CRP6 Coldbox First Results

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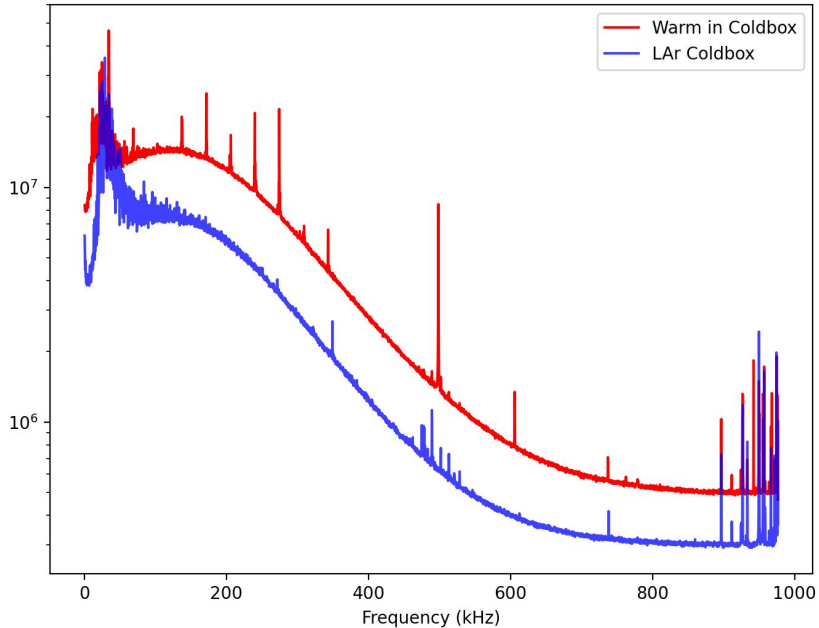CE Consortium Meeting 11/28
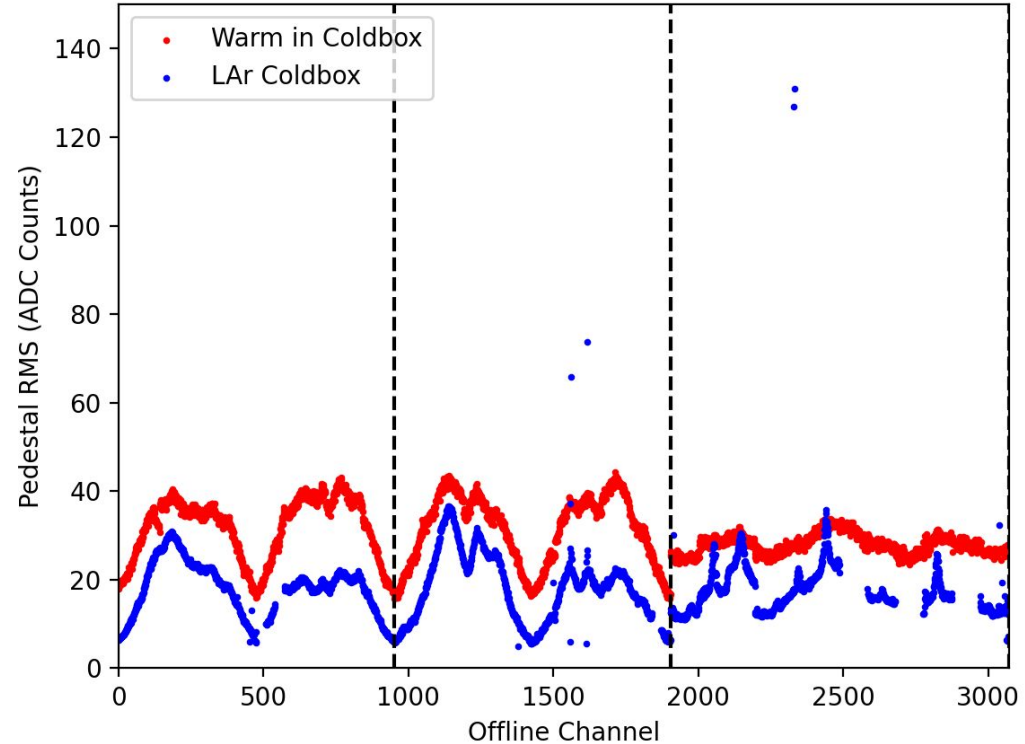
Current Issues

