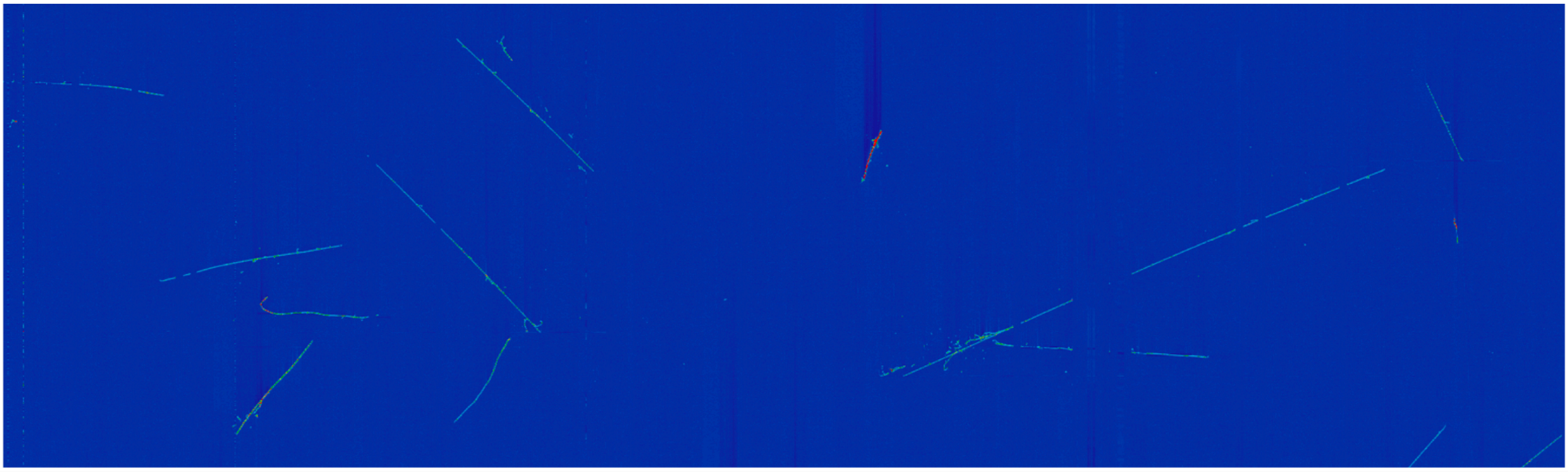
MicroBooNE Report

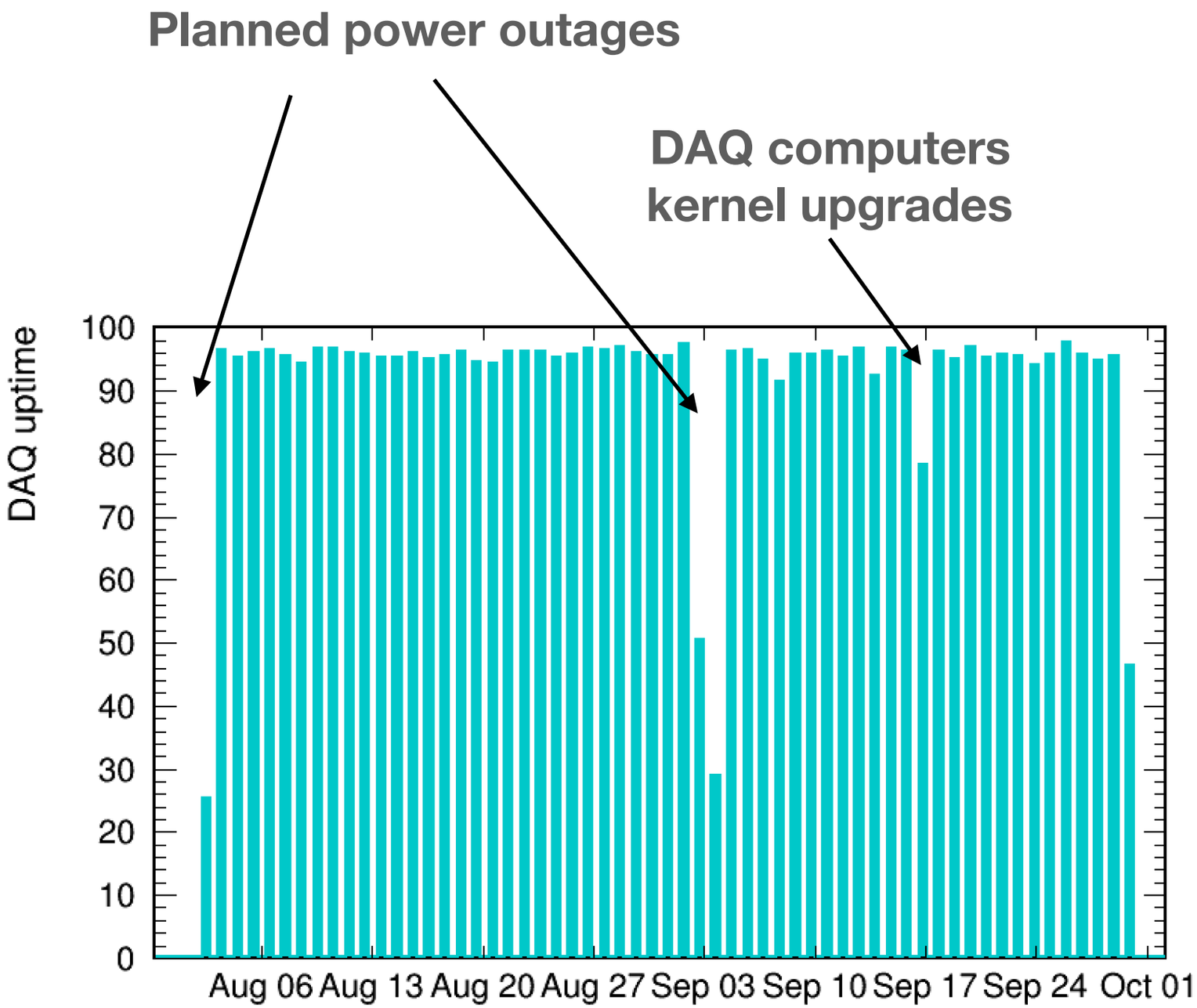


Žarko Pavlović & Ralitsa Sharankova

Proton Management Group Meeting

October 3, 2019

Data taking



- Collecting cosmics
