

Status of DVCS Calorimeter

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Jan. 18, 2015

DVCS Collaboration meeting

Crystal Inventory

Crystal inventory photo-collections
 → visual inspection all six surfaces
https://hallaweb.jlab.org/experiment/DVCS/DVCS_Crystals/

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DVCS II Crystal Inventory / Photo Guide

Photo File Names begin with "Cr", Example: Cr290-1 (thru) -6

Crystal Num									
001	002	003	004	005	006	007	008	009	010
011	012	013	014	015	016	017	018	019	020
021	022	023	024	025	026	027	028	029	030
031	032	033	034	035	036	037	038	039	040
041	042	043	044	045	046	047	048	049	050
051	052	053	054	055	056	057	058	059	060
061	062	063	064	065	066	067	068	069	070
071	072	073	074	075	076	077	078	079	080
081	082	083	084	085	086	087	088	089	090
091	092	093	094	095	096	097	098	099	100
101	102	103	104	105	106	107	108	109	110
111	112	113	114	115	116	117	118	119	120
121	122	123	124	125	126	127	128	129	130
131	132	133	134	135	136	137	138	139	140
141	142	143	144	145	146	147	148	149	150
151	152	153	154	155	156	157	158	159	160
161	162	163	164	165	166	167	168	169	170
171	172	173	174	175	176	177	178	179	180
181	182	183	184	185	186	187	188	189	190
191	192	193	194	195	196	197	198	199	200
201	202	203	204	205	206	207	208	209	210
211	212	213	214	215	216	217	218	219	220
221	222	223	224	225	226	227	228	229	230
231	232	233	234	235	236	237	238	239	240
241	242	243	244	245	246	247	248	249	250
251	252	253	254	255	256	257	258	259	260
261	262	263	264	265	266	267	268	269	270
271	272	273	274	275	276	277	278	279	280

1	51	101
2	52	102
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48	98	148
49	99	149
50	100	150

151	201	251
152	202	252
153	203	253
154	204	254
155	205	255
156	206	256
157	207	257
158	208	258
159	209	259

no photo (handwritten next to rows 1-5)

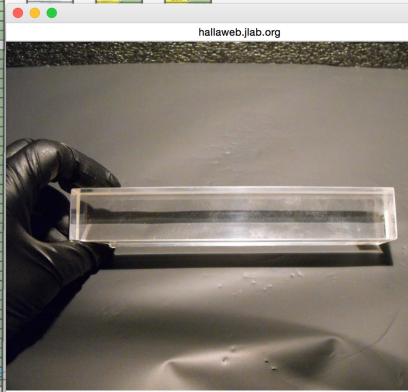
no photo (handwritten next to rows 10-14)

photo yes (handwritten with arrow pointing to rows 25-29)

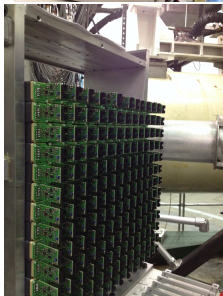
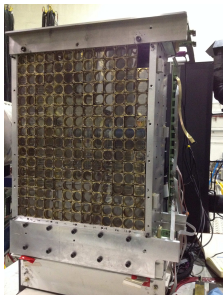
no photo (handwritten next to rows 36-38)

37 (handwritten next to row 37)

no photo (handwritten next to row 50)



