Calibration results
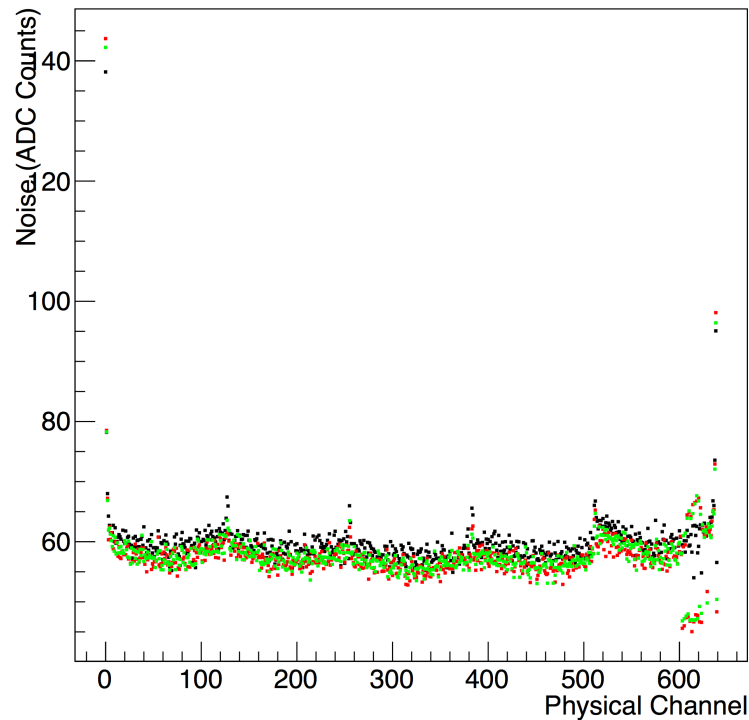
Matt S., Pelle, Omar, Ben, Sho