- Average DAQ uptime 96% (excluding planned outages)

Computing summary

Average Jobs Running Concurrently

2195

Total Jobs Run

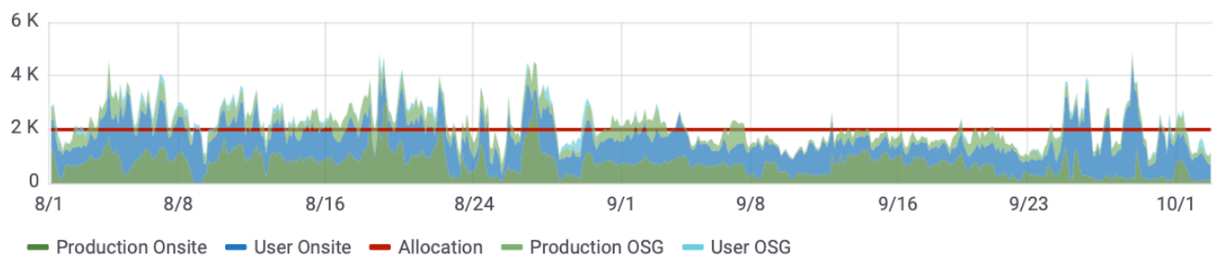
2868075

Average Time Spent Waiting in Queue (Production)

