

# ***Detector Activation Procedures***

ProtoDUNE-SP DAP Meeting  
September 6th, 2018

# *Before end of filling*

- Routine CE noise runs and PD test runs
- Routine Purity Monitor measurement
- After ground planes are covered with LAr, turn off the MPOD channel supplying the voltage to the cathode. Plug in the Heinzinger HV cable, and ramp the voltage to ~10 kV to test the control and monitoring on the system. Voltages up to 20 kV may be considered
  - CE noise run after voltage is set. Monitor current draw during and after voltage ramp
  - Should happen next Monday

# ***Filling completed, before recirculation starts***

***Next Monday/Tuesday***

- Check the LAr surface with camera, to see whether is flat or shows turbolences/bubbles
  - PD and FEMBs must be off
- Turn on FEMBs and check LAr surface with camera to see whether there are any difference with respect to the previous step
  - PD must be off
- Evaluate a new filter regeneration

# *After start of recirculation*

## *Next Monday/Tuesday*

- Check the LAr surface with camera, to see whether there are any difference with respect to the previous step
  - PD and FEMBs must be off
  
- Turn on FEMBs and check LAr surface with camera to see whether there are any difference with respect to the previous step
  - PD must be off
  
- Cameras, PD, CE turned on. LED and infrared lights turned off.
  
- Start HV ramping. First set wireplane bias and FC termination voltage to the value correspondent to the targeted Cathode voltage. Then ramp Cathode voltage to the target value
  
- During HV ramp, monitor CE current draw. At the end of the ramp, take CE noise run

# ***HV ramp: Day 1st***

- Ramp rate: 60 V/s. Target voltage: 50 kV. Wait 30 minutes
- Ramp rate: 30 V/s. Target voltage: 90 kV. Wait 30 minutes
- Ramp rate: 30 V/s. Target voltage: 120 kV. Wait all night
- Take runs... should start to see something close to the wires now..

# ***HV ramp: Day 2st***

- Ramp rate: 30 V/s. Target voltage: 140 kV. Wait 4 hours
- Ramp rate: 30 V/s. Target voltage: 160 kV. Wait 4 hours
- Take runs... should see more now

# ***HV ramp: Day 3st***

- Ramp rate: 30 V/s. Target voltage: 170 kV. Wait 4 hours
- Ramp rate: 30 V/s. Target voltage: 180 kV. Wait forever
- Should be Thursday now. Time for our meeting
- Take runs and see how purity improves!