UCL Purity Monitors in NP02

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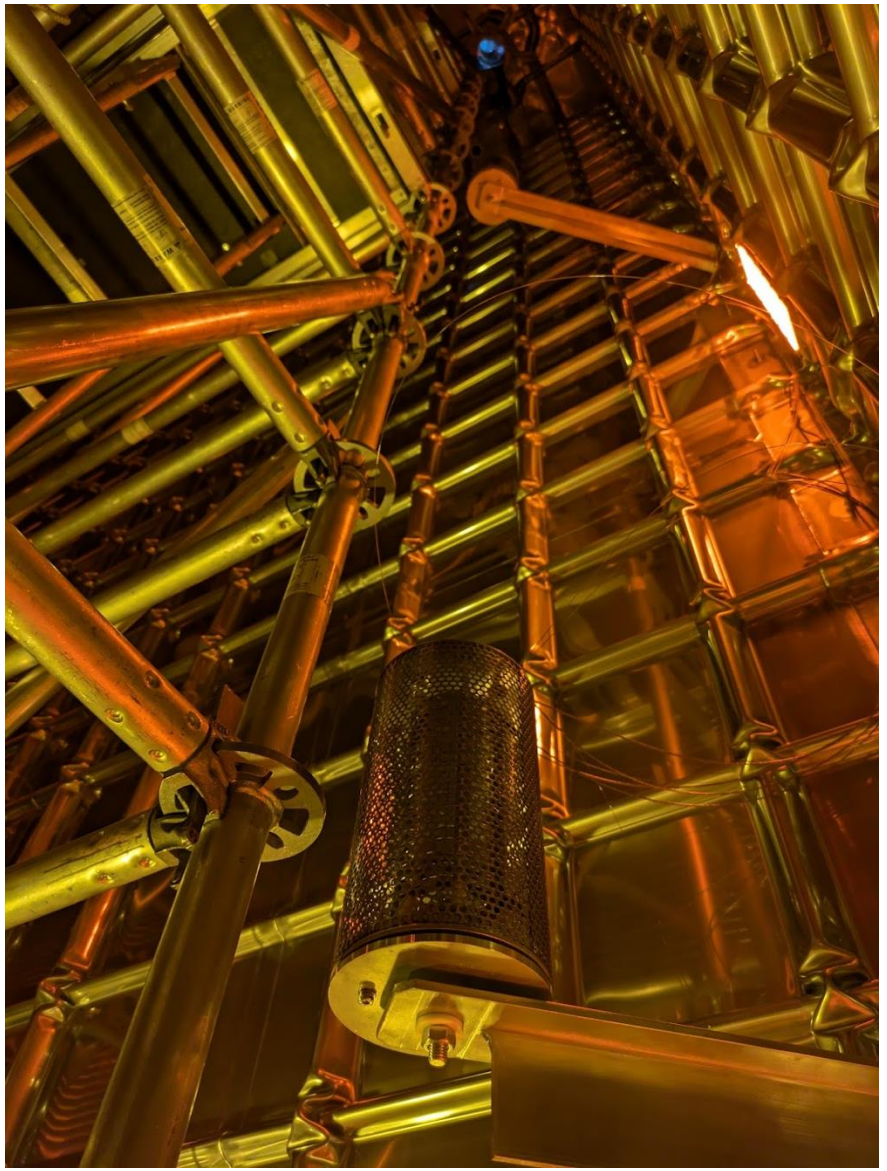
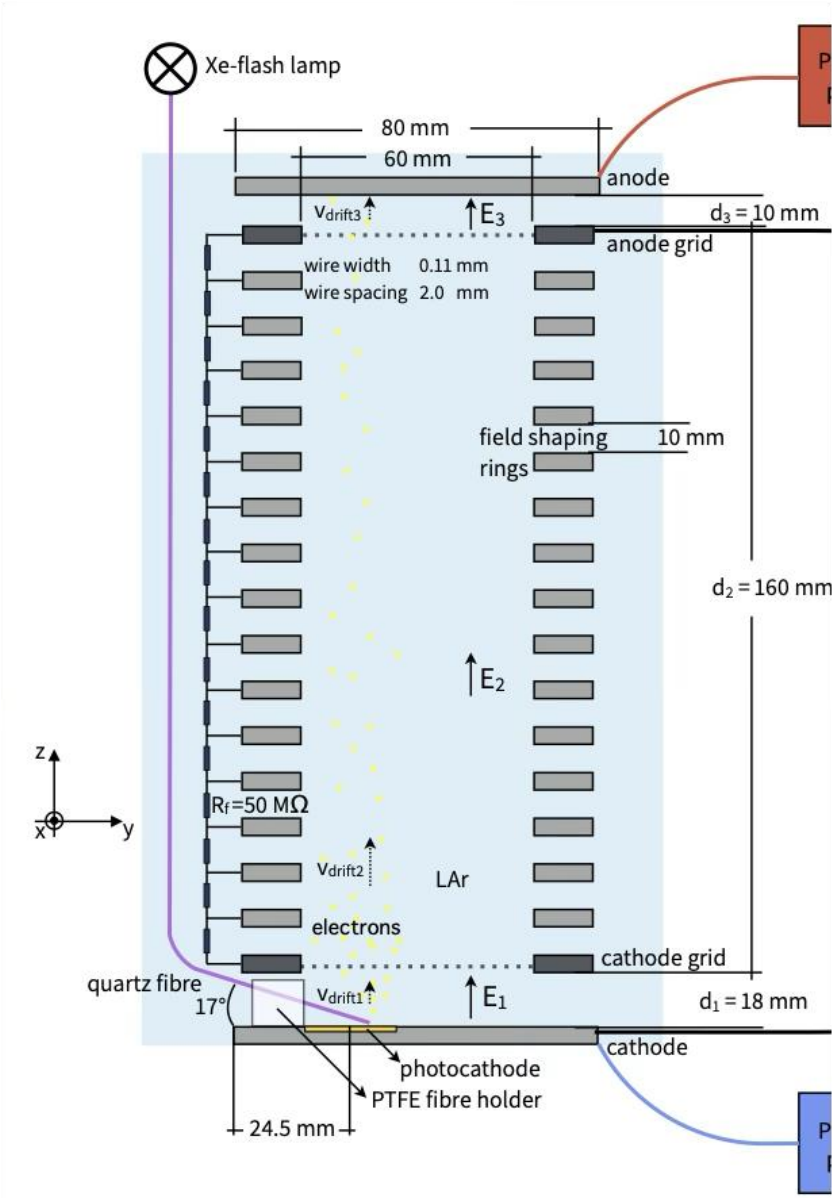


