

- Double checked all the decoded runs and changed the cut on live time from 10% drops to 5% drops
  - 7.5% data reduction with without considering target stability
  - 8.5% data reduction if consider
- Some other issues related to data stability
  - Serious live time drops from run 1488 ~ 1495
  - Epics value for the target position (Mtr\_X\_Pos and Mtr\_Y\_Pos) becomes 0 between 1307 ~ 1369
- Made a new run list table
- Helping Maxime to test and develop the Island algorithm

Run number    Beam Energy                    # of event            Decode status    GEM data type

Run type                    Beam Current                    Live time                    EnS cut                    Additional Comment

34	1122	Empty Chamber	1.1	10	1.5	91	0-sup	yes	yes	Beam position at 2H01 shift early of this run (Y from -6 to -0.5)
35	1123	Empty Chamber	1.1	10	1.5	91	0-sup	yes	yes	
36	1125	Empty Chamber	1.1	10	1.5	91	0-sup	yes	yes	after crystal gain change
37	1126	Empty Chamber	1.1	10	1.6	91	0-sup	yes	yes	GEM APV problem appeared in the last 3 mins of the run
38	1127	Empty Target	1.1	10	0.6	85	0-sup	yes	yes	
39	1129	Empty Target	1.1	10	1.1	85	0-sup	yes	yes	
40	1130	Empty Target	1.1	10	0.17	94	0-sup	yes	yes	Elog says calibration study, run list says background run
41	1135	Empty Target	1.1	10	2.44	90	0-sup	yes	yes	
42	1136	Full Target	1.1	10	6.6	63	0-sup	yes	yes	
43	1137	Full Target	1.1	10	2.5	65	0-sup	yes	yes	
44	1147	Empty Chamber	1.1	10	0.3	92	0-sup	yes	yes	
45	1153	Empty Target	1.1	10	1.7	90	0-sup	yes	yes	Beam position at 2H01 shift in the middle of this run (Y from -4.4 to -3)
46	1154	Empty Target	1.1	10	1.6	89	0-sup	yes	yes	
47	1155	Full Target	1.1	10	6.4	63			yes	
48	1158	Full Target	1.1	10	6.4	61	0-sup	yes	yes	
49	1159	Full Target	1.1	10	6.54	63	0-sup	yes	yes	
50	1160	Full Target	1.1	10	7.3	63	0-sup	yes	yes	
51	1161	Empty Target	1.1	10	2.2	95	0-sup	yes	yes	
52	1162	Empty Target	1.1	10	0.02	95	0-sup	yes	yes	CODA Error Message: TI not master
53	1163	Empty Target	1.1	10	0.65	95	0-sup	yes	yes	
54	1173									seems to have something, need to check
55	1178									seems to have something, need to check
56	1197	Empty Target	1.1	10	1.7	90	0-sup	yes	yes	Beam position at 2H01 shift in the middle of this run (X from -1.3 to -1 Y from -4 to -3)
57	1198	Empty Target	1.1	10	1.66	90	0-sup	yes	yes	
58	1201	Full Target	1.1	10	6.5	63	0-sup	yes	yes	
59	1202	Full Target	1.1	10	6.6	63	0-sup	yes	yes	
60	1203	Full Target	1.1	10	7.48	62	0-sup	yes	yes	
61	1205	Full Target	1.1	10	7.18	62	0-sup	yes	yes	
62	1206	Full Target	1.1	10	6.7	62	0-sup	yes	yes	
63	1207	Full Target	1.1	10	5.8	62	0-sup	yes	yes	
64	1237	Empty Target	1.1	10	2.2	98	0-sup	yes	yes	a few mm shift for BPM 2H01 for the y coordinate of the beam spot at early stage
65	1238	Full Target	1.1	10	2.1	91	0-sup	yes	yes	
66	1240	Full Target	1.1	10	10.2	91	0-sup	yes	yes	
67	1241	Full Target	1.1	10	9.7	91	0-sup	yes	yes	
68	1242	Full Target	1.1	10	9.24	91	0-sup	yes	yes	
69	1243	Full Target	1.1	10	15	91	0-sup	yes	yes	
70	1273									seems to have something, need to check
71	1276									seems to have something, need to check
72	1287	Full Target	1.1	15	13.3	86	0-sup	yes	yes	
73	1288	Full Target	1.1	15	13.2	87	0-sup	yes	yes	
74	1289	Empty Target	1.1	15	3.2	97	0-sup	yes	yes	
75	1290	Full Target	1.1	15	11.7	87	0-sup	yes	yes	
76	1291	Full Target	1.1	15	13.9	87	0-sup	yes	yes	

