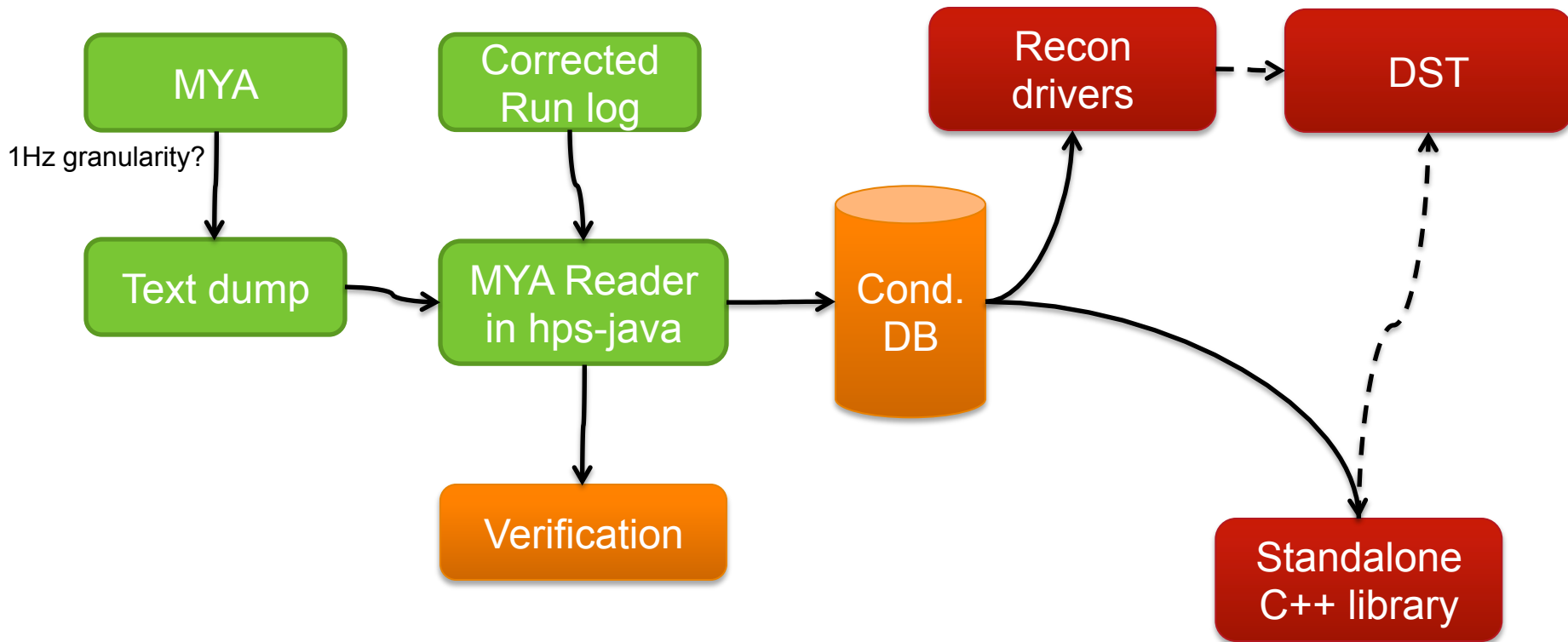


SVT HV Bias Run lists

Per Hansson Adrian – 6/23/2015

Overview

Idea based on having time ranges associated with runs for 'good' HV status in conditions DB

