

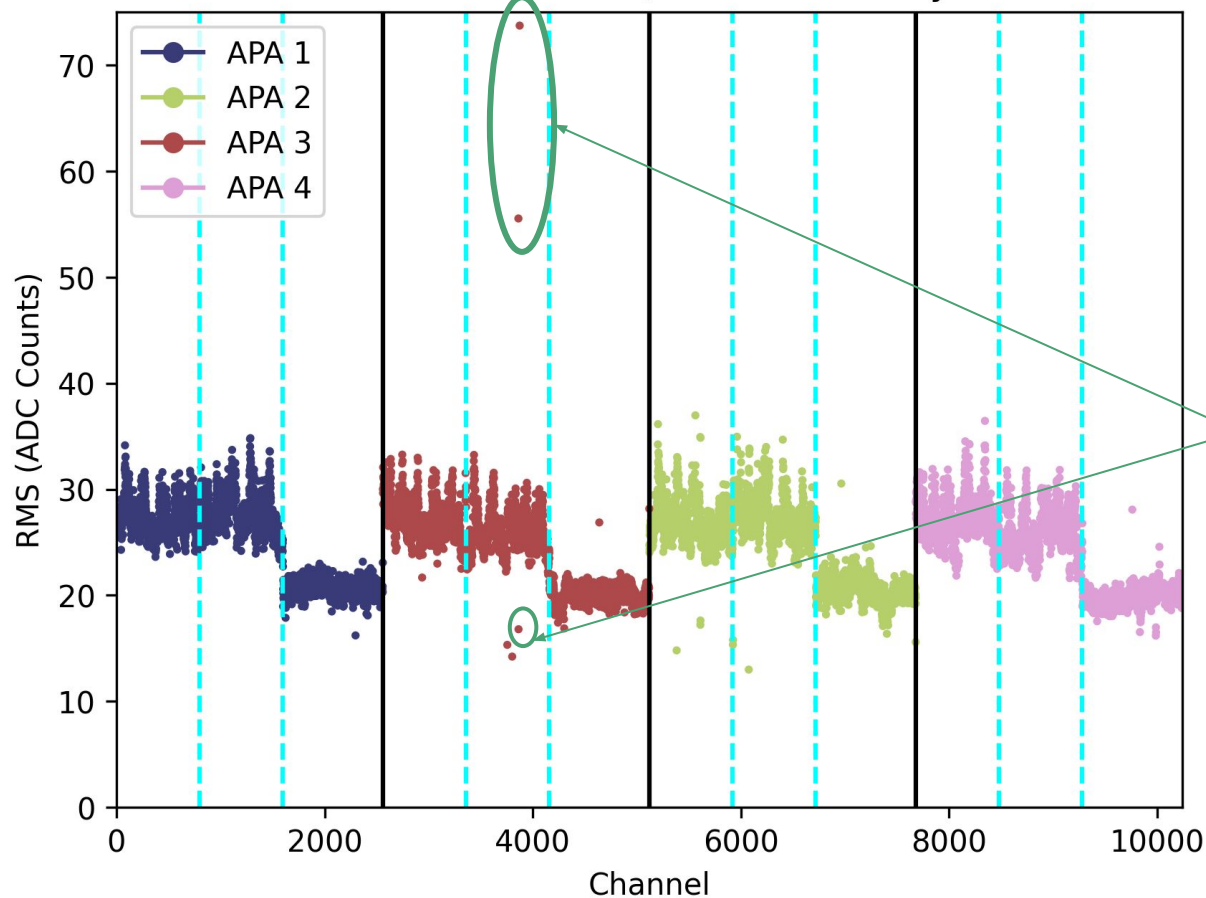
NP04 APA TPC Electronics Status Summary

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FD1 Technical Board Meeting
02/15/2023



