SVT Update

8/12/2019

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Single Event Upsets in the FEBs

- SEUs will usually cause issues when changing the state of the DAQ. Occasionally it will send the livetime to 0.
- Simply power cycling the offending FEBs has fixed it everytime.
- Fewer SEUs since 2.82 mm collimator
- Should we consider 3.94 mm collimator?

2.25 mm Collimator		2.82 mm Collimator	
FEB	Number SEUs	FEB	Number SEUs
0	0	0	2
1	1	1	2
2	2	2	4
3	3	3	4
4	0	4	0
5	0	5	4
6	1	6	1
7	1	7	2
8	1	8	7
9	2	9	2
Total	11	Total	28
~Time	~12 hours	~Time	~48 hours

Procedure for SEUs

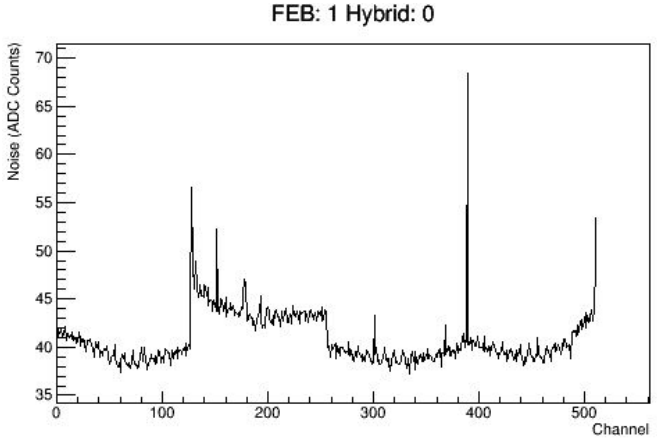
- Current Procedure:
  - If I am present - I power cycle the offending FEBs while SVT bias currents ramp down. It is quick (~5 min)
  - If I am not present - I have the shifters try to start the DAQ once, if it fails they call me and I power cycle FEBs. This makes nights difficult for me… (but I have trained PF now)
- Proposed Procedure:
  - Get the SEU monitoring going. At the end of each run have the shifters power cycle the offending FEBs (with clear provided instructions)

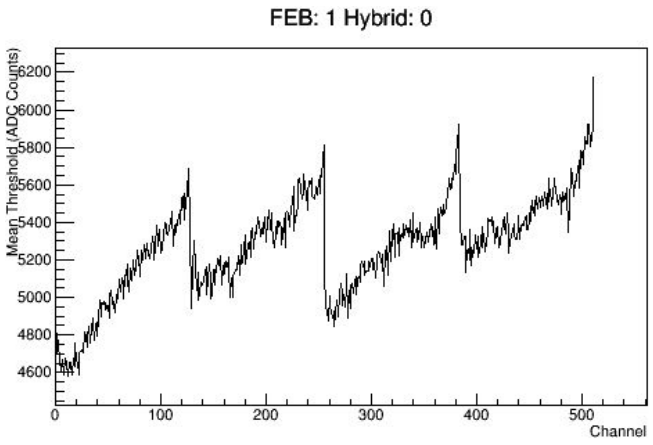
SVT HV Trips

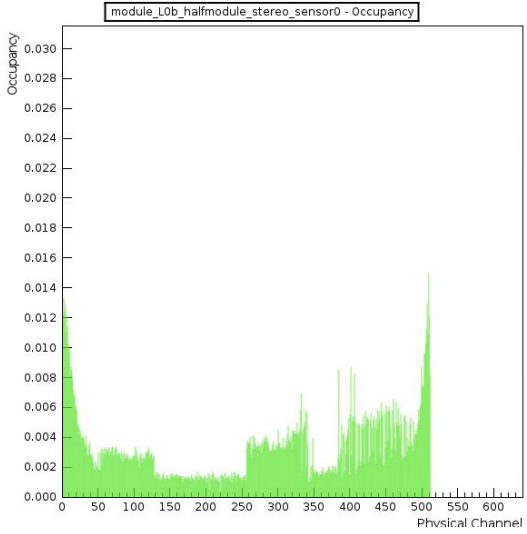
- L0-1 top and bottom bias voltages are frequently tripping every few hours
- This is often correlated with beam ramping up current after tripping
  - I did observe once where the HPS Downstream counters tripped, though this was not the usual case
- What is the cause of these trips?
- Were we having bias trips before the 2.82 mm collimator was used?
- Current Procedure:
  - Stop the run, turn on the bias that tripped, start a new run
  - Do we need to stop the run?

