

LArFCS Cryogenic System progress

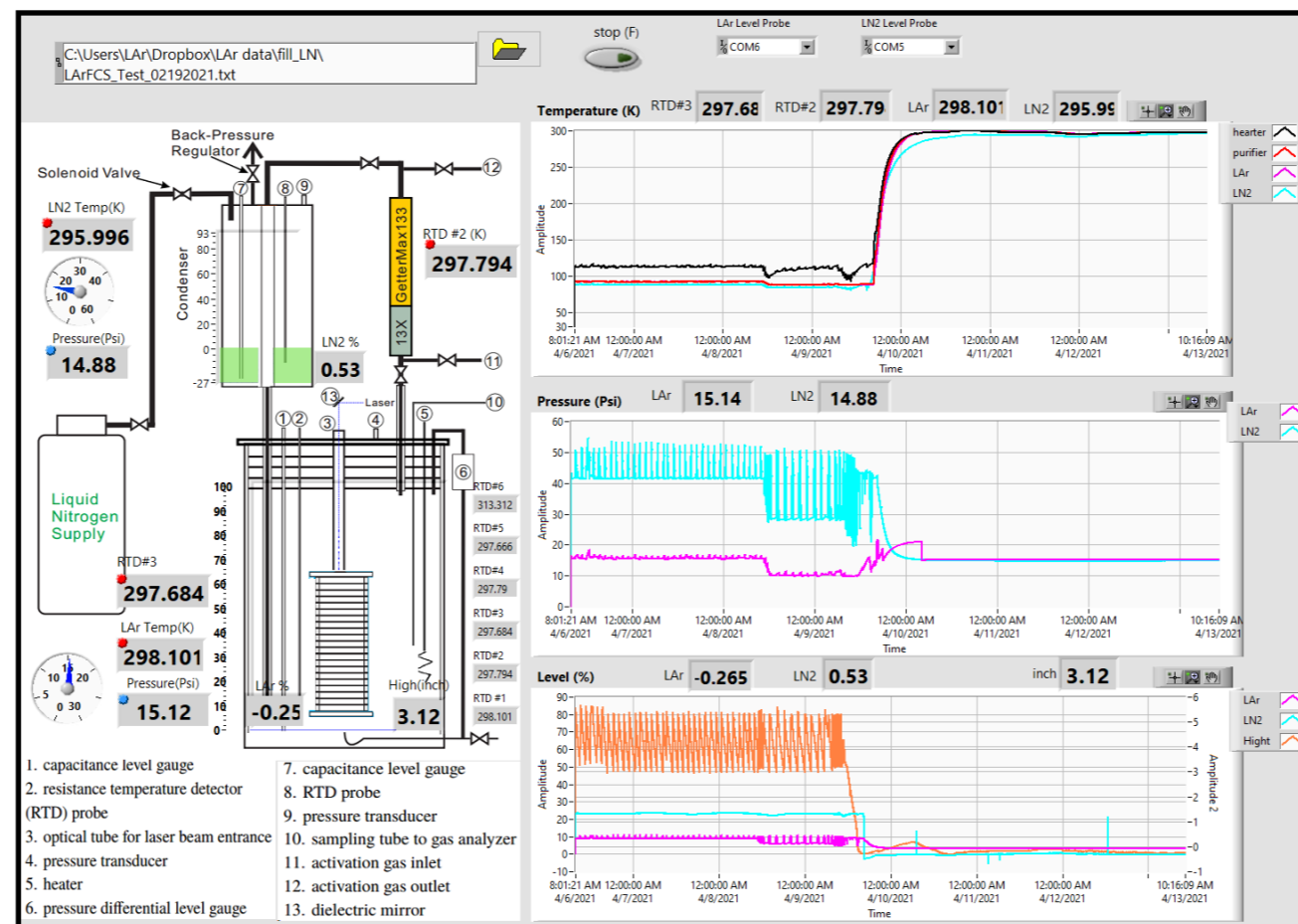
Yichen, Sergey

4/13/21

LArFCS Cryogenic Operation

▶ LArFCS Cryogenic Operation 2nd Run

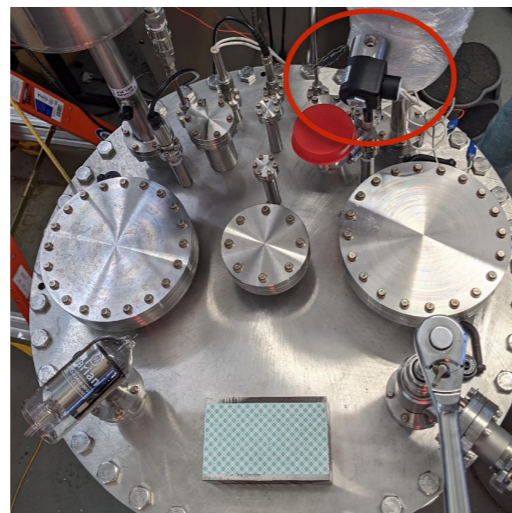
- Cryogenic operation stopped last Friday
 - The total on time: 11 days
 - Stability of the LArFCS cryogenic system demonstrated
- System warmed up over the weekend
 - Warming up time is ~24 hours, agrees with 1st run