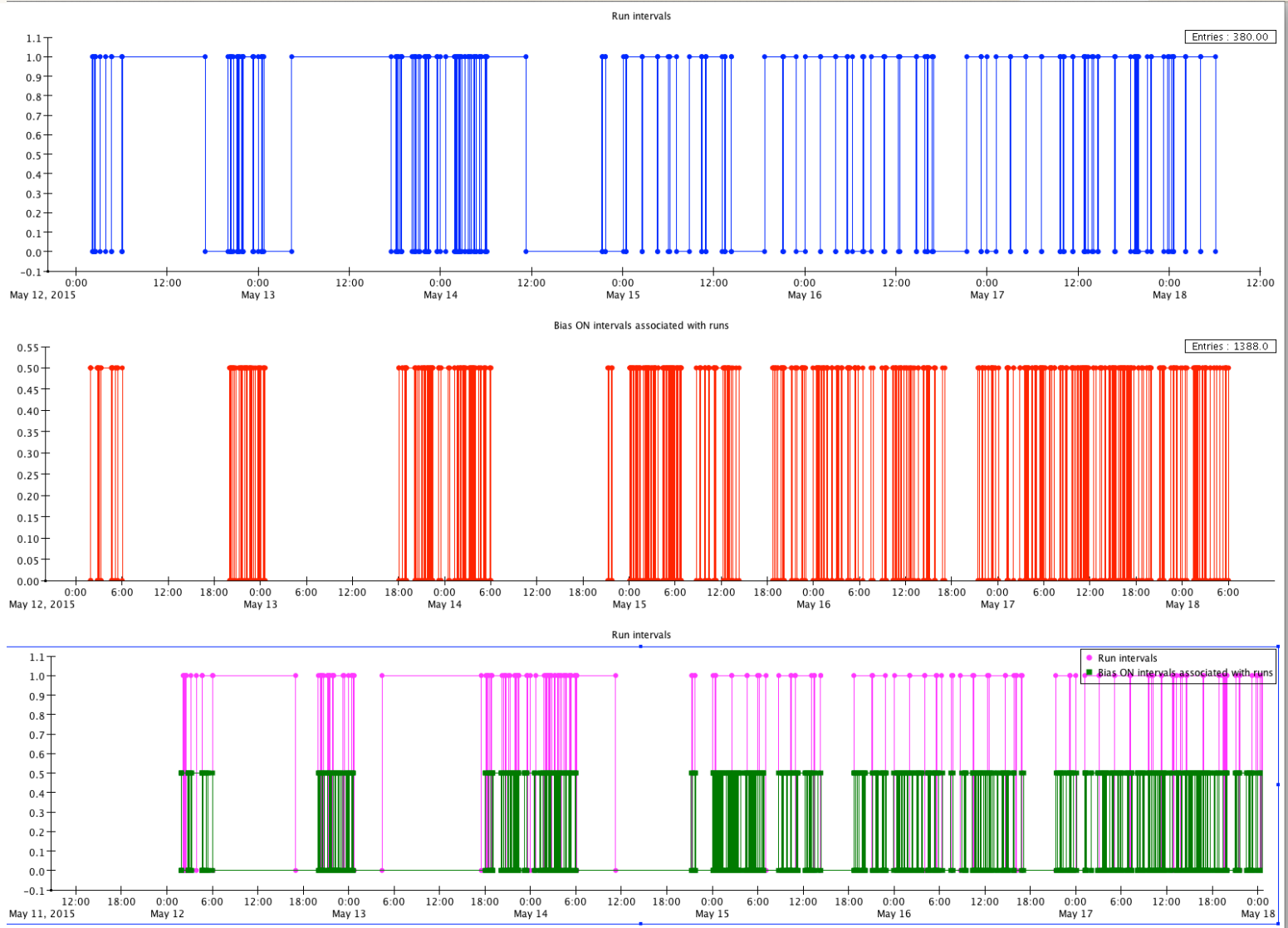


Confused about EPICS bank.

HV is in bank every sync event: ~2Hz (all "later" runs?)

I would still like to use DB to be consistent across all runs/analyzers and have a "verified" good run/event list?

Run integration



Definition of HV ON

- All events with time stamp between MYA records with voltage > 179.0V

Ramp rate cause end of range time stamp to have bias voltage ~140V

- Small effect; mostly with no beam
- Can subtract last 2s if we want?