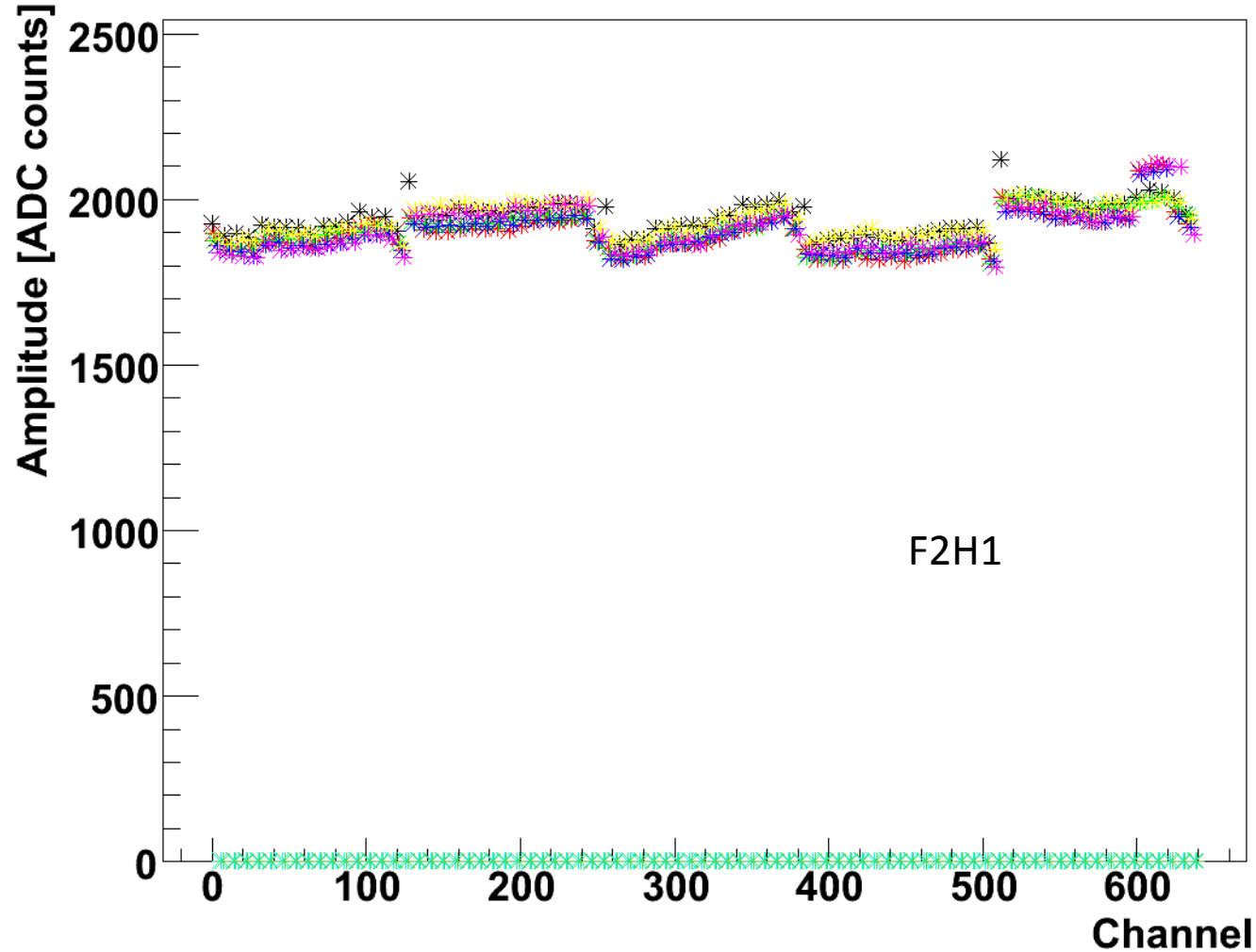# Issue 1

- ## One APV with half channels at ½ noise

FEB: 2 Hybrid: 1 Noise - Sample 4

