.04	2419.82
ci_035	-634.75	-139.21	2420.15
ci_036	-635.02	-108.37	2420.13
ci_037	-633.90	-78.20	2420.39
ci_038	-635.19	-47.40	2420.18
ci_039	-634.66	-16.39	2420.31
ci_040	-634.47	14.47	2420.40
ci_041	-635.10	44.82	2420.31
ci_042	-634.61	75.69	2420.44
ci_043	-636.17	106.75	2420.19
ci_044	-635.06	137.22	2420.43
ci_045	-636.18	167.96	2420.26
ci_046	-634.61	199.24	2420.59
ci_047	-635.25	229.62	2420.51
ci_048	-604.98	-231.12	2425.68
ci_049	-604.00	-200.93	2425.89
ci_050	-606.23	-169.77	2425.51
ci_051	-604.67	-139.37	2425.84
ci_052	-605.19	-108.70	2425.78
ci_053	-603.54	-78.06	2426.14
ci_054	-605.18	-47.19	2425.86
ci_055	-604.39	-16.60	2426.05
ci_056	-604.37	13.72	2426.09
ci_057	-605.09	44.48	2426.00
ci_058	-604.78	74.77	2426.09

Position 1			
Circle	x [mm]	y [mm]	z [mm]
ci_059	-606.26	106.28	2425.85
ci_060	-605.28	136.61	2426.08
ci_061	-606.17	167.39	2425.95
ci_062	-604.56	197.92	2426.29
ci_063	-605.23	229.10	2426.21
ci_064	-574.74	-231.26	2431.40
ci_065	-573.86	-200.33	2431.61
ci_066	-575.83	-169.61	2431.27
ci_067	-573.68	-139.42	2431.72
ci_068	-574.74	-108.12	2431.55
ci_069	-573.54	-78.18	2431.82
ci_070	-574.99	-47.70	2431.58
ci_071	-574.57	-16.92	2431.70
ci_072	-574.19	13.82	2431.81
ci_073	-574.88	44.55	2431.72
ci_074	-574.65	75.31	2431.80
ci_075	-576.12	105.99	2431.57
ci_076	-574.76	136.49	2431.86
ci_077	-575.82	167.48	2431.70
ci_078	-574.69	198.06	2431.95
ci_079	-575.15	228.76	2431.91
ci_080	-544.91	-230.90	2437.05
ci_081	-544.08	-200.73	2437.25
ci_082	-545.47	-170.27	2437.03
ci_083	-544.11	-139.74	2437.32
ci_084	-544.70	-109.05	2437.25
ci_085	-543.90	-78.92	2437.43
ci_086	-544.73	-47.45	2437.32
ci_087	-544.09	-16.71	2437.48
ci_088	-544.11	13.72	2437.52
ci_089	-544.96	44.23	2437.39
ci_090	-544.41	74.51	2437.54
ci_091	-546.00	105.93	2437.27
ci_092	-544.52	136.34	2437.59
ci_093	-545.81	167.01	2437.39
ci_094	-544.43	197.32	2437.69
ci_095	-545.13	227.82	2437.59
ci_096	-514.77	-231.19	2442.77
ci_097	-513.93	-200.90	2442.96
ci_098	-515.43	-169.61	2442.71
ci_099	-513.77	-138.98	2443.08

Position 1			
Circle	x [mm]	y [mm]	z [mm]
ci_100	-514.54	-108.67	2442.96
ci_101	-513.67	-77.68	2443.17
ci_102	-514.72	-46.99	2443.01
ci_103	-513.97	-16.60	2443.19
ci_104	-514.16	14.07	2443.20
ci_105	-514.78	44.34	2443.11
ci_106	-514.52	75.22	2443.20
ci_107	-515.83	106.22	2442.99
ci_108	-514.89	136.49	2443.21
ci_109	-515.31	166.99	2443.17
ci_110	-514.39	197.76	2443.38
ci_111	-515.05	228.62	2443.30
ci_112	-484.35	-231.29	2448.53
ci_113	-484.07	-200.70	2448.63
ci_114	-485.09	-169.32	2448.47
ci_115	-483.96	-139.01	2448.73
ci_116	-484.53	-108.59	2448.65
ci_117	-483.68	-77.75	2448.86
ci_118	-484.47	-47.16	2448.74
ci_119	-483.97	-16.38	2448.87
ci_120	-484.07	13.93	2448.90
ci_121	-484.63	44.57	2448.82
ci_122	-484.42	75.47	2448.91
ci_123	-485.47	105.65	2448.74
ci_124	-484.82	136.49	2448.91
ci_125	-485.32	167.26	2448.85
ci_126	-484.51	198.02	2449.05
ci_127	-485.23	228.11	2448.94
ci_128	-454.24	-231.10	2454.24
ci_129	-453.72	-200.62	2454.38
ci_130	-454.69	-169.58	2454.24
ci_131	-453.58	-139.44	2454.48
ci_132	-454.44	-108.45	2454.36
ci_133	-453.53	-77.72	2454.57
ci_134	-454.39	-47.48	2454.44
ci_135	-454.05	-16.32	2454.54
ci_136	-454.24	14.04	2454.55
ci_137	-454.32	44.49	2454.58
ci_138	-454.57	74.97	2454.56
ci_139	-455.54	106.06	2454.42
ci_140	-454.64	136.30	2454.63