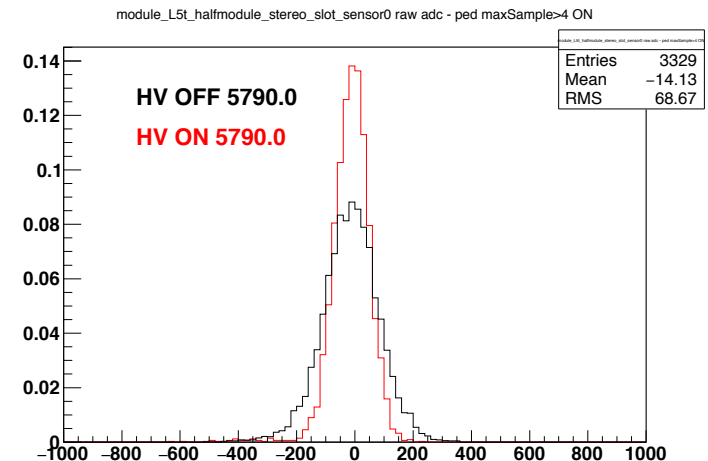
Sample 0 Pedestal

Compare sample 0 pedestal for HV ON/OFF

- Hits required to have max sample at ≥ 4 to remove pileup
- Take all hits on a specific sensor

Run ranges seems to work

- Spot checked 3-4 transitions



http://www.slac.stanford.edu/~phansson/files/temp/cBiasCheck-L5t_slot_stereo.pdf

Conditions Database

Load with
org.hps.conditions.svt.SvtBiasConditionsLoader

- Input: myaDump file and modified run log (hps-java sandbox)

Specifics

- Start, stop, bias value Value somewhat redundant: always above 179V
- Dates based on EST date from MYA; will change to timestamp (transparent for users)

```
mysql> select * from svt_bias_constants;
```

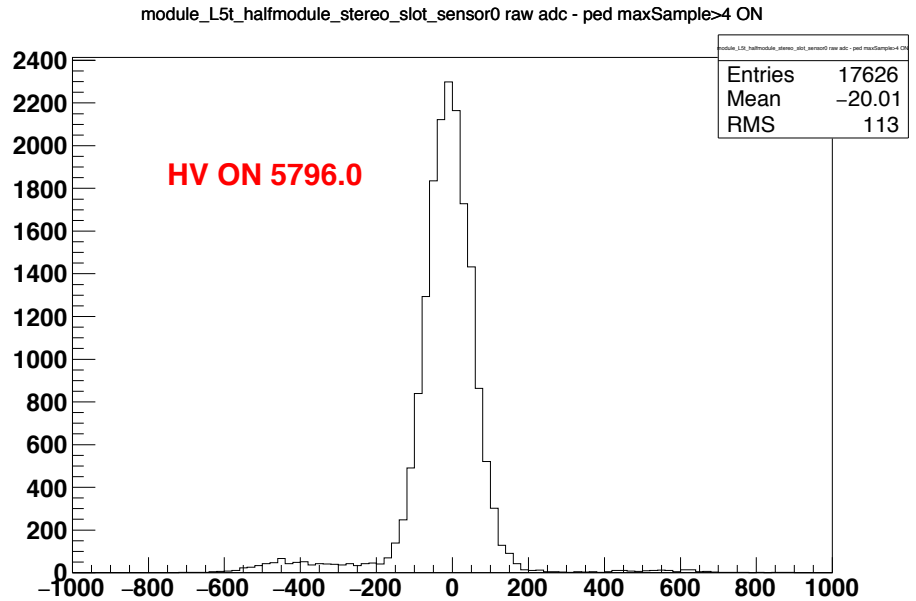
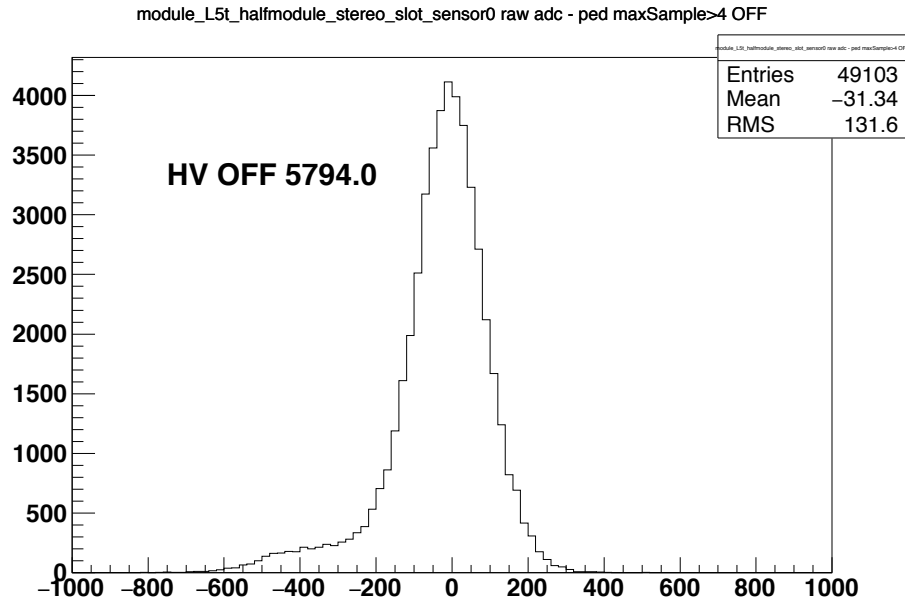
id	collection_id	start	end	value
1	1136	2015-05-05 21:15:49	2015-05-05 21:18:21	179.934
2	1136	2015-05-05 21:19:51	2015-05-05 21:23:05	179.953
3	1137	2015-05-05 21:15:49	2015-05-05 21:18:21	179.934
4	1137	2015-05-05 21:19:51	2015-05-05 21:23:05	179.953
5	1138	2015-05-05 21:23:55	2015-05-05 21:27:33	179.946
6	1138	2015-05-05 21:33:12	2015-05-05 21:43:50	179.946
7	1138	2015-05-05 21:46:42	2015-05-05 21:46:48	179.95
8	1138	2015-05-05 21:49:20	2015-05-05 22:21:56	179.941
9	1138	2015-05-05 22:22:40	2015-05-05 22:27:50	179.408
10	1138	2015-05-05 22:28:48	2015-05-05 22:28:54	179.947

```
mysql> select * from conditions where table_name = "svt_bias_constants";
```