ProtoDUNE-II-HD RMS, Inside NP04 Cryostat

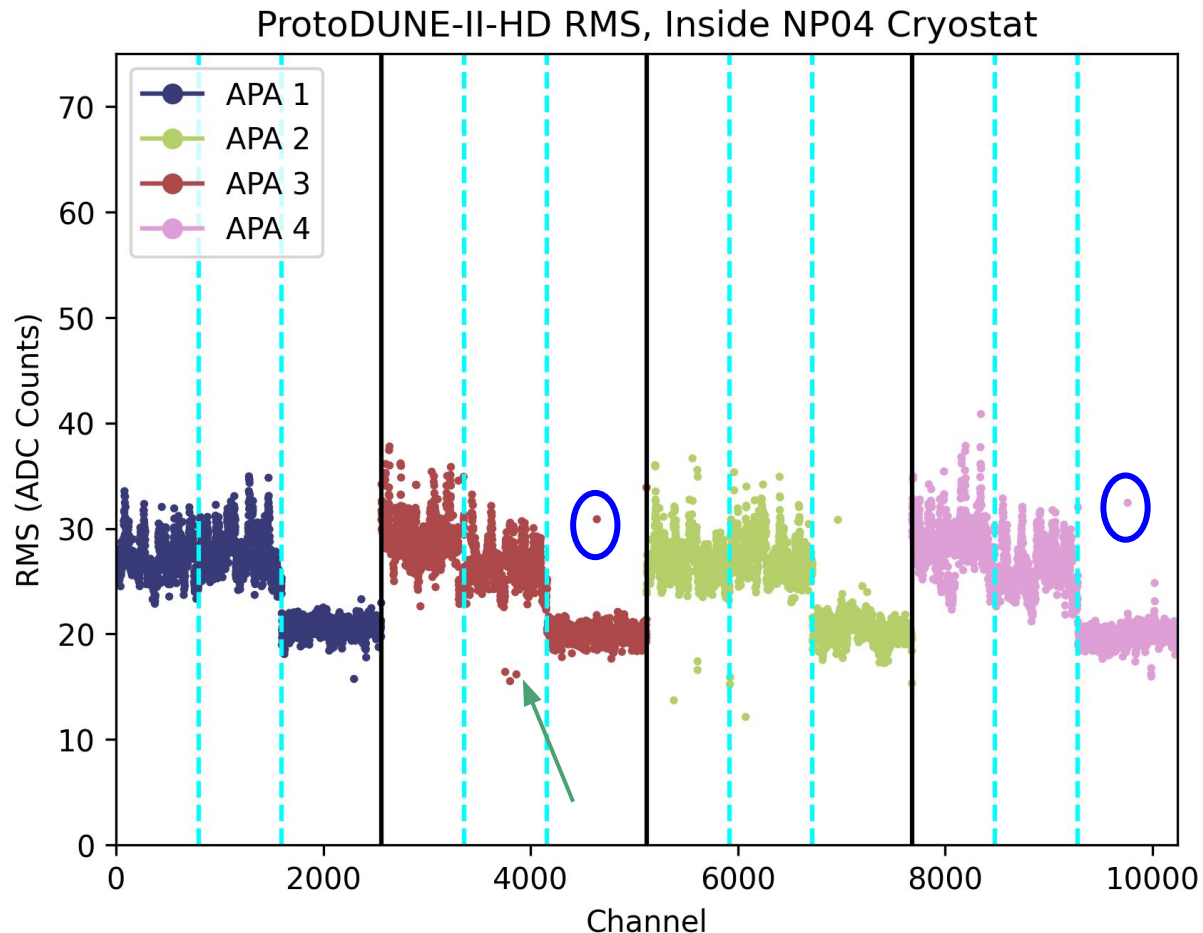


NP04 Status with Broken Wire

- After APA3 was installed in NP04, we observed a new open-like channel and 2 high-noise channels on APA3, presumed to correspond to the new broken wire and some wires that it touched