Occupancy Issues

- Sometimes in L0 top/bot the occupancies in a whole APV go to 0. This is resolved by simply restarting the run. However, there is no alarm currently and the shifter just has to catch it. (Tim mentioned something about latency)
- There is weirdness in L0b stereo occupancies





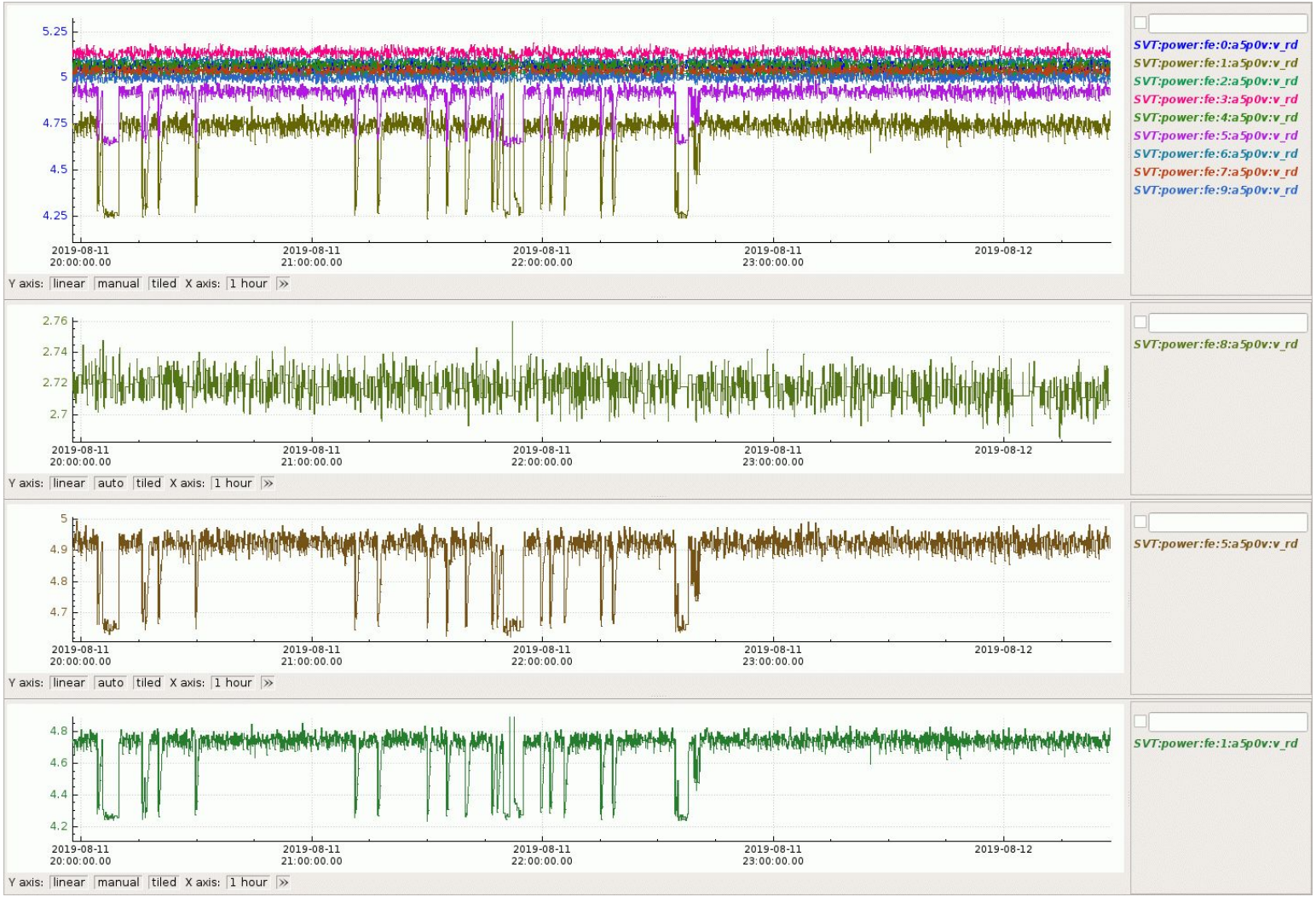


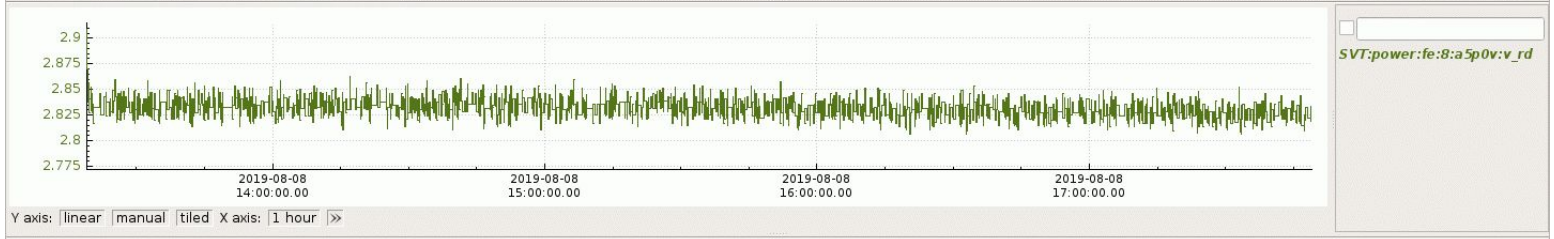
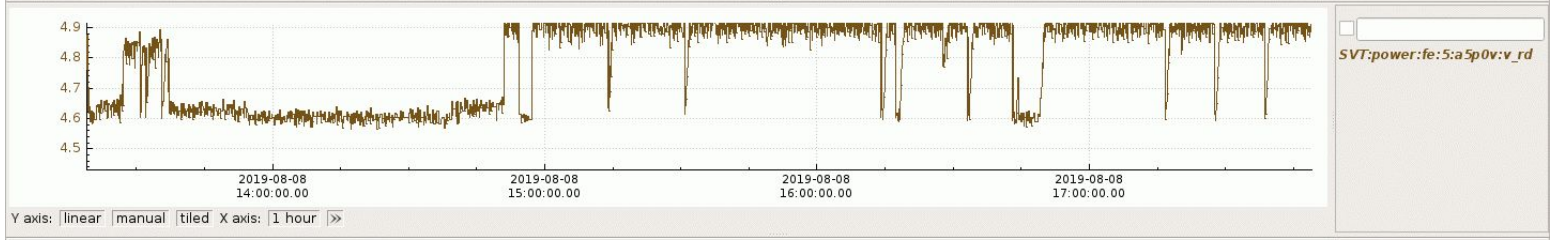