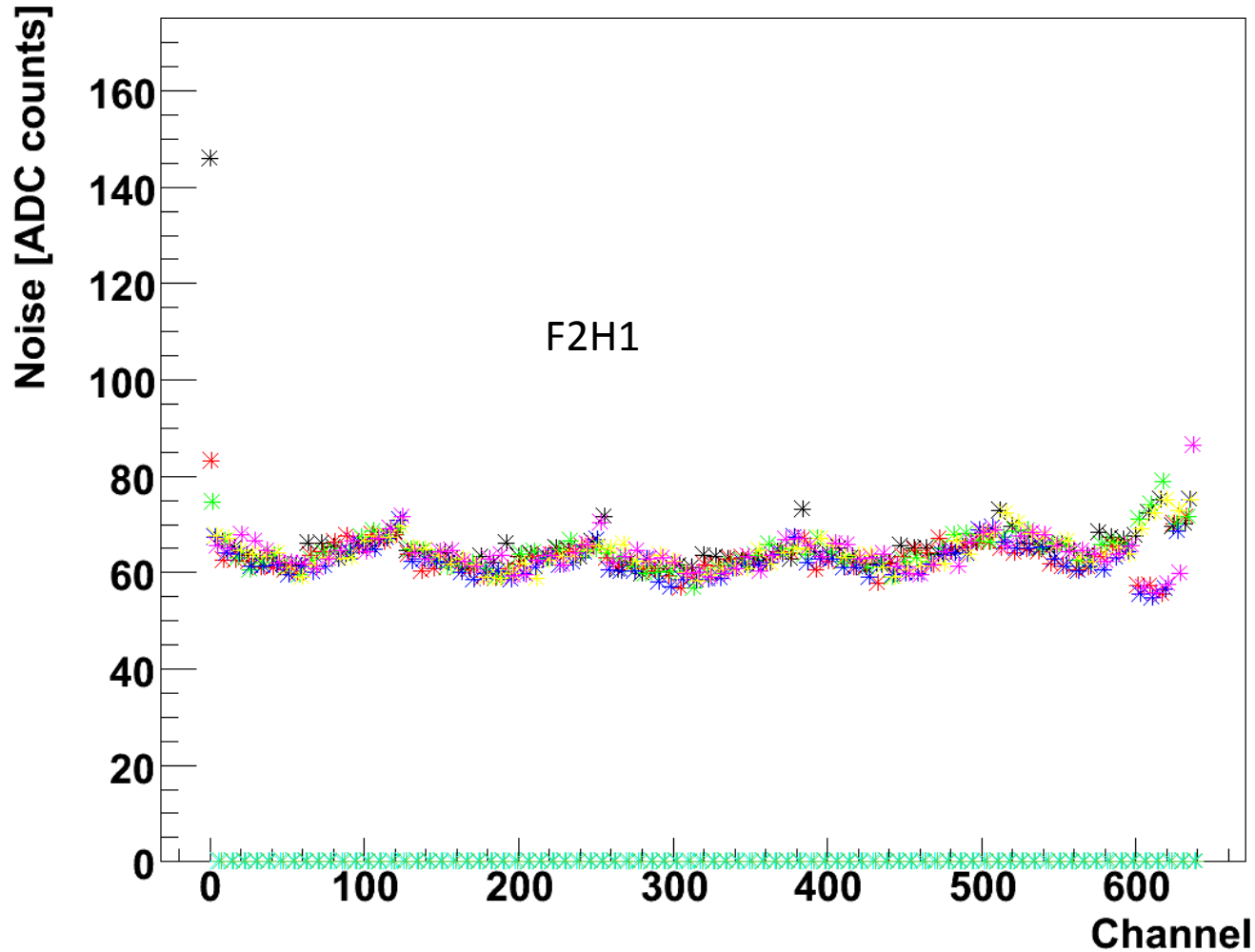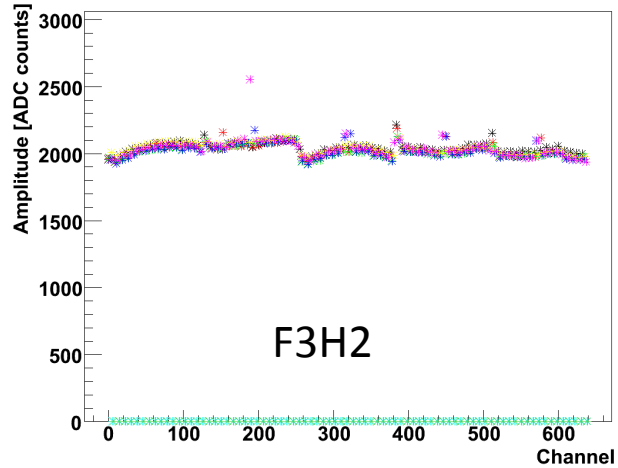# Charge injection run F2H1

