

ProtoDUNE Status

Wenqiang Gu

ProtoDUNE HD

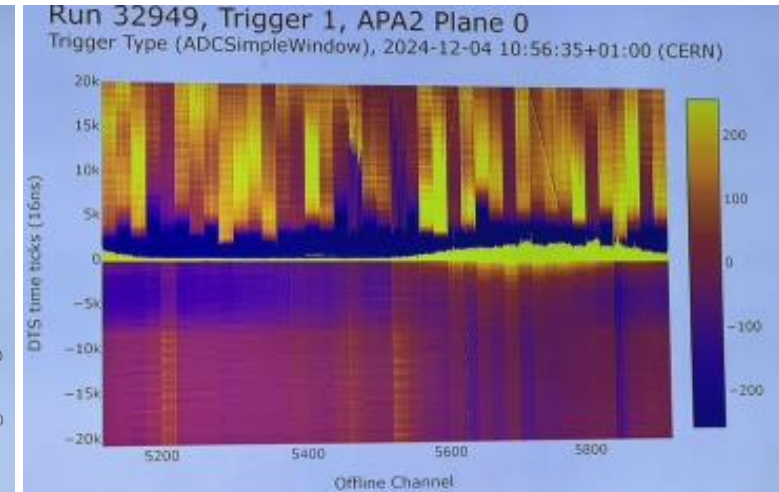
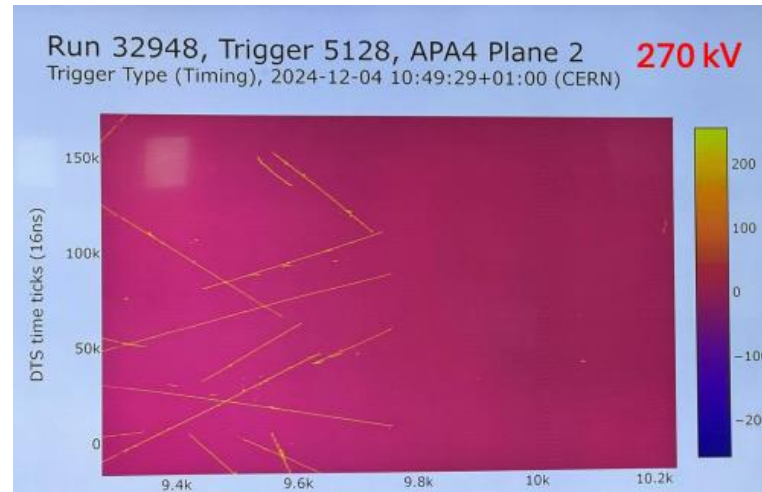
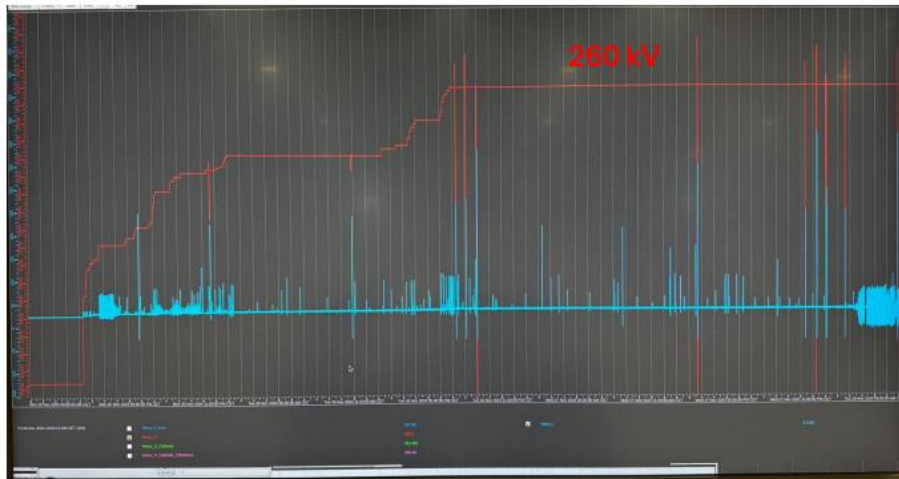
- Run II period has been successfully accomplished
 - LAr transfer to NP02 has started on Dec. 6th
 - Cathode/APA biases are OFF, CE are on to monitor TPC channels until empty
 - Aim to enter the cryostat in early March

