MicroBooNE Status Report

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All Experimenters' Meeting

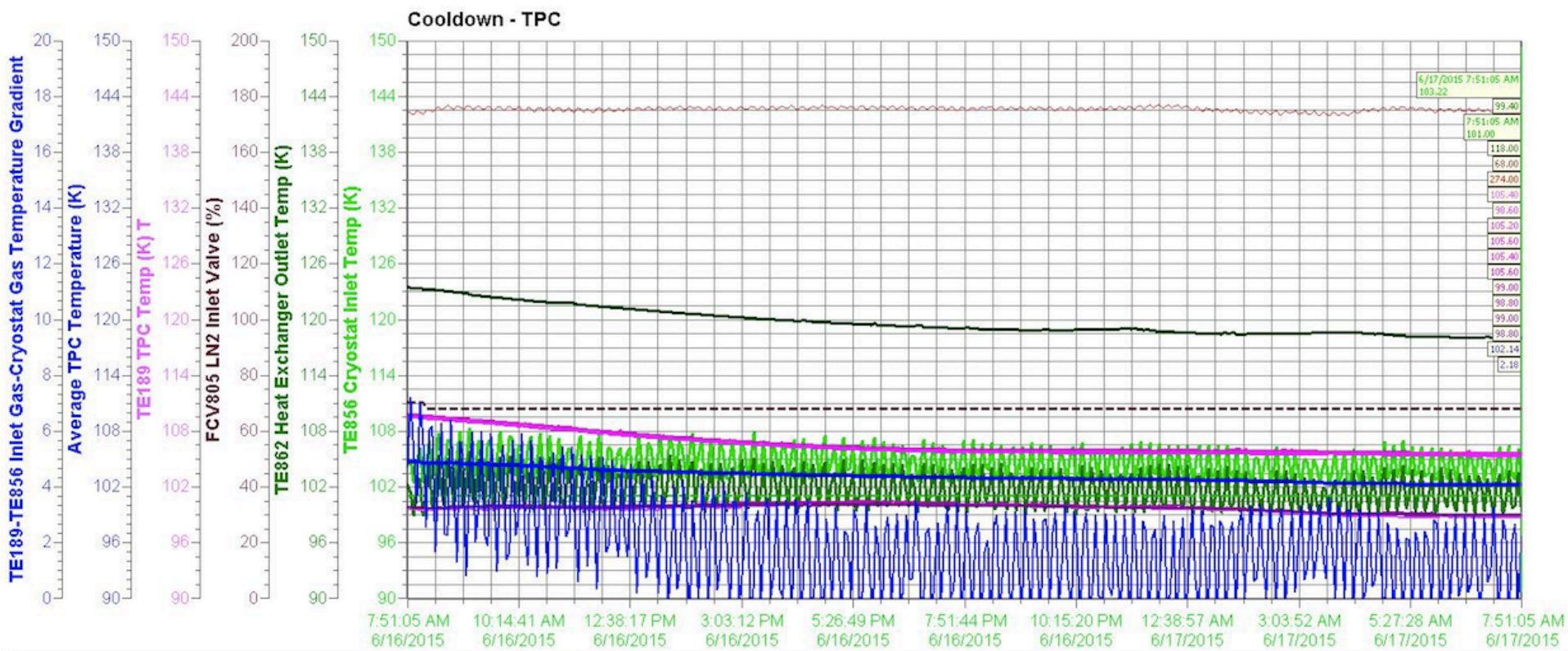
June 28, 2015

Outline

- End of GAr cool-down
- Filling the detector with LAr
- LAr purity
- Detector commissioning

GAr Cool down

- Ended GAr cool down on 6/17
- Achieved a final temperature gradient of <10 K across TPC
  - Warmest point on TPC measured ~105 K
- Compressor turned off



Filling with LAr

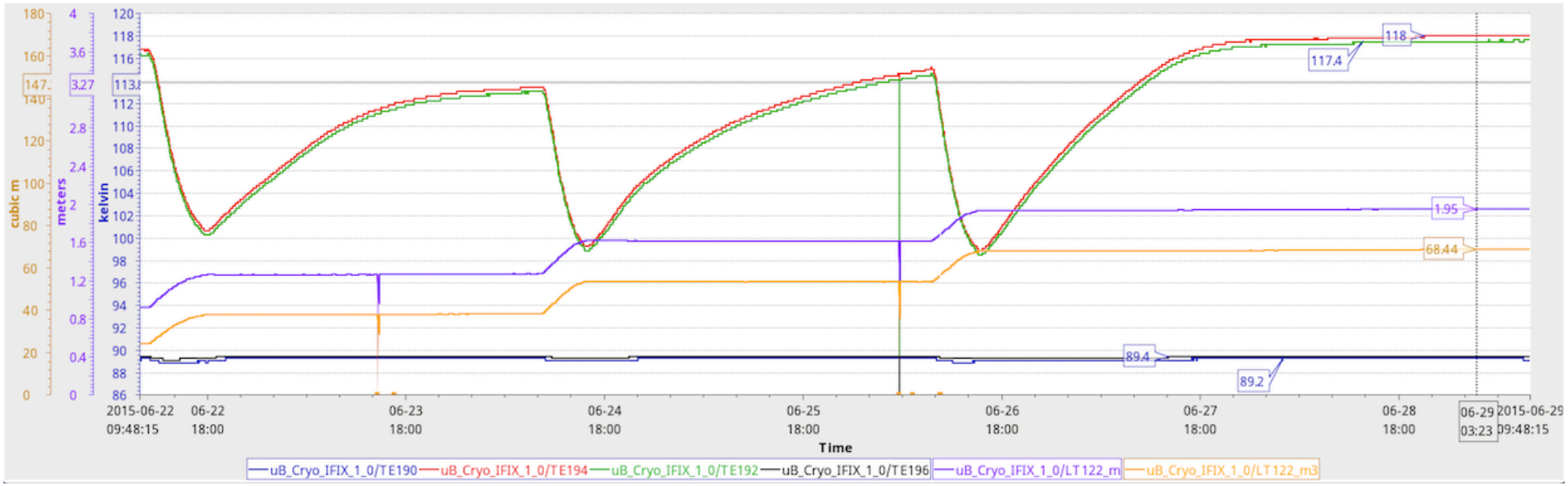
- Need 9-10 tanker deliveries to fill MicroBooNE
  - Each tanker holds between 3000-4000 gallons LAr
  - Require 33,500 gallons for MicroBooNE to be full
  - Typically takes ~4 hours to complete transfer