-

F2H1
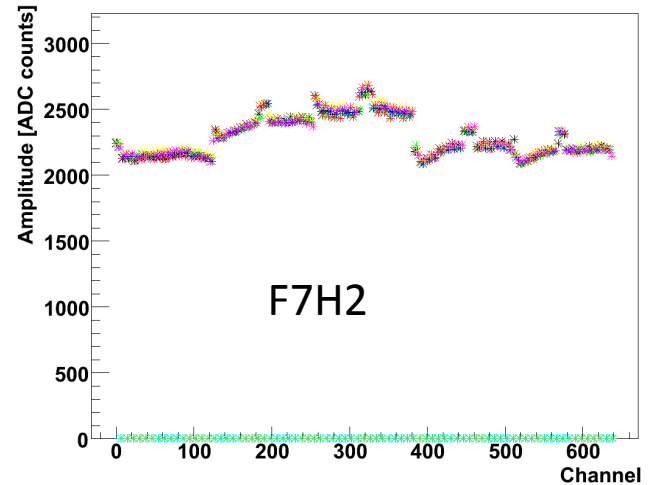
Charge injection run F2H1

Mean RMS noise per sample

F2H1

Others with features

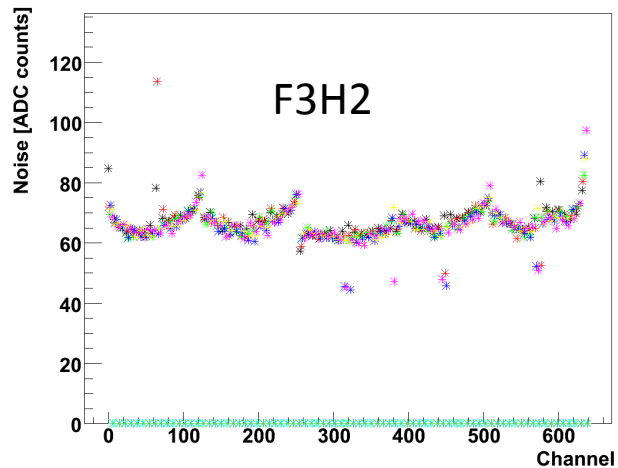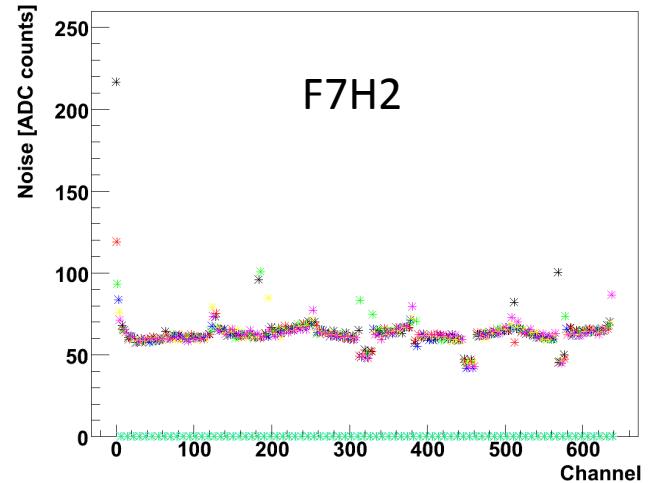These had features at high temp in the fall; but gone (?!) at low temp? Are they back?
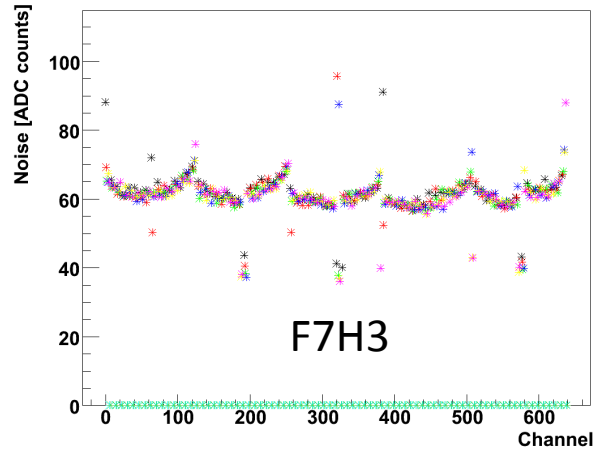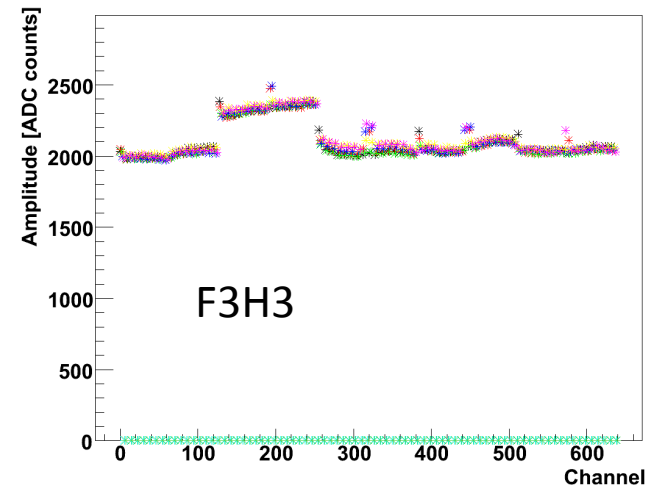
Others with features

These were not idenitfied to have issues before.