Momentum Setting	Run Time	Purpose
+1 GeV/c	~ 3.5 weeks	Pion-argon cross section (including differential measurements) Proton-argon cross section (including differential measurements) Hadron energy response
-1 GeV/c	~ 3.5 weeks	Pion-argon cross section (including differential measurements) Hadron energy response
±5.0 GeV/c	~ 2 week	Low(er) energy kaon studies (1-2% of antiprotons in -5 GeV/c sample)
±1 to ±7.0 GeV/c	~ 1 week	Electron energy scan (ProtoDUNE-SP did this for positrons)

Beam dataset from
Run I period

HV ramps and Ground Shake events

- 36 hours of cosmic-ray data acquired with 260kV (730 V/cm)
- Event displays look good at higher voltages except the known issue with “ground shake”
 - No final conclusion yet for GS (appear @ 80kV, 2/min @ 120kV, 16/min @200kV)



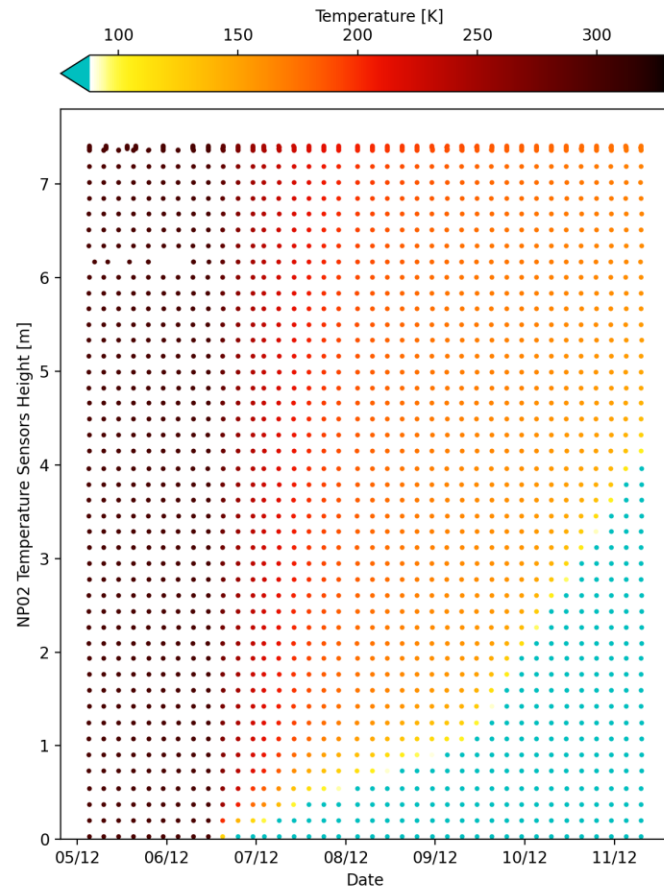
Ground Shake Events

Publication plan

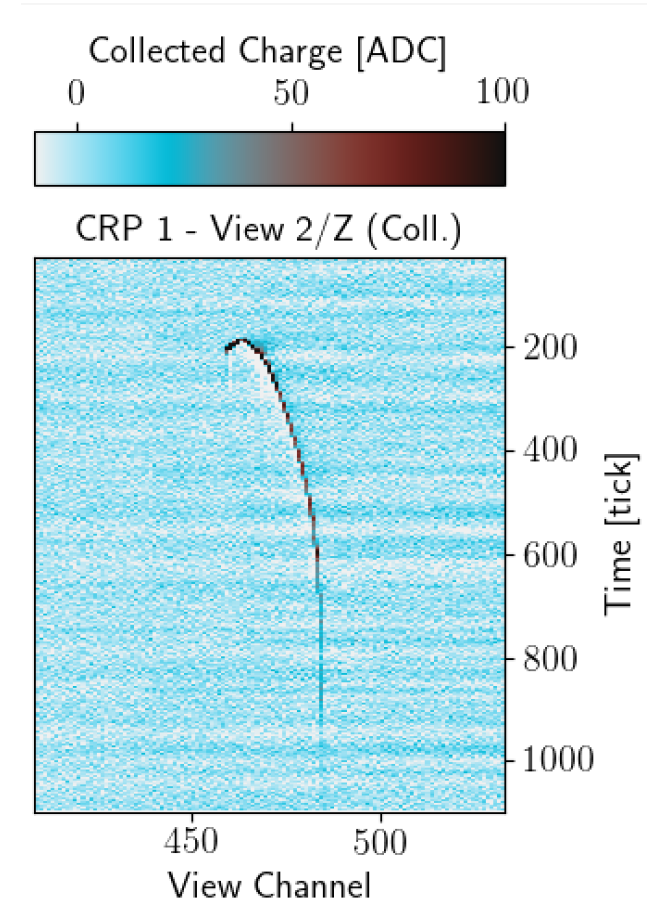
- Aim to submit ProtoDUNE-HD detector paper after summer 2025
 - System-specific papers expected before (Lasers, PD, CE, DAQ, ...)
- Aim to have a performance paper from DRA as well
 - Need to discuss how to organize it with the detector paper
- Wire-Cell team is supposed to coordinate/help with the CE performance, calibration, noise filter, signal processing