- Deliveries scheduled for every Mon, Wed, Fri (except July 3)

- Received first load 6/17, last load expected 7/8 or 7/10, 6th load received today

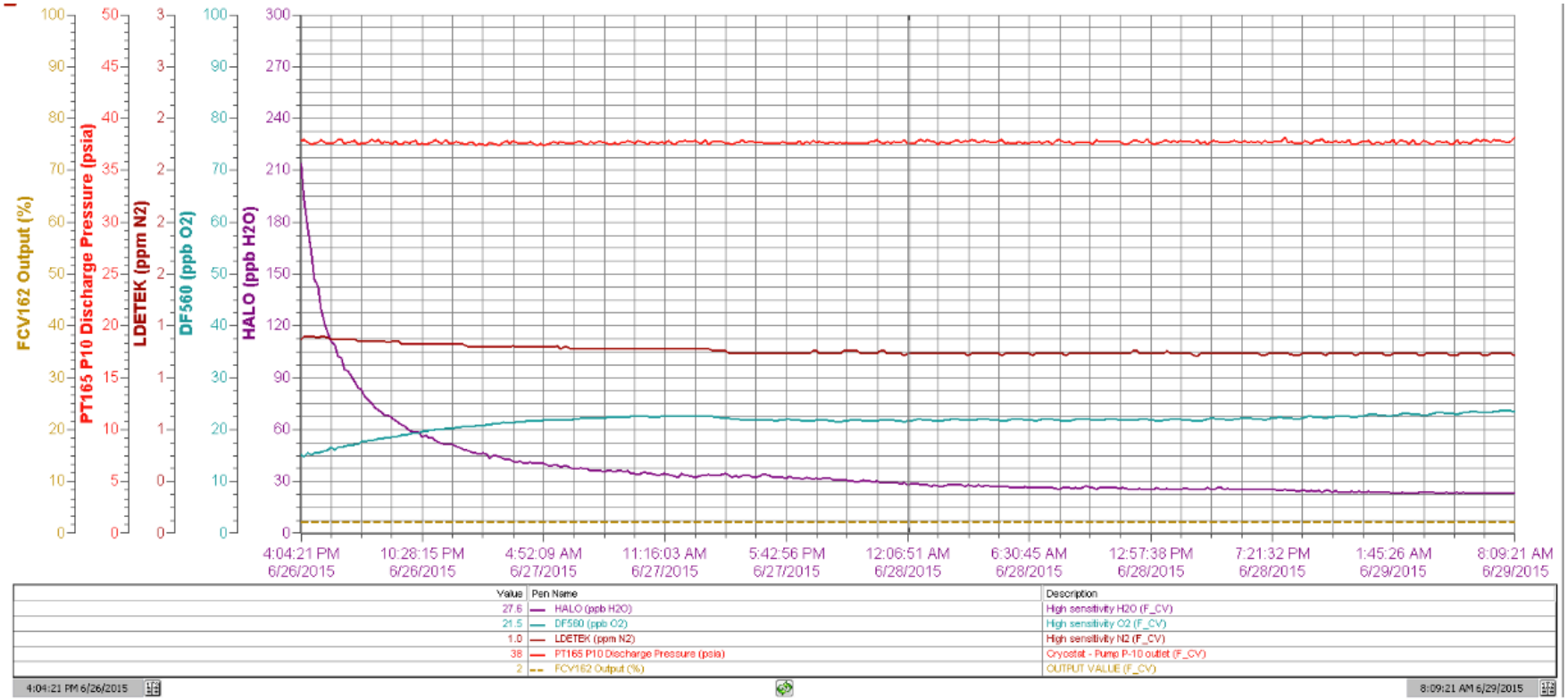
Regulating Temperature Gradients

- After each fill GAr stratifies in the ullage
- Increase boil off (and mixing) to mitigate this by
  - Turning on heaters on bottom of cryostat
  - Injecting high purity GAr into liquid from below
- Condensers brought online so Ar is not lost



LAr Purity

- Purity of LAr deliveries so far have been very good
- Analyzer measurements from gas phase:
  - Nitrogen: 1 ppm
  - Oxygen: tens of ppb
  - H_2O: tens of ppb
- LAr filters not brought online yet



Detector Commissioning

- Continuous monitoring of noise on TPC wires
- Dedicated study of noise as signal cables penetrating cryostat are terminated
- DAQ and nearline system stress tests
- Planning sequence of operations for initial turn on detector

Thank you