Mean RMS noise per sample
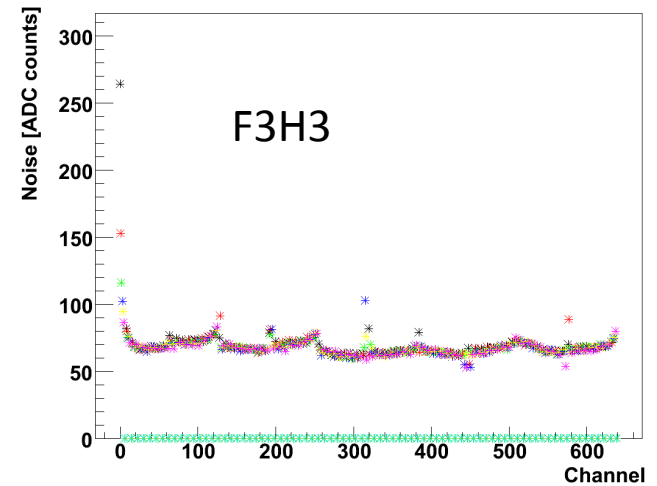
F7H3

Fitted amplitude

F3H3

Fitted amplitude

F7H3

Mean RMS noise per sample

F3H3

Next steps

- Compare to a baseline run during same time period

Older stuff

Overview

- Compare calibration results this fall compared to last calibration during spring running
  - Comparison vs physical channels
  - Should add vs readout order by default as well
- Calibration runs
  - Run 5672: May, 2015, Hybrid T ~-13C
  - Fall runs
    - Run 6127: Sep. 17, 2015 Hybrid T~+8C
      - Same firmware and software since spring testing i.e.
    - Run 6139: Sep. 28, 2015, Hybrid T~+8C
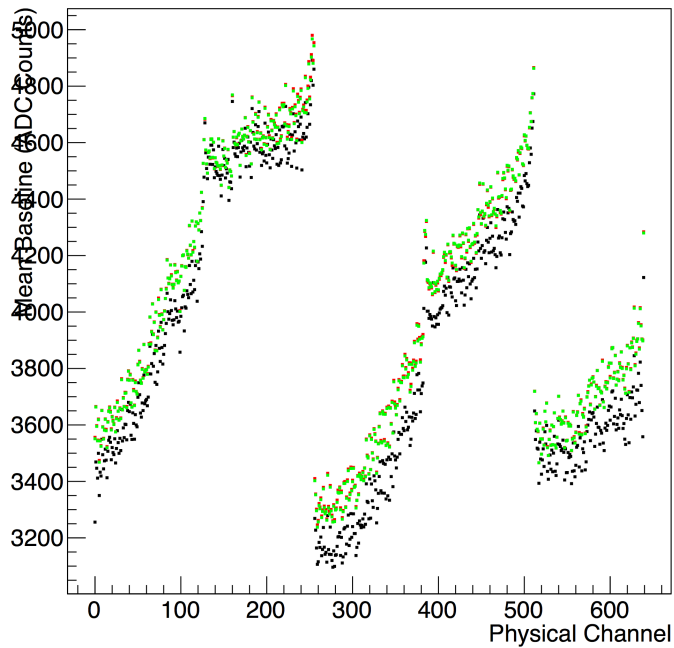   - New control DPM firmware and new software
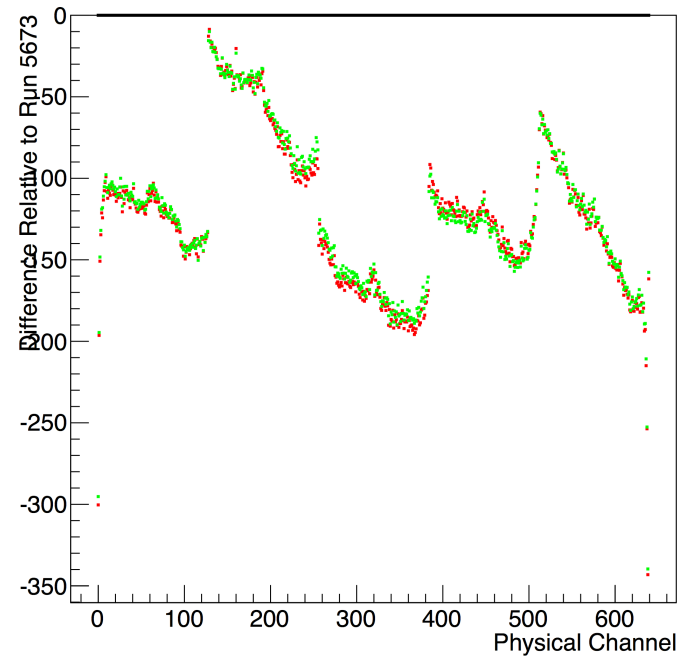
Black: eng run, red: 6127, green: 6139