NP02 filling

- NP02 filling is halfway done



- Bottom CRPs' bias is ON

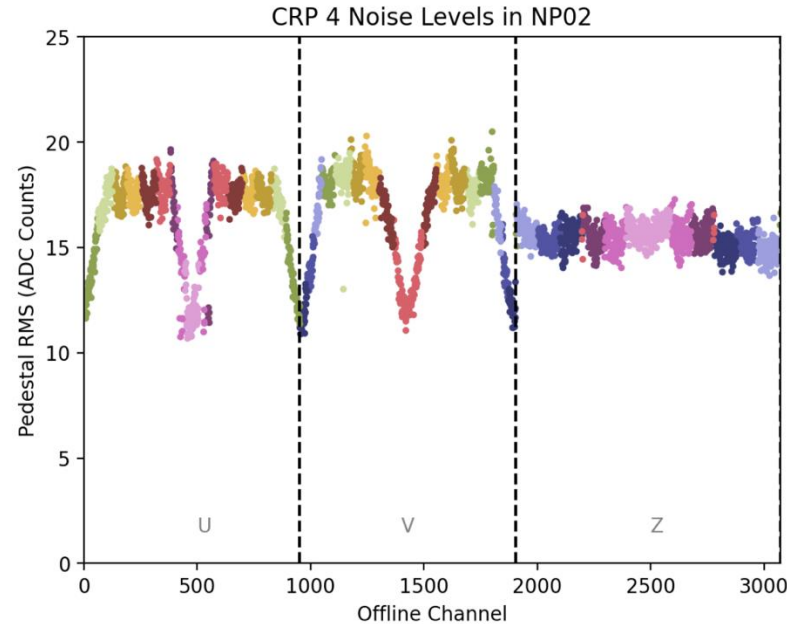


CE noise

- Overall noise decreased as expected
- Dead channels are being tracked

CRP 4

Before Transfer

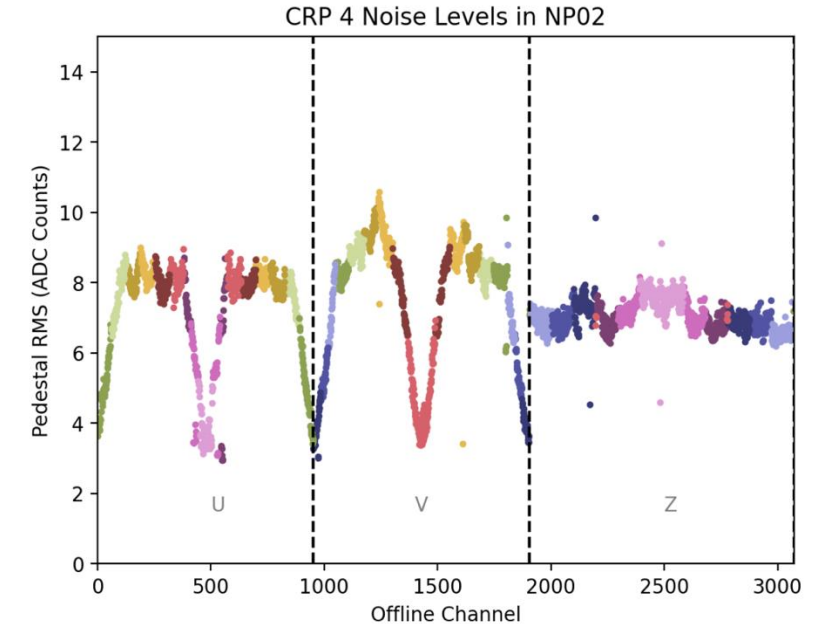


Run 32962 from 11/18 @ ~9:46 AM CERN



Karla Tellez-Giron-Flores

During Transfer



Run 30015 from 12/09 ~7:57 AM CERN



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<https://indico.bnl.gov/event/25928/> Karla's talk