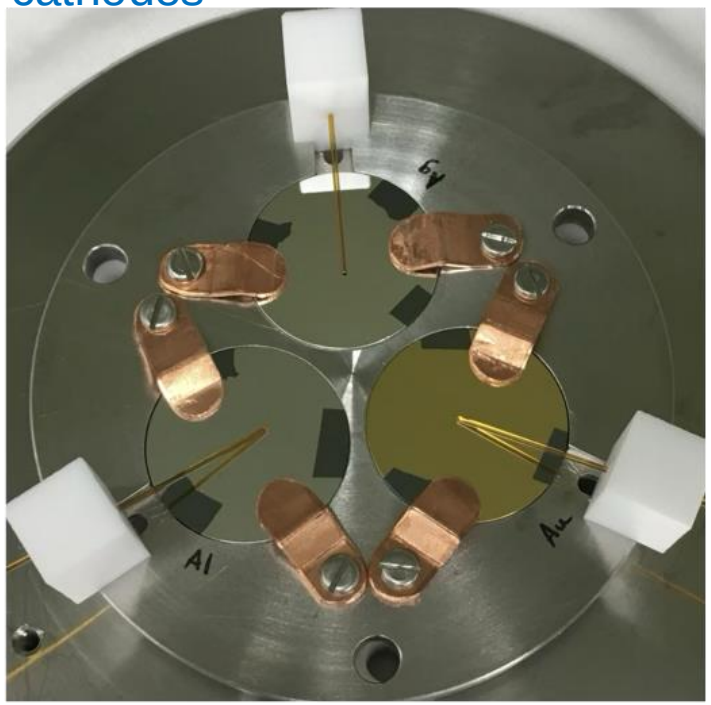
Reminder



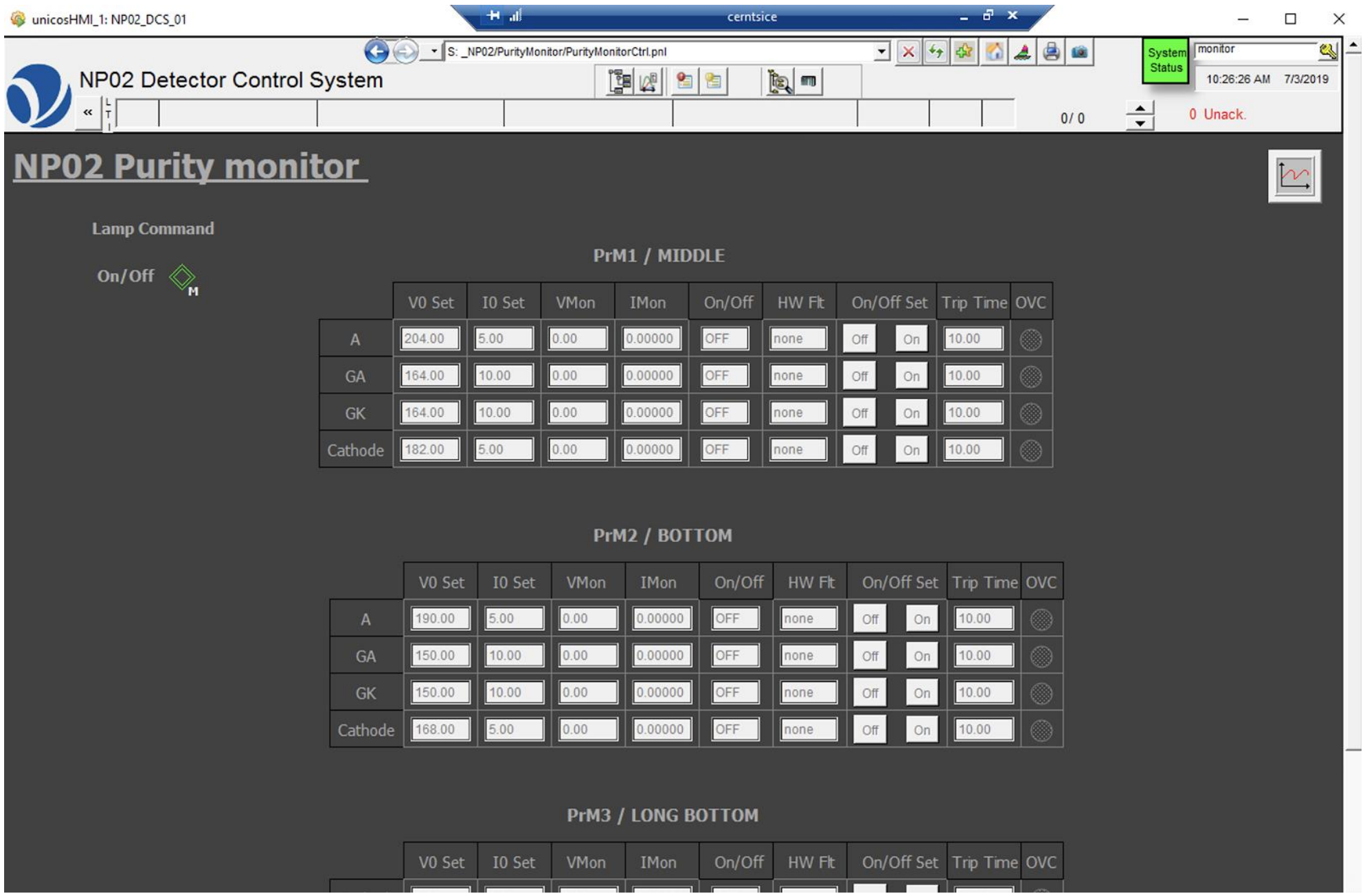
UCL Purity Monitors

These were deployed in ProtoDUNE-DP and have been refurbished with new cathodes

Uses a multi-cathode approach with both gold and silver cathodes

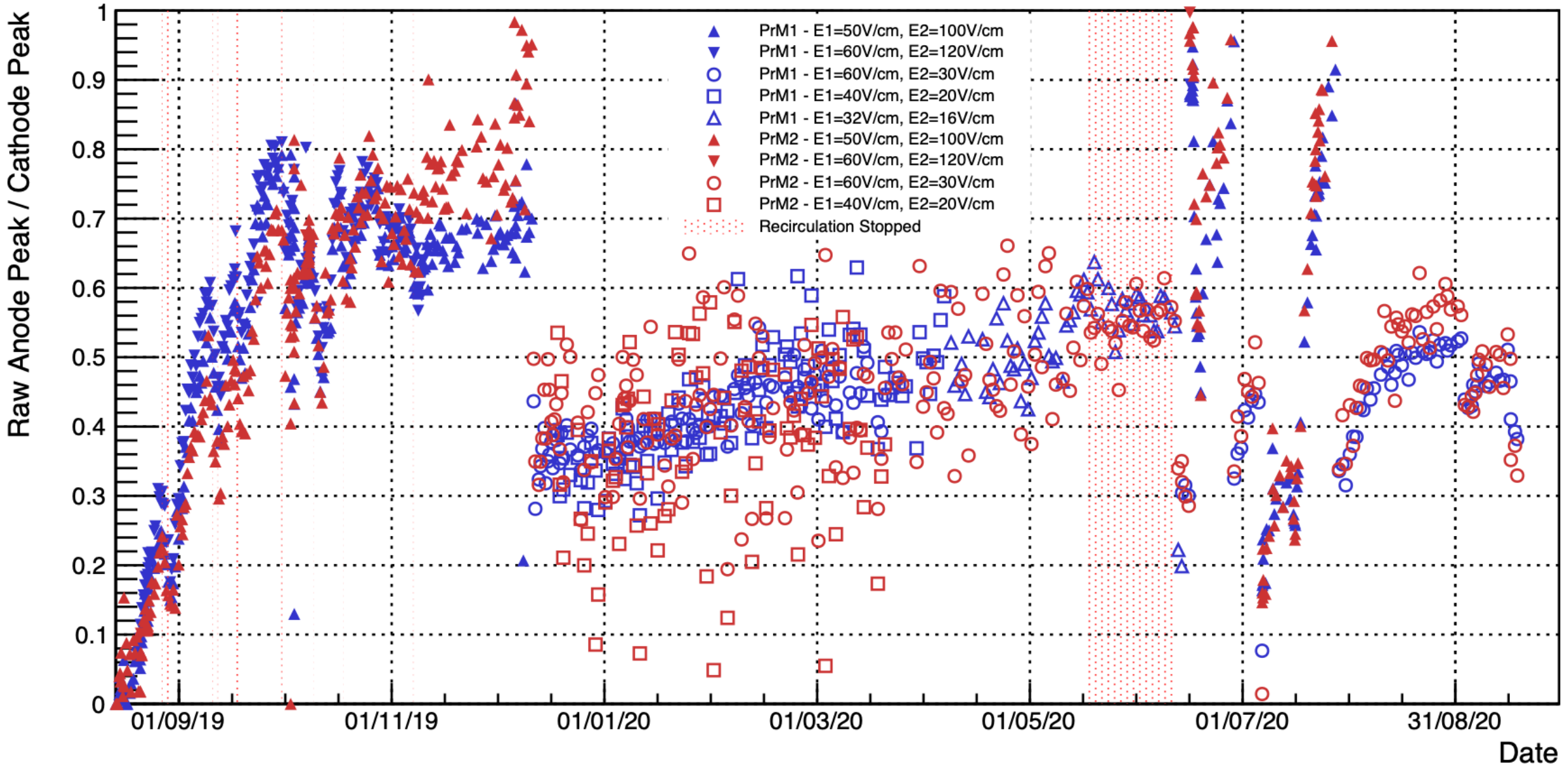


Reminder: ProtoDUNE-DP Purity Monitor Control



Reminder: ProtoDUNE-DP PrM Data

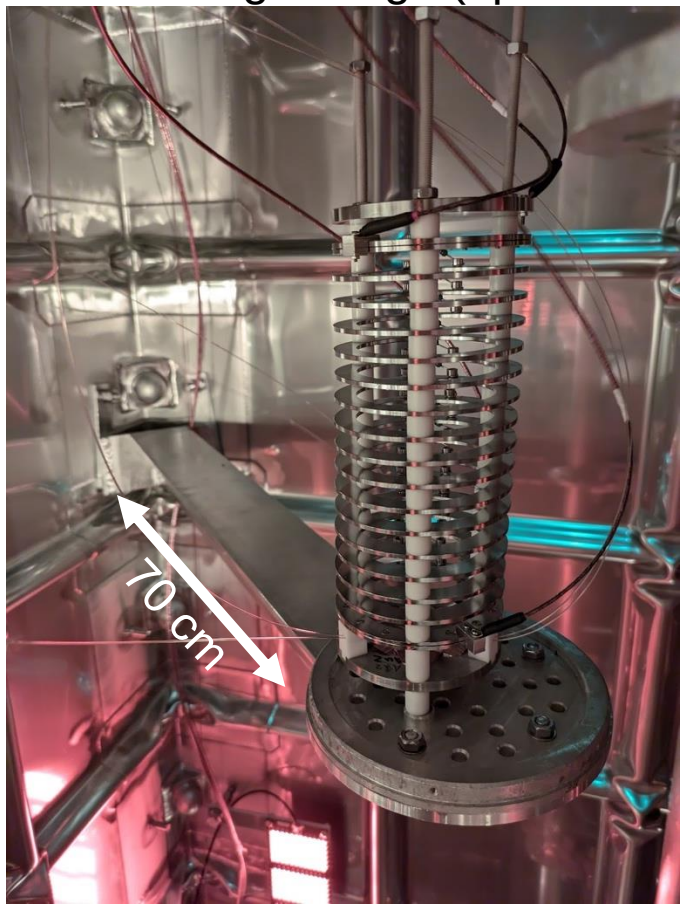
- There were lots of interesting features in the ProtoDUNE-DP PrM data, see talk from 2021 if you want to know what some of these features are.



Current Installation Status

PrM 1:

- Mechanical installation complete at a height of 3.92 m from cryostat floor
- 6 fibres (connected to Xe flash lamp)
- Holding voltage (up to 300 V)



PrM 2:

- Mechanical installation complete at a height of 1.54 m from cryostat floor
- 5 fibres (connected to Xe flash lamp)
- Holding voltage (up to 300 V)

Current Installation Status and To Dos

- The DAQ has been tested on the NP02 roof (Xe flash lamp and trigger, preamps, digitizer)

- Outstanding:
  - HV supply for PrMs (8 channels: 4 +ve, 4 -ve)
  - HV cables (for the roof)
  - Small NIM crate (2-4 slots) for trigger (tested using full NIM crate)
  - Testing during gas filling and liquid filling:
    - Fully powered PrMs with pulsing lamp
    - Preamp calibration (requires physically switching connections on the roof)

- Questions:
  - When will the gas filling start?
  - When can we integrate the PrMs HV and xenon lamp power with the slow control?
  - Does the flash lamp interfere with any other systems that will have to be turned off when we run?
  - Can we keep the current network connection that we are using on the roof?