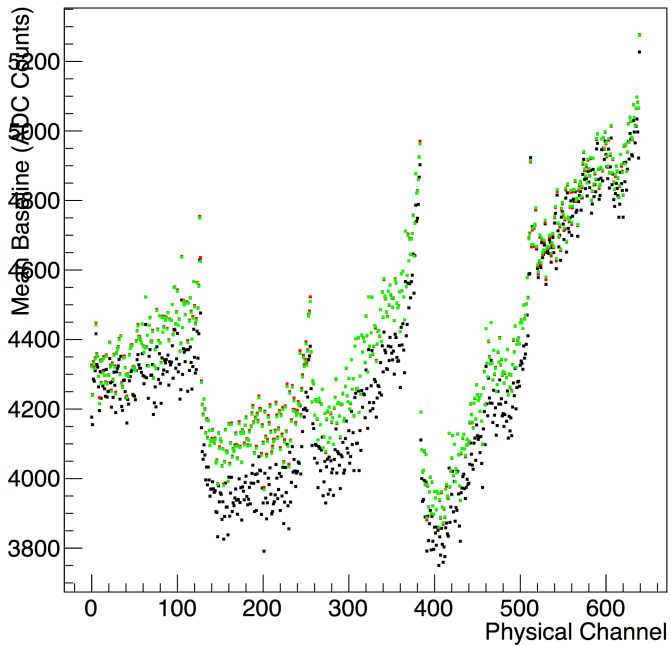# Baseline

- ## Typical baseline shift of ~150 ADC
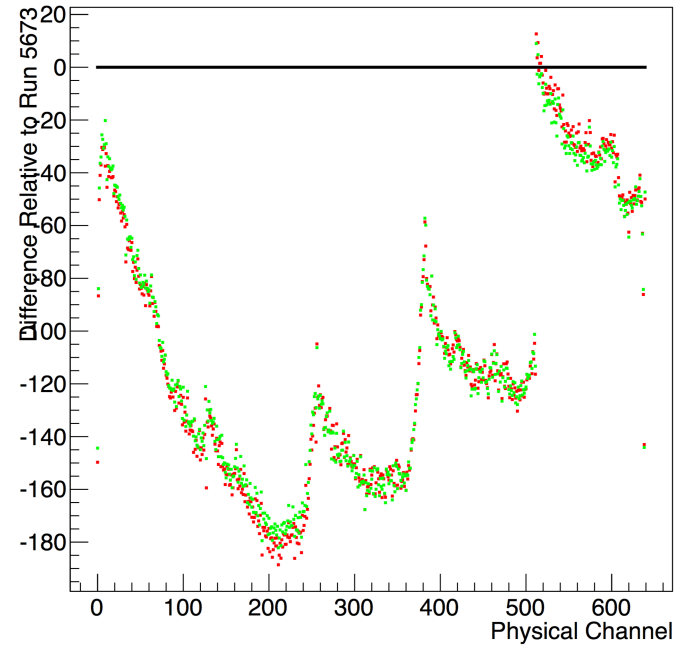
L4b