Position 1			
Circle	x [mm]	y [mm]	z [mm]
ci_141	-455.23	167.32	2454.56
ci_142	-454.31	197.72	2454.76
ci_143	-454.93	228.44	2454.69
ci_144	-423.92	-231.05	2459.98
ci_145	-423.82	-200.28	2460.05
ci_146	-424.50	-169.42	2459.95
ci_147	-423.79	-139.19	2460.12
ci_148	-424.00	-108.80	2460.13
ci_149	-423.58	-78.18	2460.25
ci_150	-424.30	-47.31	2460.14
ci_151	-423.97	-15.99	2460.25
ci_152	-423.89	14.33	2460.30
ci_153	-424.10	45.33	2460.30
ci_154	-424.64	76.32	2460.24
ci_155	-424.95	106.84	2460.21
ci_156	-424.45	137.44	2460.36
ci_157	-425.01	168.29	2460.28
ci_158	-424.24	199.02	2460.47
ci_159	-424.91	229.22	2460.38
ci_160	-393.90	-231.12	2465.68
ci_161	-394.02	-200.48	2465.69
ci_162	-394.30	-169.65	2465.68
ci_163	-393.71	-139.32	2465.83
ci_164	-393.45	-108.03	2465.91
ci_165	-393.59	-77.74	2465.93
ci_166	-394.19	-47.34	2465.86
ci_167	-394.12	-16.69	2465.91
ci_168	-393.73	14.33	2466.02
ci_169	-394.02	45.53	2466.00
ci_170	-394.61	75.85	2465.93
ci_171	-394.58	106.44	2465.97
ci_172	-394.32	137.52	2466.06
ci_173	-394.49	167.91	2466.07
ci_174	-394.30	198.90	2466.14
ci_175	-394.91	229.54	2466.06
ci_176	-363.93	-230.83	2471.35
ci_177	-363.84	-200.37	2471.41
ci_178	-364.26	-169.16	2471.37
ci_179	-363.49	-138.97	2471.56
ci_180	-363.17	-107.80	2471.66
ci_181	-363.68	-77.53	2471.59

Position 1			
Circle	x [mm]	y [mm]	z [mm]
ci_182	-363.75	-47.14	2471.62
ci_183	-364.08	-15.84	2471.60
ci_184	-363.66	14.93	2471.72
ci_185	-364.19	45.42	2471.66
ci_186	-364.51	75.82	2471.63
ci_187	-364.46	107.32	2471.68
ci_188	-364.28	137.60	2471.76
ci_189	-364.45	168.04	2471.76
ci_190	-364.30	198.35	2471.83
ci_191	-364.97	229.43	2471.74
ci_192	-333.77	-230.86	2477.07
ci_193	-333.77	-200.10	2477.11
ci_194	-333.93	-169.20	2477.12
ci_195	-333.92	-138.41	2477.17
ci_196	-333.38	-108.17	2477.30
ci_197	-333.87	-77.54	2477.24
ci_198	-333.66	-46.67	2477.33
ci_199	-333.87	-15.70	2477.33
ci_200	-333.90	14.91	2477.36
ci_201	-333.97	45.70	2477.38
ci_202	-334.57	76.64	2477.31
ci_203	-334.04	106.89	2477.44
ci_204	-334.13	137.75	2477.47
ci_205	-334.21	168.66	2477.49
ci_206	-334.26	199.28	2477.53
ci_207	-334.82	229.88	2477.45