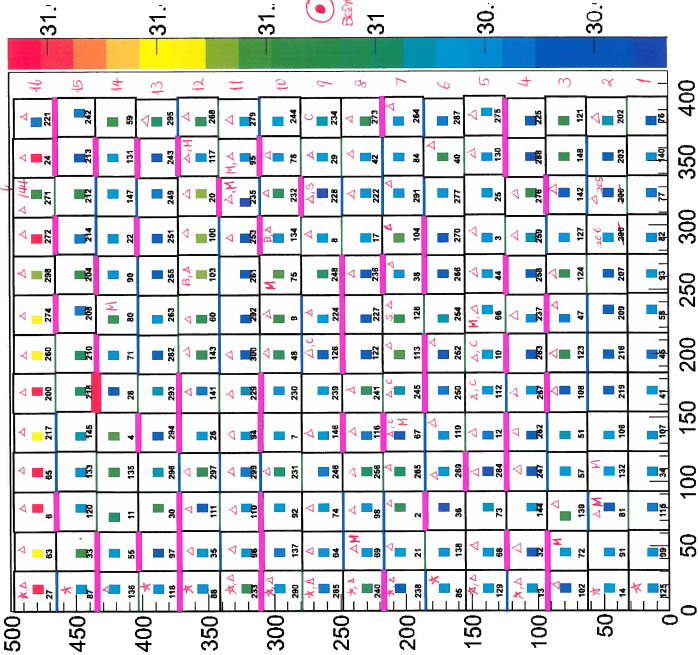
Calo. Crystal de-stacking



Notes

- Start de-stacking Nov.16 and completed Nov.18 (*Thanks to Tom*)
- *Many blocks were stuck together due the remnant of adhesive that used for shim*
→ *even worse during the experiment due to hot temperature inside of dark-box (talk about later)*
- *Take a note for any specific condition (broken brass/screw/optical glue/chip/...)*
- *Secure block in white box and store them into each container row-by-row*
- *Survey by RadCon group @ Nov.24*
- *Completed transporting all crystals to ODU @ Nov.25*

11/16/15



CG16
Mongis list: M (e10g271)
412 → #132, 235
-1000000

Plastic shim: ★
Metal shim: △
Broken Brass: D
Chip in face: C
Broken Screw: S

NOTE: option-2
shim: green: 0.005" (x38)
blue: 0.010" (x45) H1: 134
magnite: 0.015" (x55)
red: 0.025" (x11)

Physical Repairs

Cry.Num	Issue	Est.
103,134	broken brass	2hrs
128,228	broken poly.screw	2hrs
10,67,112,126,234,245	chip on face	no need to fix
66,67,69,72,75,80,81,95,117,132,235	low performance*	11hrs

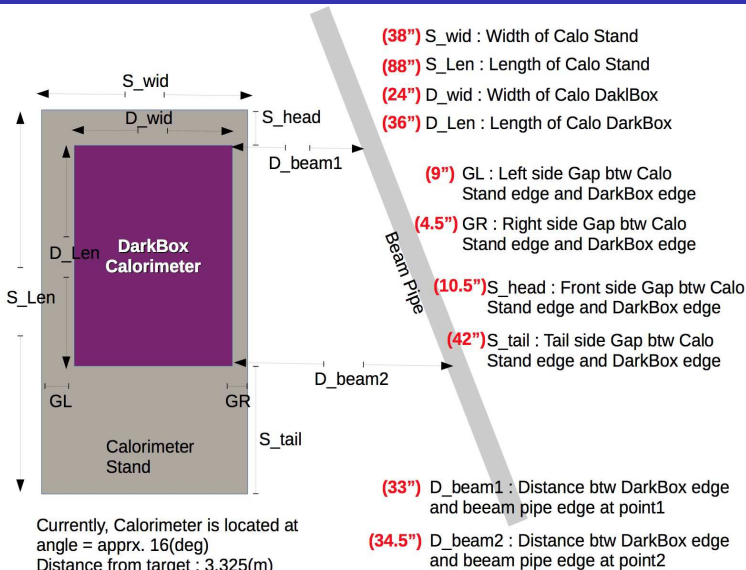
*: Mongi's list from elog#271

*: We will just replace the PMT but keep the old base (**Thanks to Thomas Hartlove, Mathieu Ehrhart**)

*** not include additional repair hours if inspection finds and issue Block replaced with: 271 → 144/ 200 → 206/ 205 → 205