Baseline

- Typical baseline shift of ~150 ADC

L1b

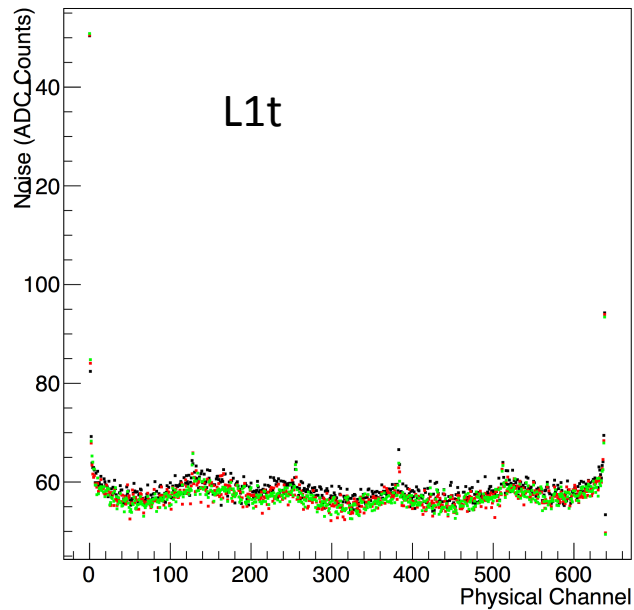FEB: 2 Hybrid: 0 Mean Baseline - Sample 4

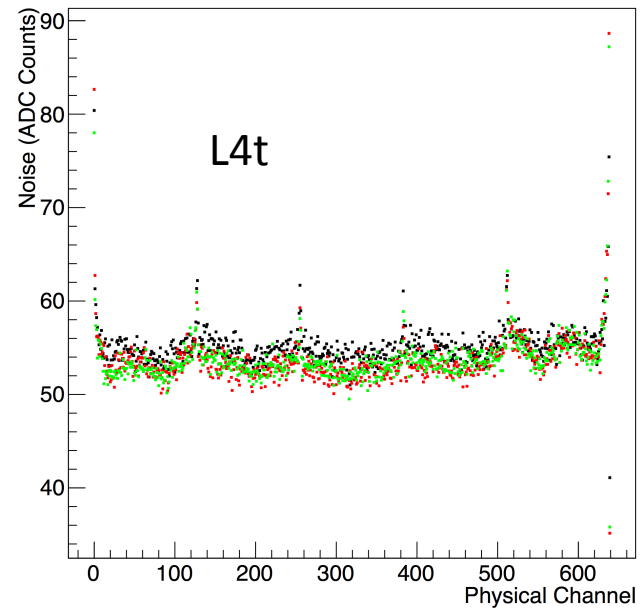FEB: 2 Hybrid: 0 Mean Baseline - Sample 4