LArFCS Cryogenic Operation

▶ LArFCS Cryogenic Operation 2nd Run

- LAr refill backed to the supply dewar, level gauge show about 1/2
- Heater broken used pure GAr to pressurize for the refill to supply tank
- Pressure building up during the warm up, pressure relief mechanism worked



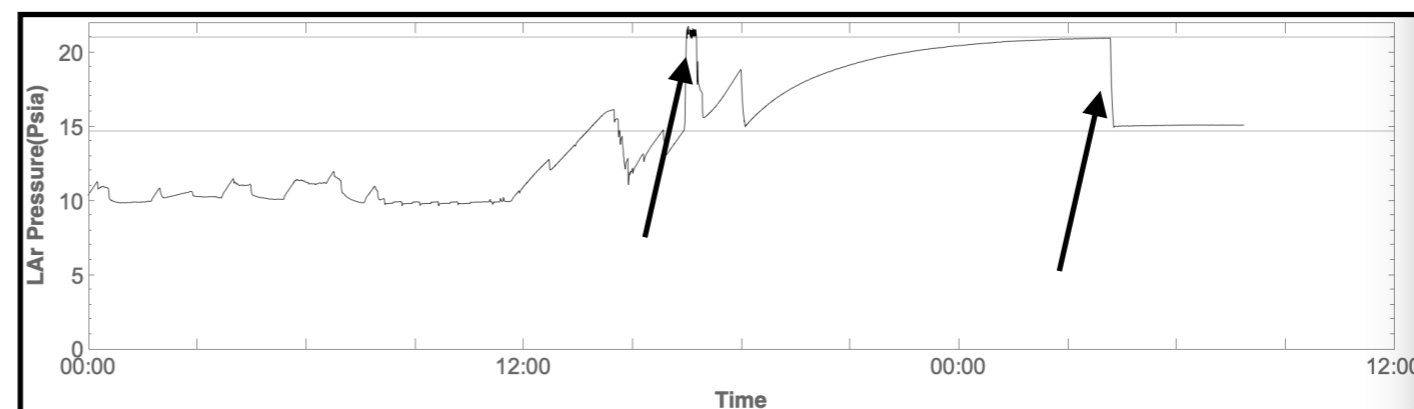
Before Fill