After Wire Removal

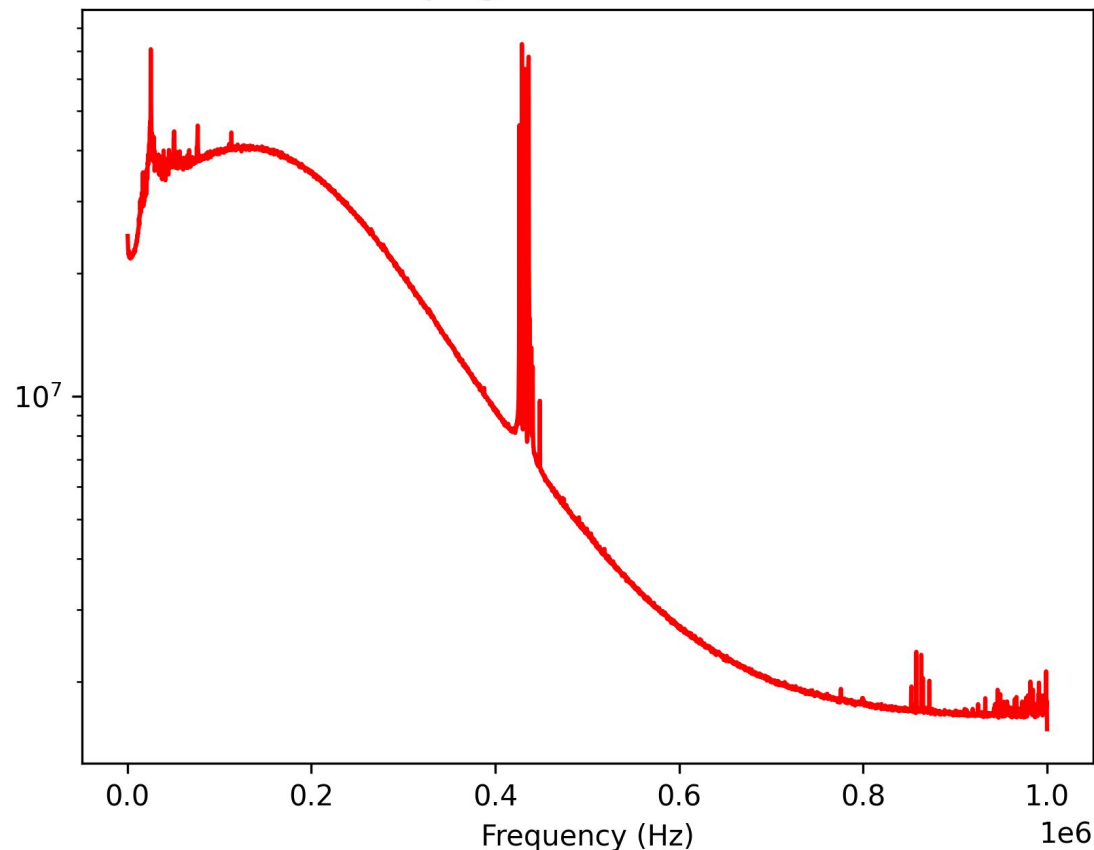
- After removal of the broken wire, the extra high noise channels have returned to normal performance
- The **open channel (3863)** remains, as expected
- The other open (low-noise) channels are all known nonconformities from the coldbox tests
- **2 higher-noise collection wires (4639, 9280)** at the edge of the collection plane see extra-strong pickup
 - Facing cryostat wall, at the border between APA3 and APA4



Noise Power Spectrum

- Noise power spectrum from the 4 APAs' channels at warm remains as expected: generally good noise conditions, with some extra pickup around 400-500 kHz
- 25 kHz coherent noise remains
 - Note: we have recently observed this same coherent pickup on the CRPs at cold

NP04 Warm Noise Power Spectrum
2 us shaping, All Channels Summed



Noise Performance

- Current pedestal RMS levels in electron ENC units at warm shown for reference
- Response remains stable - we will continue to regularly monitor the detector status