Noise

- Noise level decrease by ~2 ADC counts

FEB: 9 Hybrid: 1 Noise - Sample 4
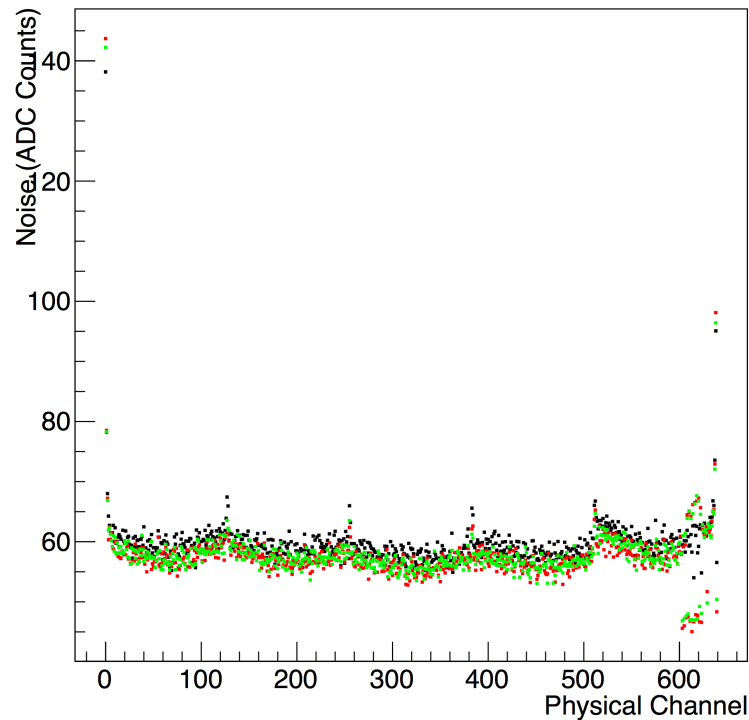
FEB: 5 Hybrid: 0 Noise - Sample 3

Two issues

- One APV with ~20 channels nearby each other at ½ noise
  - F2H1
- Many ~5 channels/apv with ½ noise: more or less periodic vs physical channel
  - F3H2, F3H3 (similar to F3H2 but much smaller effect), this is L6b
  - F7H2, F7H3, both similar to F3H2, seems more channels are affected, this is L6b

Issue 1

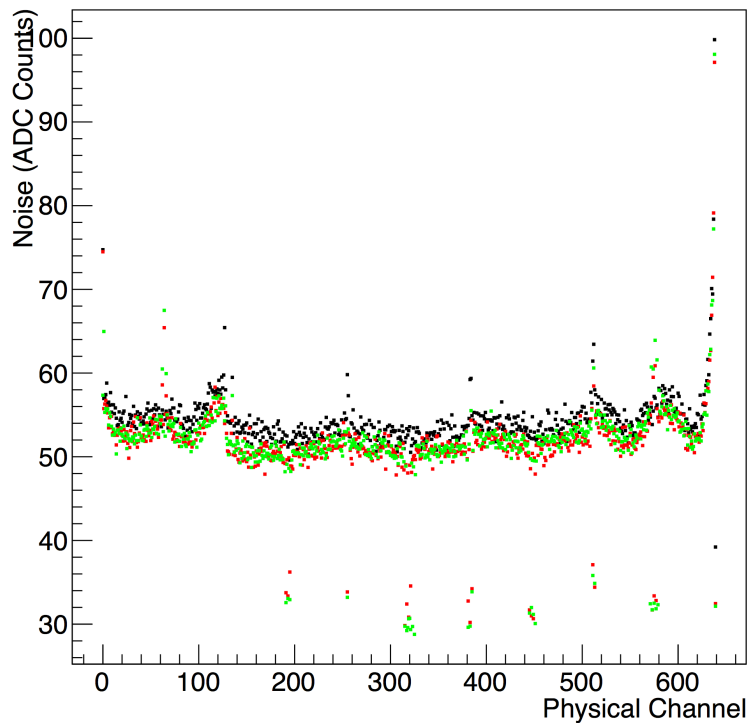- One APV with half channels at ½ noise

FEB: 2 Hybrid: 1 Noise - Sample 4

Issue 2

- Low noise groups "periodic" vs physical channel
- A few channels with higher noise

FEB: 3 Hybrid: 2 Noise - Sample 0

FEB: 7 Hybrid: 2 Noise - Sample 1