PRad Event Viewer

File Online Mode High Voltage Calibration Tools

Module Property	Value	Module Property	Value
Module ID	G176	Pedestal	297.878 ± 2.70
Module Type	Pb-Glass	Event Number	145116
DAQ Address	C6, S23, Ch0	Energy	0 MeV / 1120.29 MeV
TDC Group	G5	ADC Count	0
HV Address	C1, S0, Ch41	High Voltage	0 V (OFF) / 0 V

**G176 Physics Events**

G176 PHYS	
Entries	50
Mean	348.8
RMS	57.62

**GS Time Measure**

TDC_G5	
Entries	132
Mean	8463
RMS	1184

**Total Energy (MeV)**

HyCal Energy	
Entries	24189
Mean	660.1
RMS	332.7

- Red is associated with island algorithm
- Black associated with 5 by 5 algorithm
- Center of the circle: reconstructed position of the cluster
- Number: cluster ID, they marks the modules that belongs to the cluster with this cluster ID

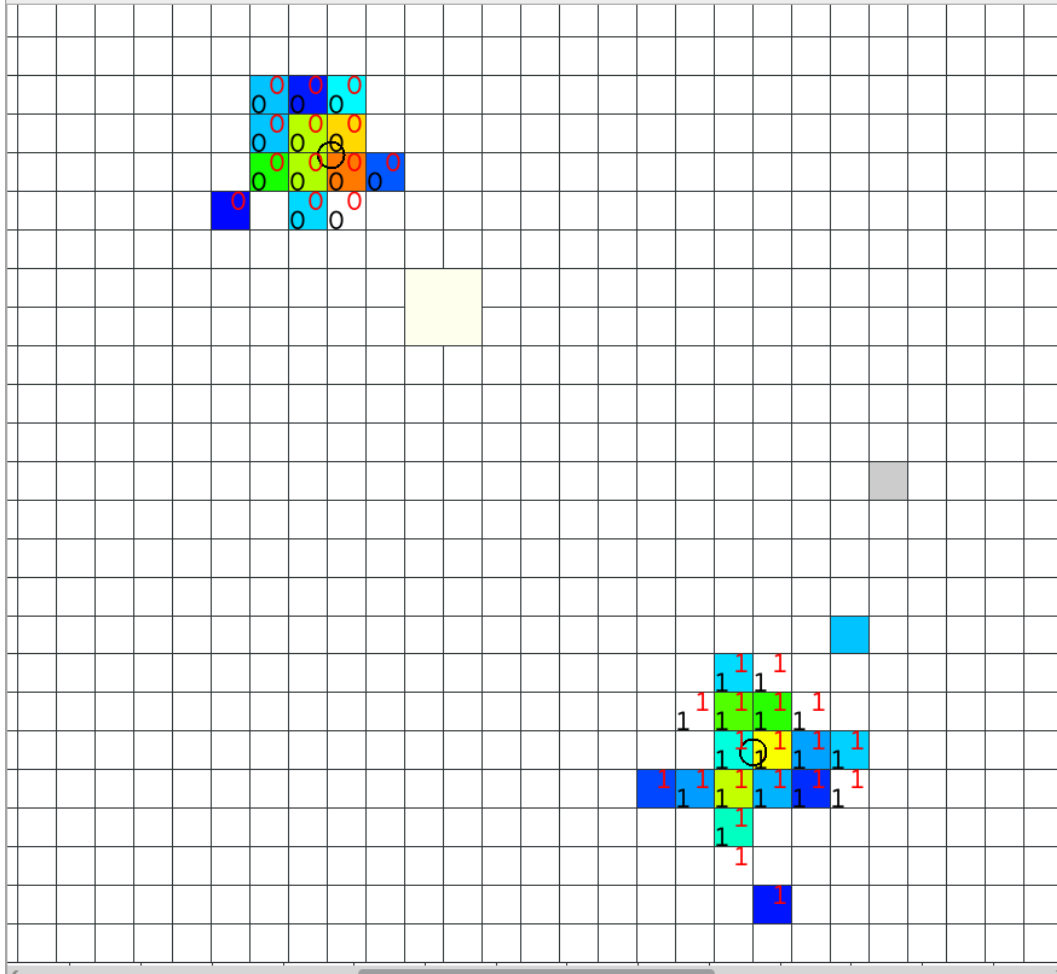
Event #  Total events: 24189 Spectrum Settings

