

# ProtoDUNE-SP operation updates

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# This week

## ● Operations

- Movable temperature probe measurements on Tuesday
- Swapped to the new HV noise filter and 300kV Heinzinger power supply
- Preparations for neutron generator runs: materials arrived, building the shielding

## ● Data taking

- Cosmic runs for attenuation studies
  - Trigger specific CRT cells
  - Data taking with full CRT and full TPC as well
- Distorted electric field runs
- Calibration and noise runs
  - Noise runs with the new HV hardware
  - CE calibration runs (+ few short runs with different gain and peak time settings)
  - Pulse injection (30kHz-300kHz) into the wire bias connection to verify the filter/ripple requirement

## ● DAQ tests and developments

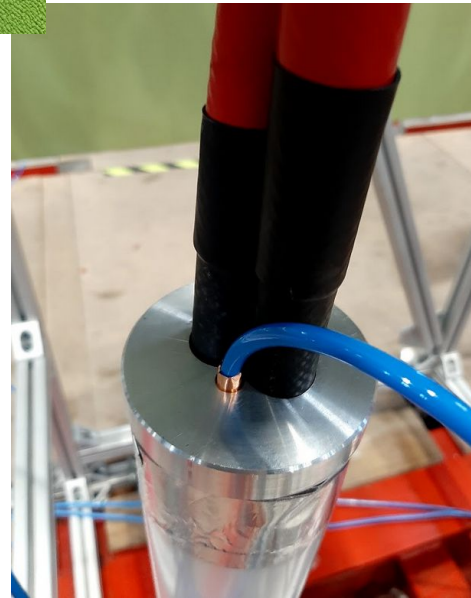
- Long term DAQ stability test with FELIX
- Longer-than-normal readout window tests to understand if we could take 1-second TPC&PDS data
- Hit finding with SSPs

## ● HV preparations

- Swapped to the 300kV power supply
- Installed the new noise filter

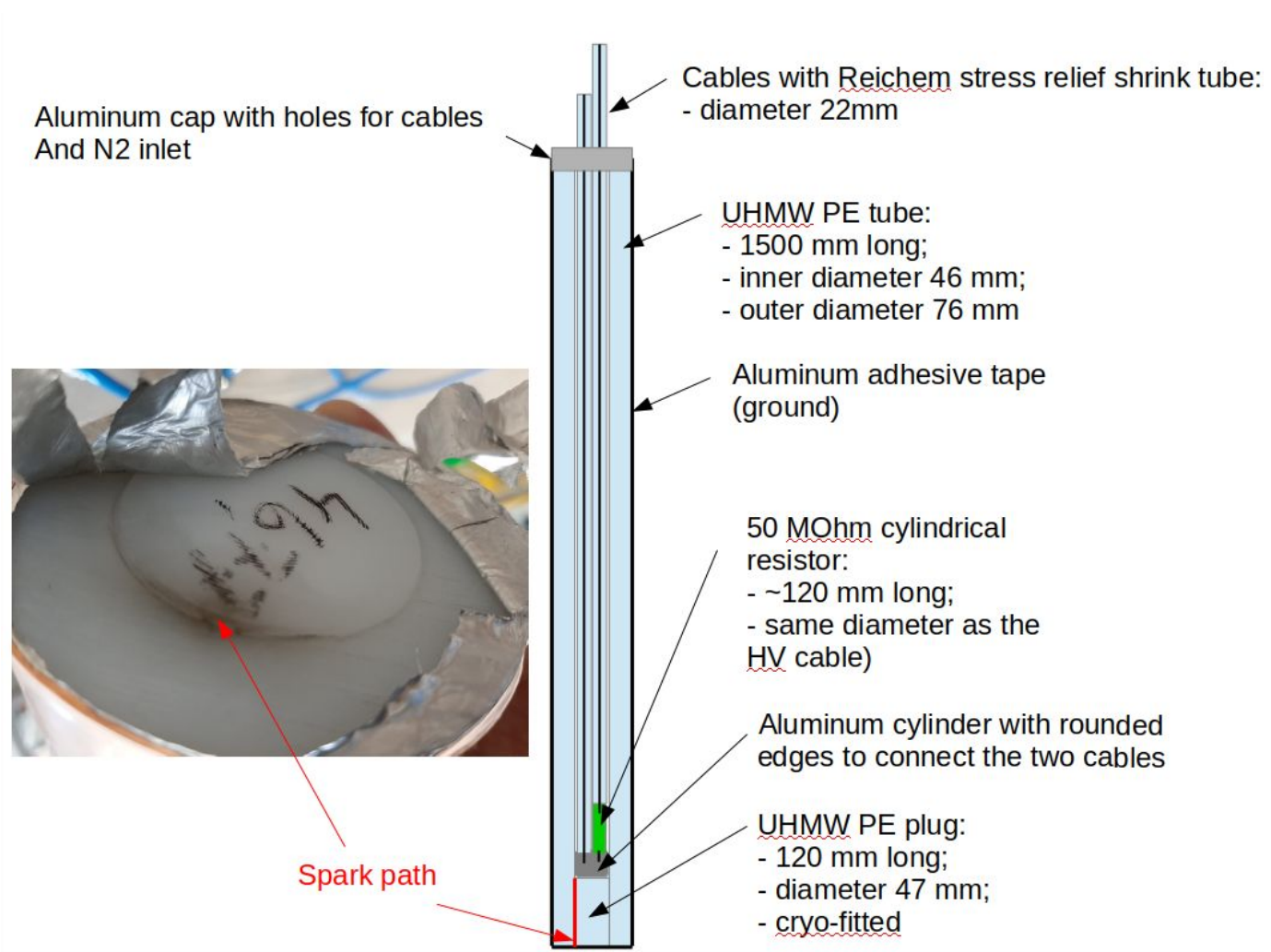
# HV power supply and the new noise filter

- 49.6M $\Omega$  resistor covered with Raychem shrink tube
- Simple connectors for the HV cable to resistor connection
- Cables are covered with another layer of Raychem
- Cryofit UHMWPE tube



# HV power supply and the new noise filter

- Ramped up to 180kV on Tuesday, discharged ~5min and tripped
- With few modifications we managed to make it work
  - Stable at 180kV last ~2 days



# This weekend and next week

- **This weekend:**
  - Finalize calibration CE runs
- **Next week:**
  - **Operations:**
    - Increase the HV in steps (180kV → 200kV → 230kV and 270kV on the CPA)
    - Finalize neutron generator preparations
  - **Data taking:**
    - Cosmic data taking with TPC at higher fields
    - Data taking with neutron generator on
  - **DAQ tests:**
    - FELIX test and developments
    - Hit finding with SSPs