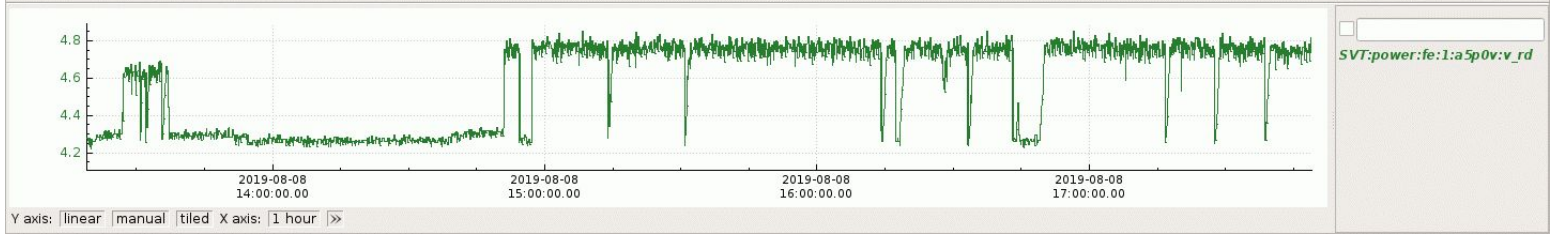
Baseline Info and Instructions

- Threshold Runs here: /nfs/slac/g/hps3/phys2019_thresholds
- Conditions DB Runs here: /nfs/slac/g/hps3/phys2019_conditions
- Where are the previous thresholds? We should compare...
- I will update the SVT manual with Omar’s instructions

FEB 5V

8/11/2019



FEB 5V

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