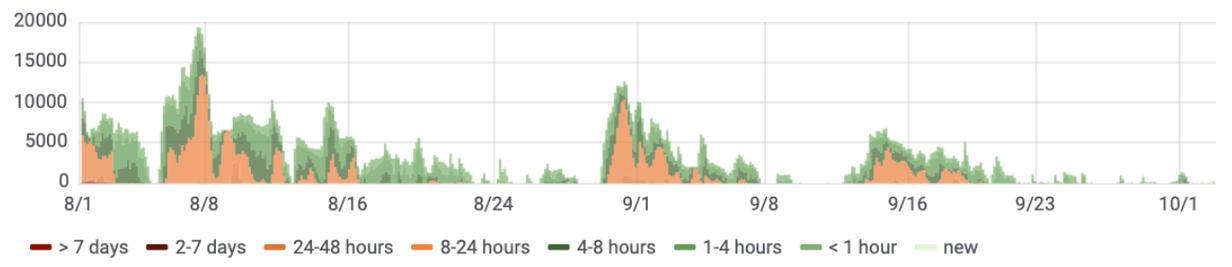
3.732 hour

Running Jobs

Running Batch Jobs

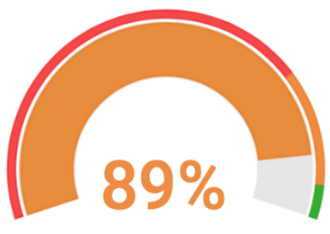


Queued Production Jobs by Wait Time

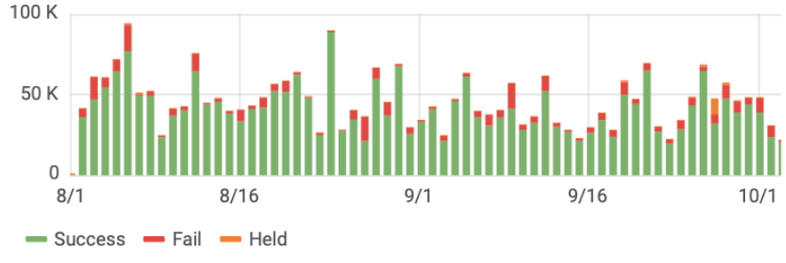


Completion and Efficiency Stats

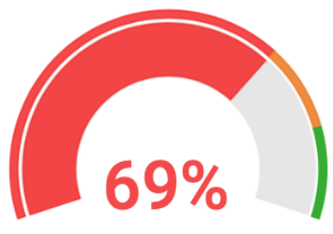
Job Success Rate



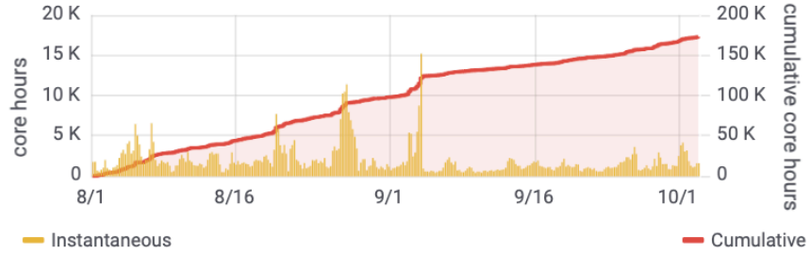
Job Success & Failures per Day



Overall CPU Efficiency



Total Time Wasted by Running Jobs



Data Cataloged

New Data Cataloged

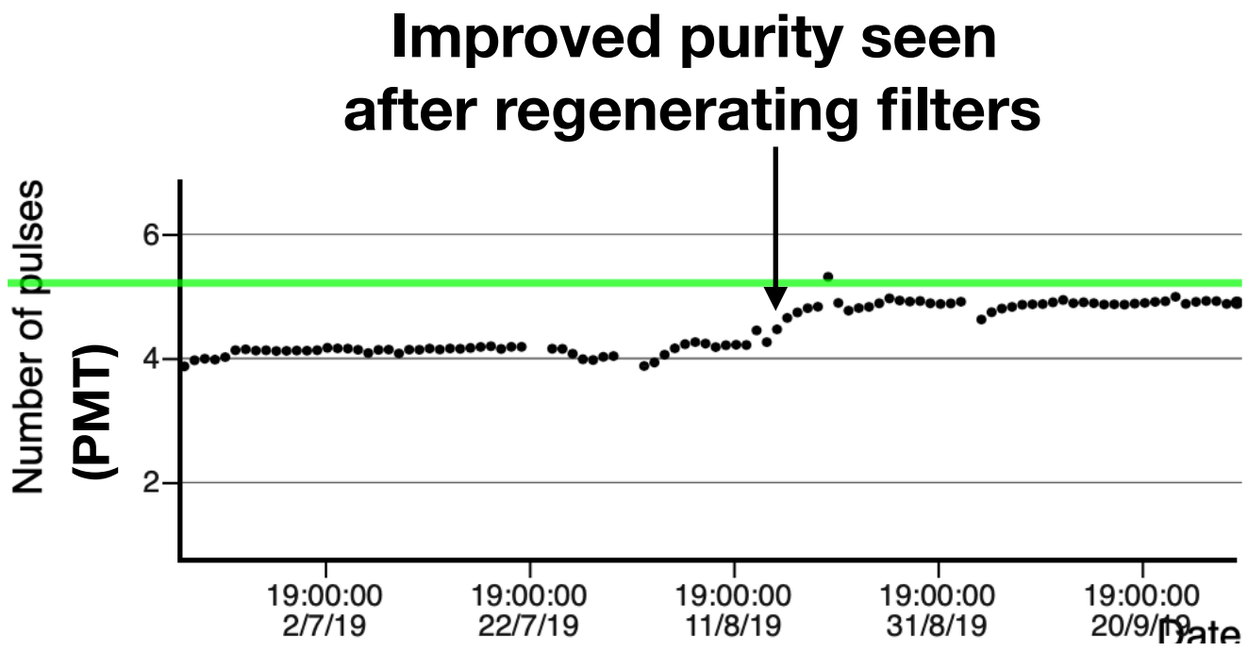