Energy&TDC Hist Energy View No Annotation

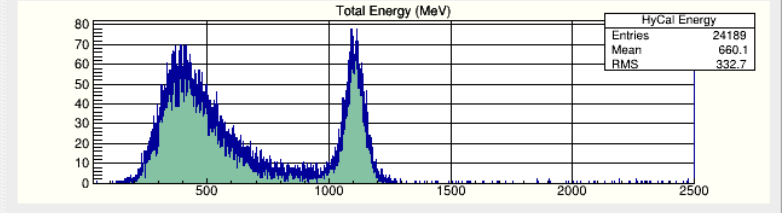
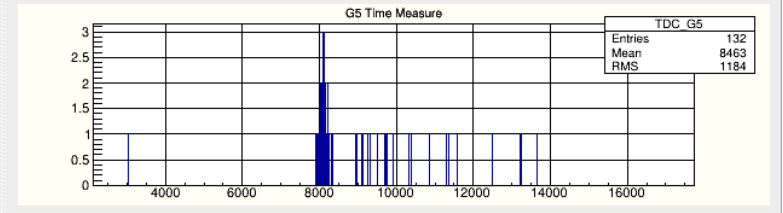
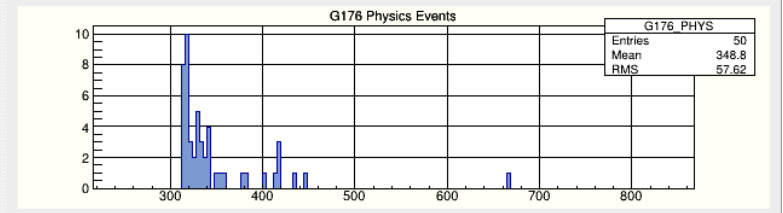
Current Data File: /home/xiongw/Research/PRad/PRadReconTest\_Island/data/prad\_001287.evio.6

PRad Event Viewer

File Online Mode High Voltage Calibration Tools



Module Property	Value	Module Property	Value
Module ID	G176	Pedestal	297.878 ± 2.70
Module Type	Pb-Glass	Event Number	145118
DAQ Address	C6, S23, Ch0	Energy	0 MeV / 1083.19 MeV
TDC Group	G5	ADC Count	0
HV Address	C1, S0, Ch41	High Voltage	0 V (OFF) / 0 V



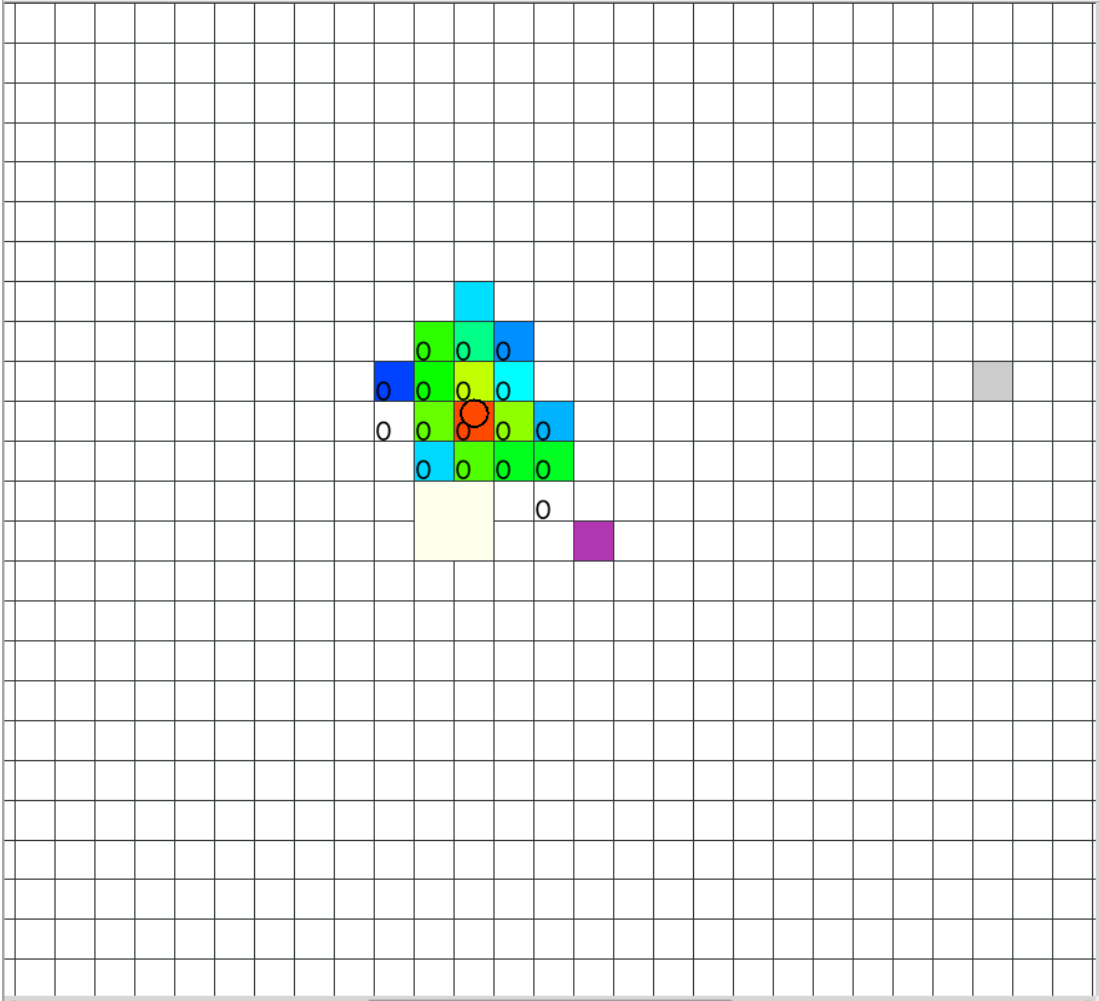
Event # 8 Total events: 24189 Spectrum Settings