id	run_start	run_end	updated	created	tag	created_by	notes	name	table_name	collection_id
1888	5403	5403	2015-06-22 18:13:49	2015-06-22 18:13:49	NULL	phansson	constants from mya	svt_bias	svt_bias_constants	1136
1889	5403	5403	2015-06-22 18:32:55	2015-06-22 18:32:55	NULL	phansson	constants from mya	svt_bias	svt_bias_constants	1137
1890	5404	5404	2015-06-22 18:32:55	2015-06-22 18:32:55	NULL	phansson	constants from mya	svt_bias	svt_bias_constants	1138
1891	5405	5405	2015-06-22 18:32:56	2015-06-22 18:32:56	NULL	phansson	constants from mya	svt_bias	svt_bias_constants	1139
1892	5406	5406	2015-06-22 18:32:56	2015-06-22 18:32:56	NULL	phansson	constants from mya	svt_bias	svt_bias_constants	1140
1893	5407	5407	2015-06-22 18:32:56	2015-06-22 18:32:56	NULL	phansson	constants from mya	svt_bias	svt_bias_constants	1141

Sample 0 Pedestal

Most .0 evio files are either ON or OFF.

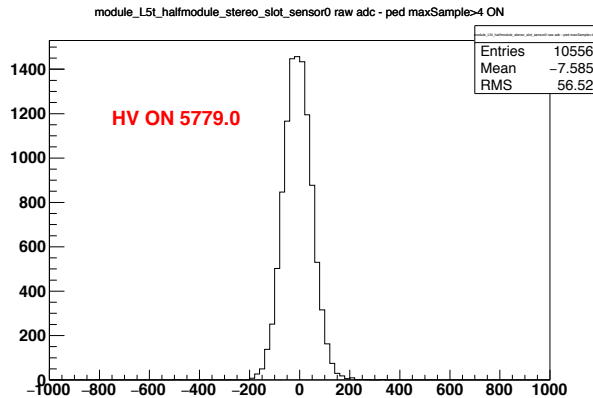


Left side tail in most runs.