- **FEMB18** had an issue with 25% of I2C writes to one ColdADC failing. **Replaced before coldbox run began.**
- **One COLDATA on FEMB3** apparently requires short-cable line-driver settings
  - Corrupted data frequently shows up otherwise, as judged by CRC checksum flags and by the nonsensical ADC values
- **FEMB10** has an issue with its power lines, starting sometime during the purge. **Currently disable.**
  - The DC/DC modules for that FEMB on the WIB read 4 V but near 0 A when powered on
- **FEMB12** has a disrupted clock or I2C line, starting sometime during the cooldown. **Currently disabled.**
  - It can be powered and draws reasonable amounts of current, but all I2C read/writes to it fail
- **FEMB2** has some issue with SPI communications to its LArASICs, starting sometime during the cooldown. **Currently disabled.**
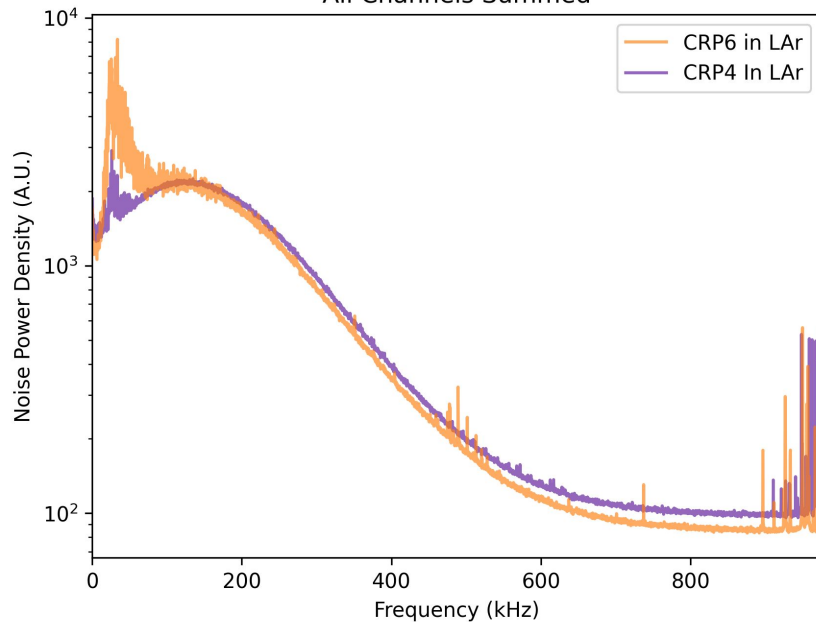 - Further investigation still planned
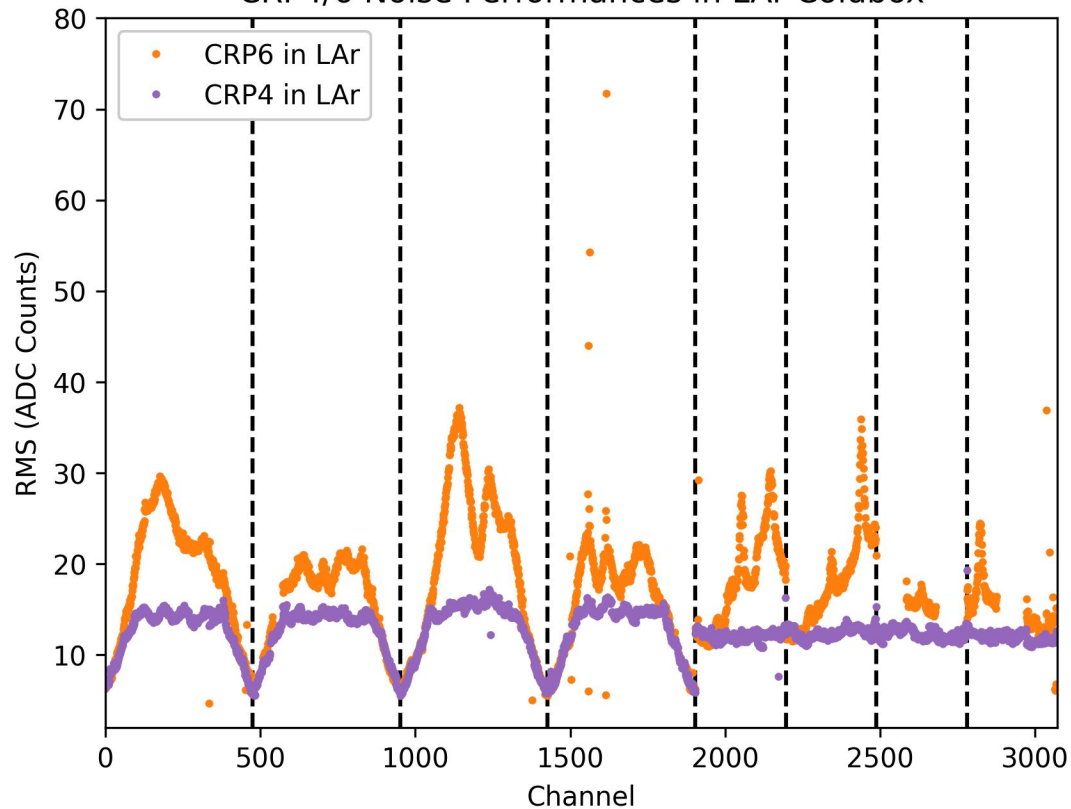
CRP6 Coldbox Noise Performance