Energy&TDC Hist Energy View No Annotation

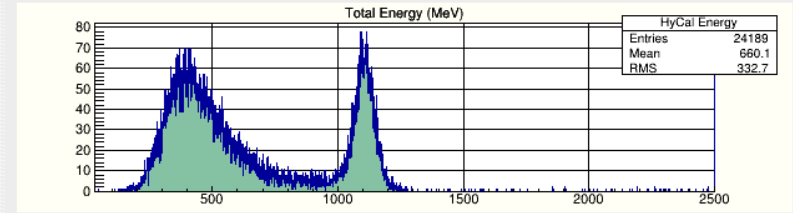
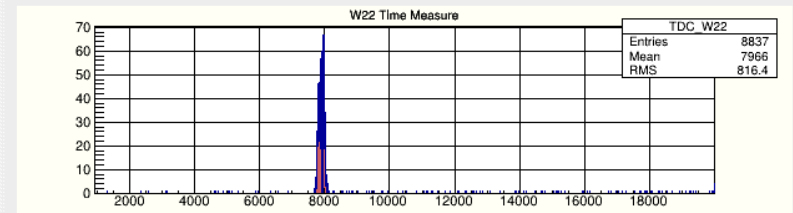
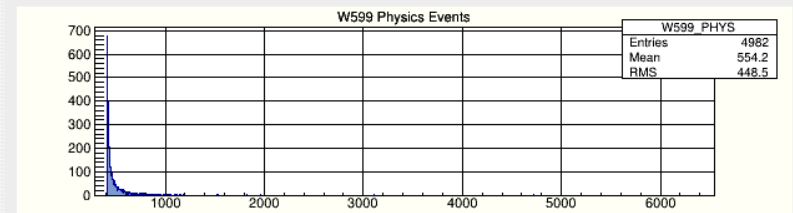
Current Data File: /home/xiongw/Research/PRad/PRadReconTest\_Island/data/prad\_001287.evio.6

PRad Event Viewer

File Online Mode High Voltage Calibration Tools



Module Property	Value	Module Property	Value
Module ID	W599	Pedestal	406.198 ± 1.20
Module Type	PbWO <sub>4</sub>	Event Number	145128
DAQ Address	C5, S19, Ch61	Energy	0 MeV / 1078.77 MeV
TDC Group	W22	ADC Count	0
HV Address	C2, S10, Ch46	High Voltage	0 V (OFF) / 0 V



Event #  Total events: 24189

Energy&TDC Hist

Current Data File: /home/xiongw/Research/PRad/PRadReconTest\_Island/data/prad\_001287.evio.6