67.1 TB

Total Data Cataloged

22.1 PB

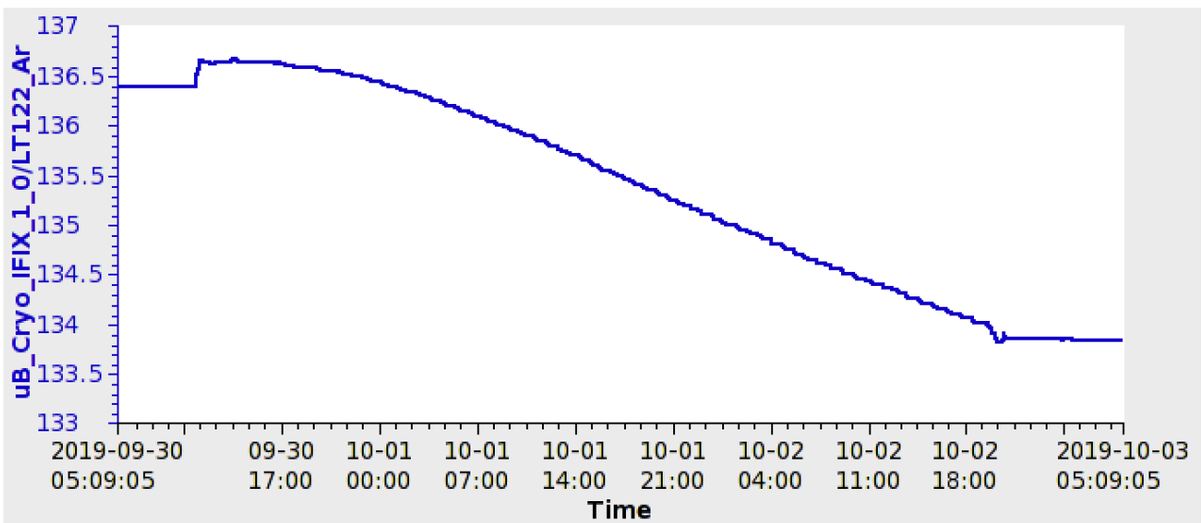
Summer Shutdown

- Two power outages
- Kernel upgrades on DAQ computers
- Cryo work
  - Regenerated filters
  - Replaced Nitrogen analyzer
  - Updated controls computers (to be compatible with Windows 10), and upgraded PLC programming software
- Building maintenance
  - Replaced scorched outlets
  - General clean up at LArTF
- Commissioning new hardware for gating and delaying beam signals used for triggering (BES)