CRP6 / CRP4 Comparison

- Worsened performance in CRP6 largely comes from increased magnitude and width of peak around 25 kHz

CRP4/6 Noise Power Spectrum Comparison
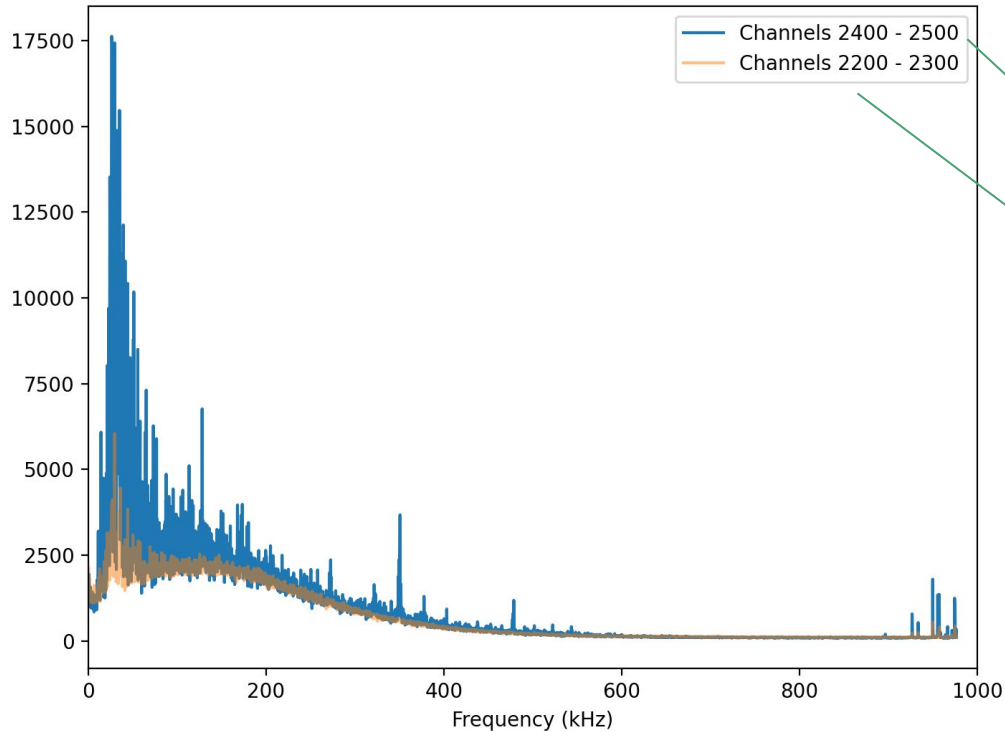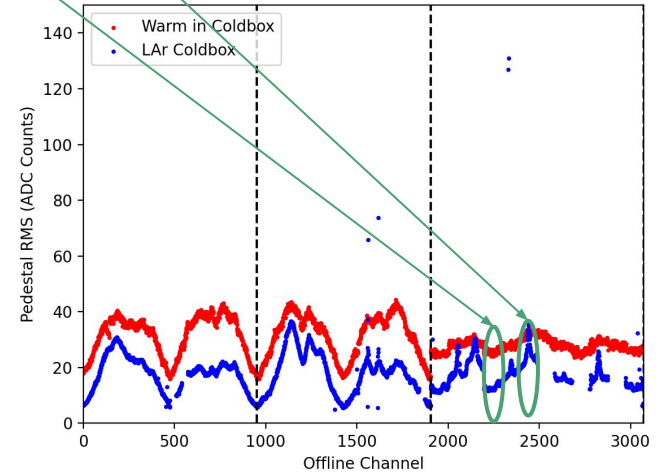All Channels Summed