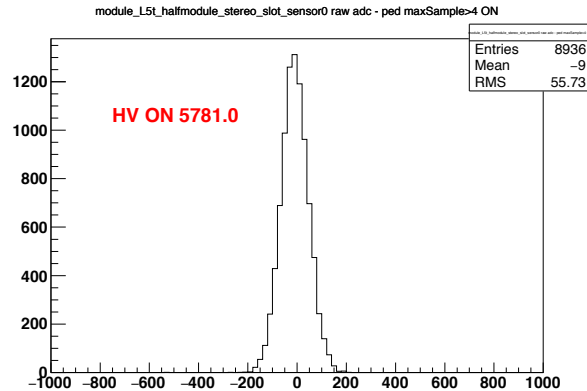
Sample 0 Pedestal

No tail in non-W runs or pulser only. Rates are low in these runs, probably burst trigger related?

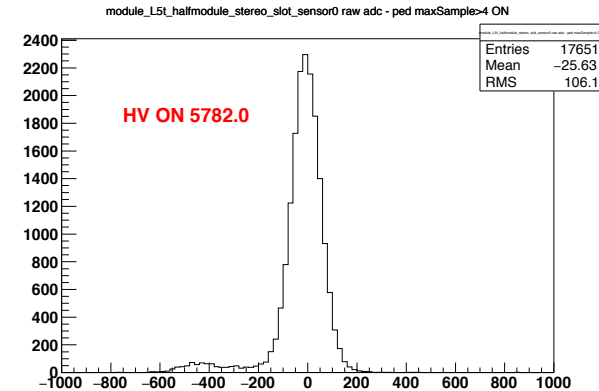
Carbon



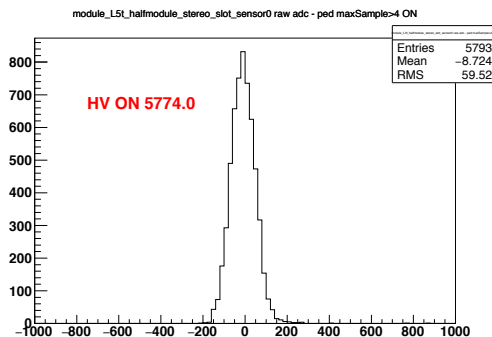
CH2



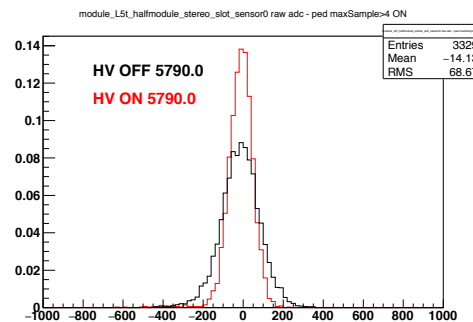
W



Pulser only



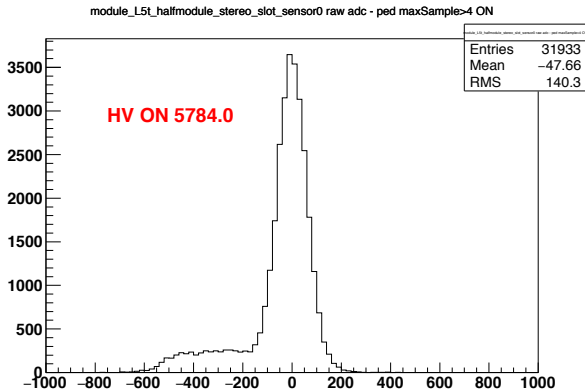
Empty



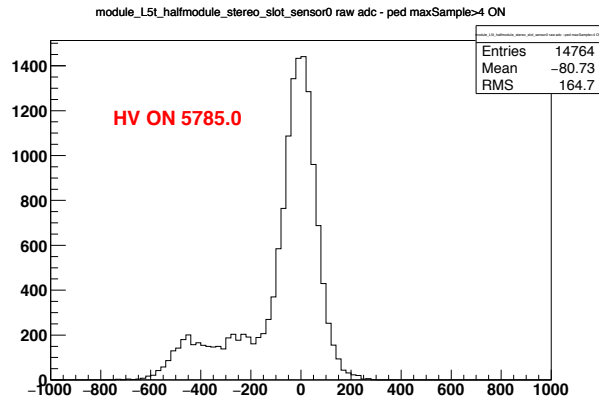
Sample 0 Pedestal

Straight through runs – even higher rates and larger tail

No target?
30kHz



20kHz



24kHz