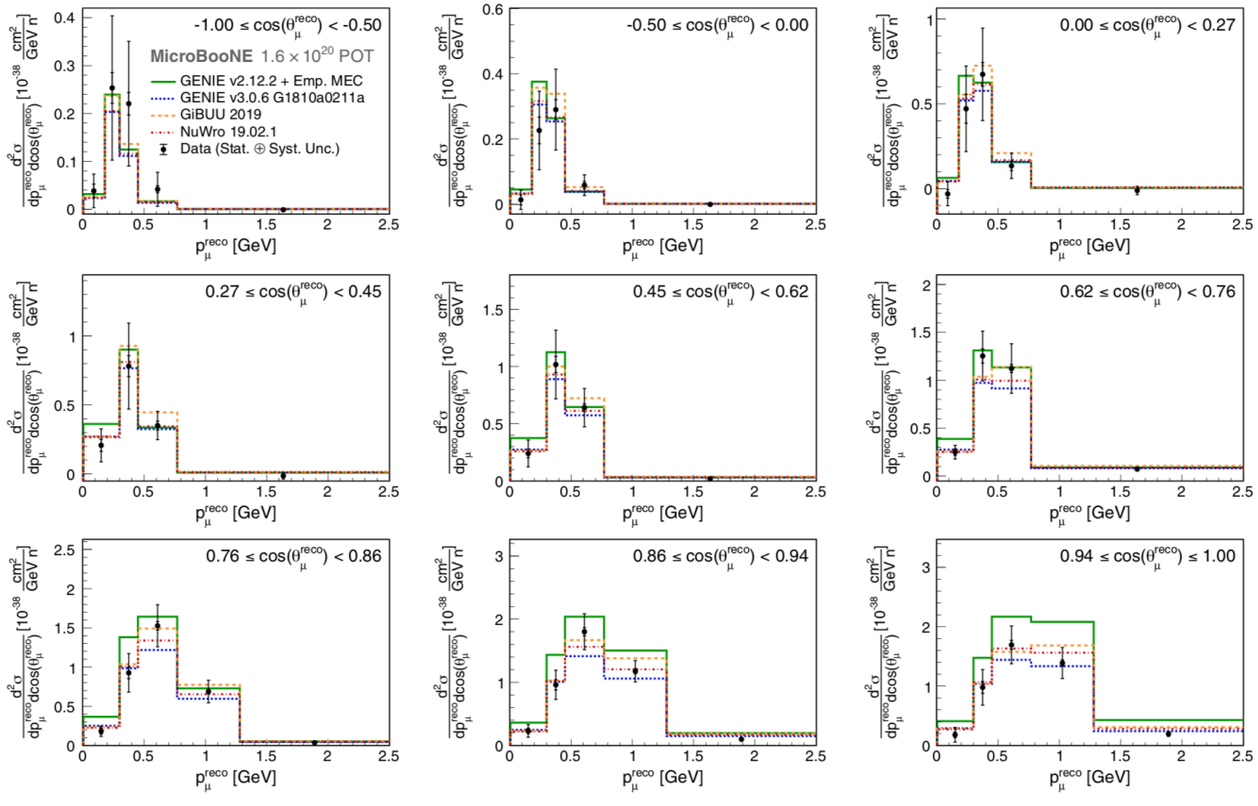
Nitrogen leak

- On Monday (09/30) a LAr pump tripped due to ODH alarm
- During the day there were several more ODH alarms
- The Fire Department and Cryo team responded quickly and identified two problems:
    - Leak on one of the valves (nitrogen line out of phase separator)
    - One of the ODH sensors noisy (MSA A-ULTX-SENS-14-0-0 Oxygen 0-25% Sensor)
- The nitrogen flow had to be stopped while leak was being fixed - during this time we had to vent Ar
- Thanks to prompt response of cryo engineers and techs, cryo controls, and ESH&Q the valve has been fixed, and we are in a process of replacing all Oxygen heads