CRP4/6 Noise Performances in LAr Coldbox
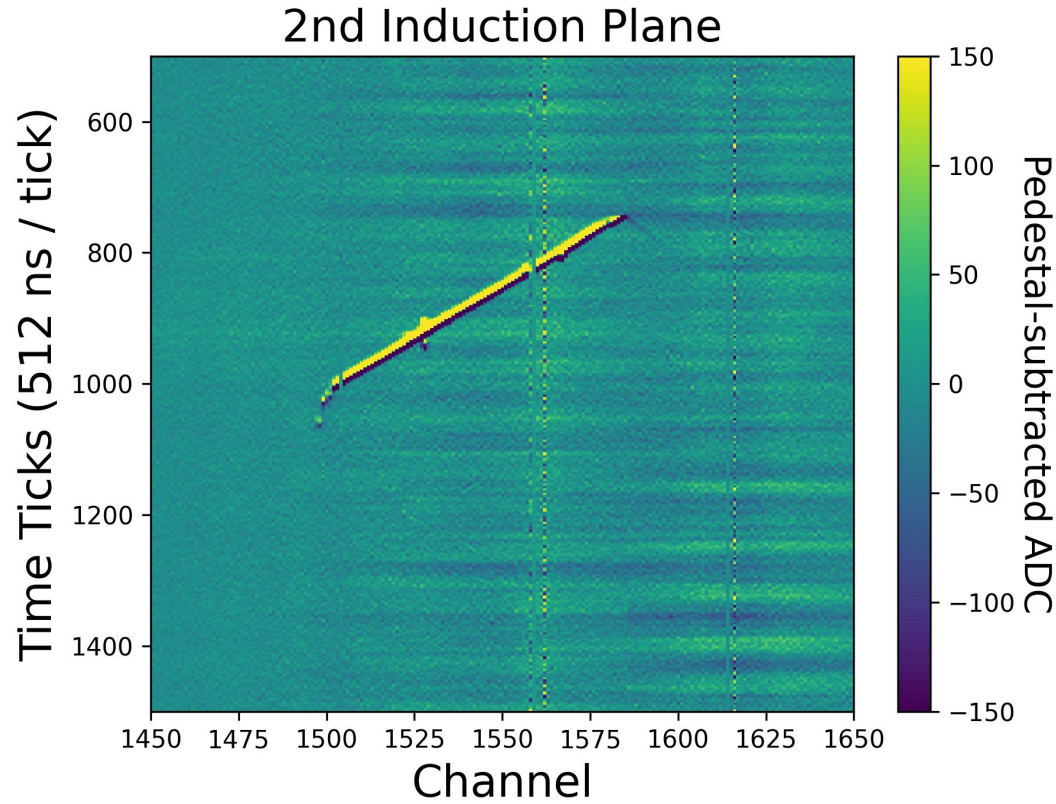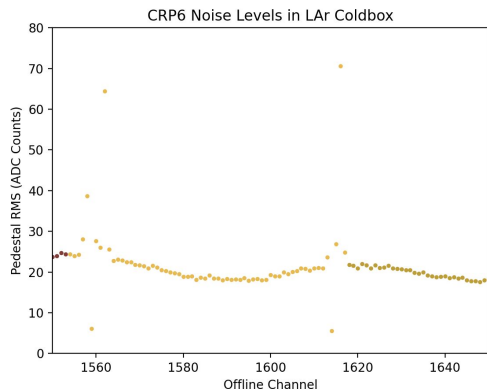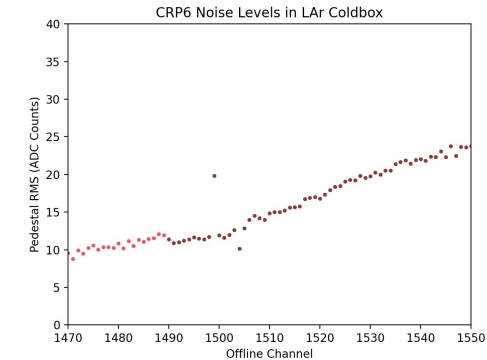
CRP6 Noise

CRP6 Channel FFT Comparison

- FFT comparison of noisier vs quieter collection channels

Channels with Broken Connections

We can see the effects of some of the channels having broken connections in the tracks