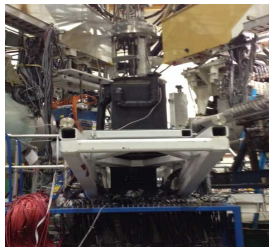
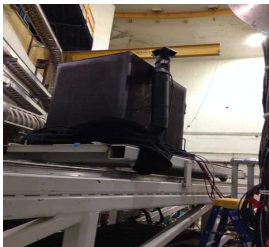
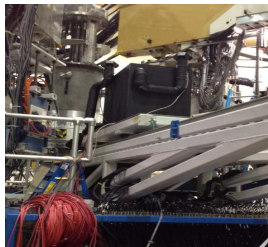
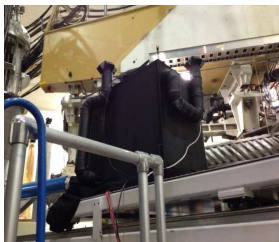
Completed replacing PMT and will deliver blocks to the Hall on Jan. 19 ! We can start to test some of them in this week !

Position Survey for New dark-box



Currently, Calorimeter is located at
 angle = appr. 16(deg)
 Distance from target : 3.325(m)

New dark-box @ Aug. 18, 2015



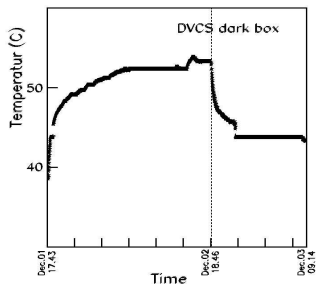
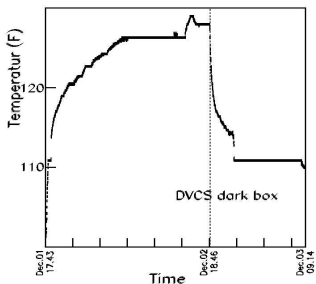
- New dark-box with active ventilation system (Thanks to Thomas Hartlove, ODU)
→ Two ventilate-fans (inhale/exhale),

Active Air Cooling System



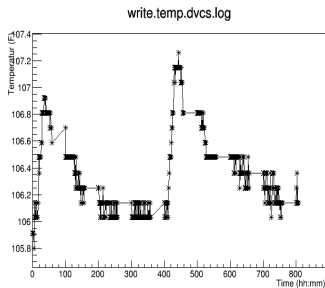
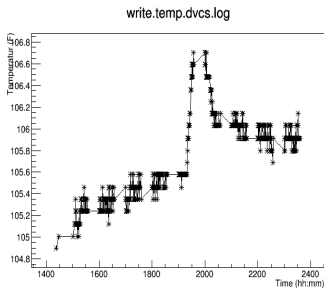
- Sitting position: side & back of dark-box
 - Easy to attach/detach, polyken tape: light tight
 - Maze pipe: light tight
 - 4way-out of Dampered roof cap: light tight
-
- Model: DB204 (4x4-in duck fan)
 - 65 CFM free air (80 CFM as Max)
 - Thermally protected Class B motor
 - Weight: 1.5LBS

Temperature Monitoring with OLD dark-box Dec. 2014



- Starting Temp=100°F (when LV/HV were off) with OLD dark-box
- Temperature monitoring with e-beam during 2014 commissioning run
- Deviation of temp is about 28°F (16°C) as maximum between on and off the HV/LV/Beam

Temperature Monitoring with new dark-box @ Sep., 2015



- Starting Temp= 100°F (when LV/HV were off), see how much Temp. change
- Take a cosmic run (Run number= 11556)
 - Engaged LV/HV as cosmic mode
 - Temp. monitoring is running as cron job on dvcsdaq2
 - Run overnight (24hrs)
- Deviation of temp is about 7°F (4°C) as maximum between on and off the HV/LV
- Fan creates a little vibration (I can feel it by hand on the box), Check any impact on signal/pedestal

Pedestal Monitoring with new dark-box @ Sep.28, 2015

● Monitoring ARS after taking cosmic runs (Run 11573(fan-off;red) vs. 11584(fan-on;blue))

● Little electronic noise effect in pedestal 🔗 [Link in detail comparison](#)