    - Working with procurement to place an emergency order for new ODH heads
- Investigating root cause

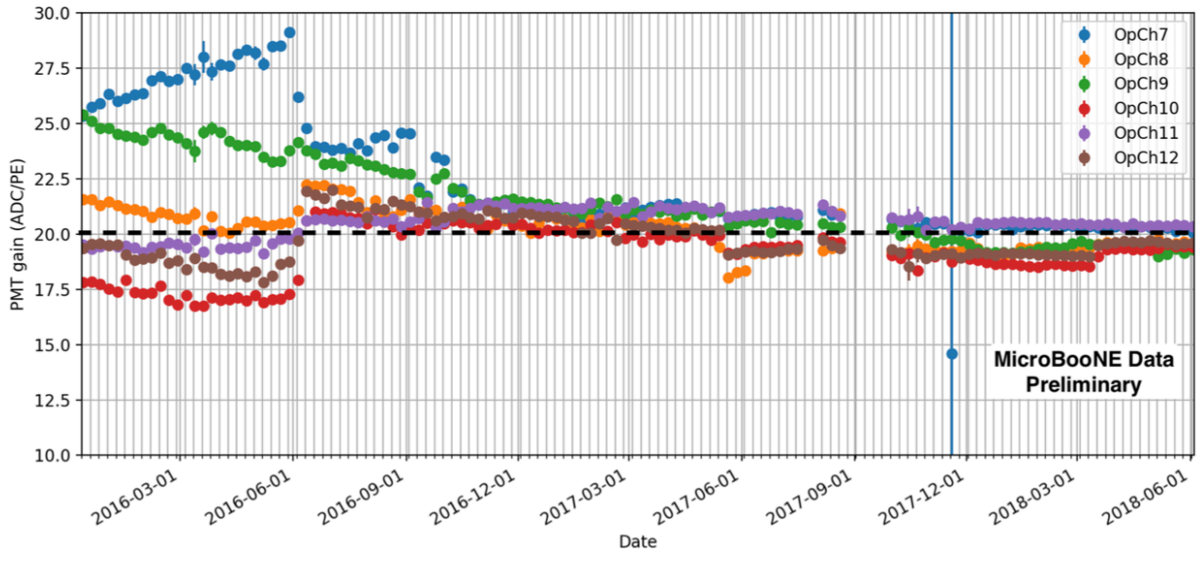


Physics news

- MicroBooNE published its first PRL: **"First Measurement of Inclusive Muon Neutrino Charged Current Differential Cross Sections on Argon at E_ν~0.8 GeV with the MicroBooNE Detector"** *https://journals.aps.org/prl/pdf/10.1103/PhysRevLett.123.131801*



- New public note on PMT gain calibration *https://microboone.fnal.gov/wp-content/uploads/MICROBOONE-NOTE-1064-TECH.pdf*



- Upcoming Collaboration Meeting at Fermilab Oct 23-25, followed by analysis retreat week at IARC