After Fill



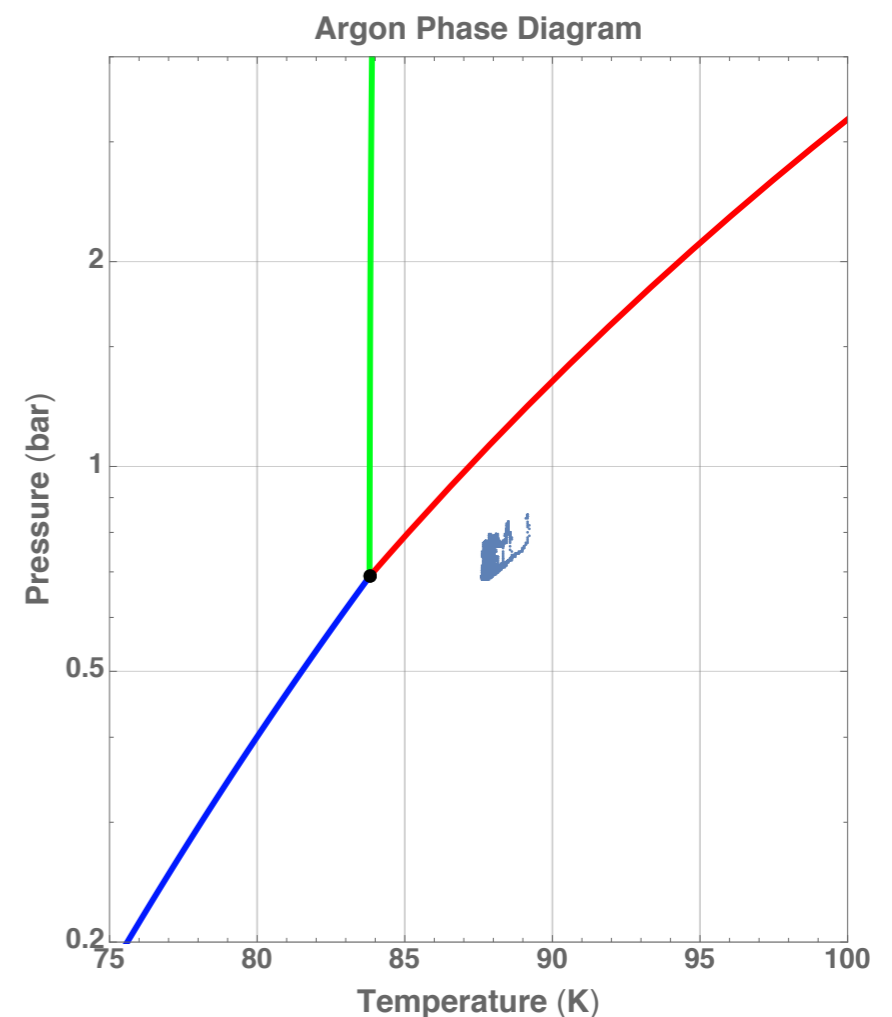
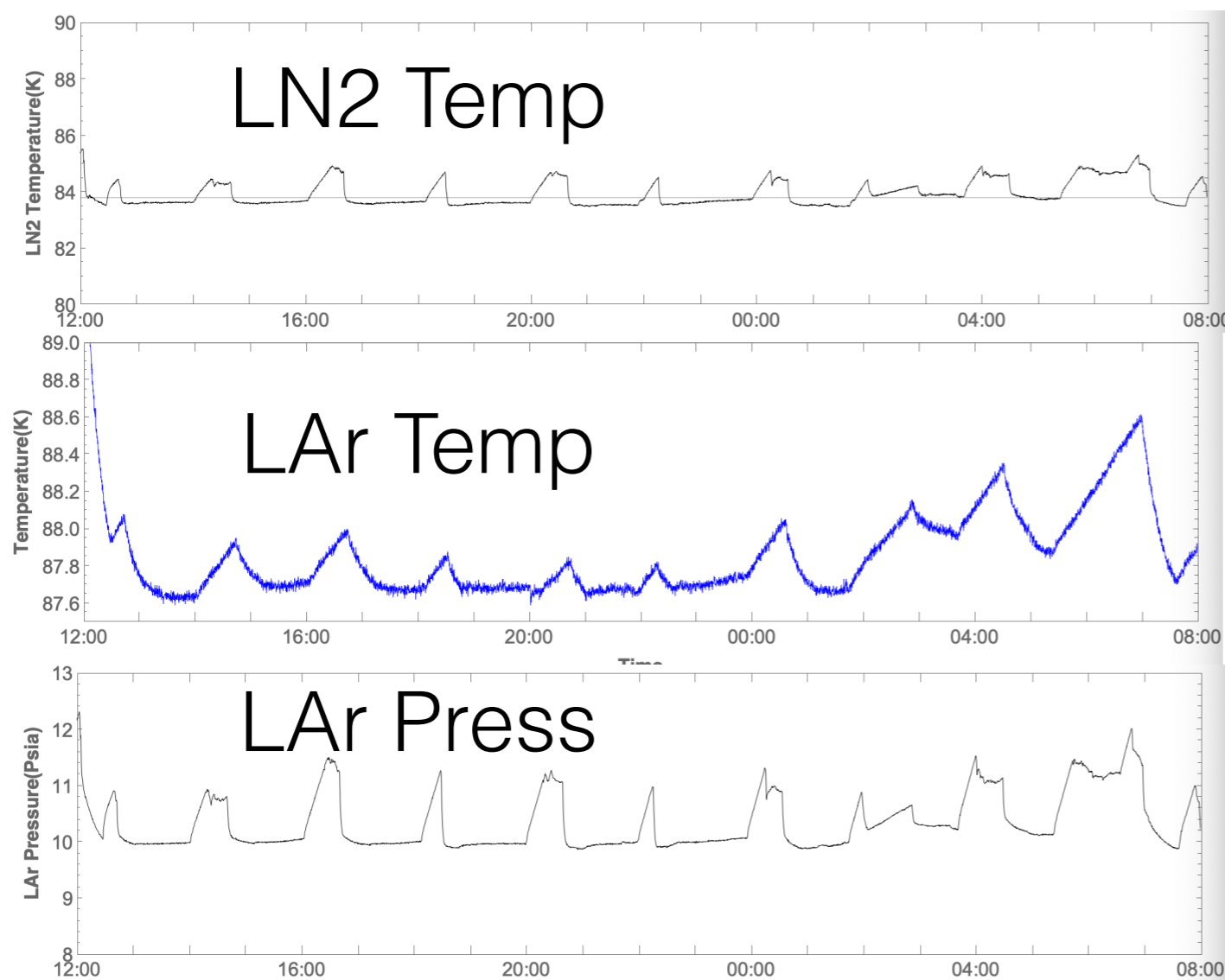
After Refill



LArFCS Cryogenic Operation

▶ LArFCS Cryogenic Operation 2nd Run

- Tried operate the condenser below frozen point of LAr
- System runs under stable negative pressure
- Circulation not stopped



LArFCS Purity Monitor

► PrM Implementation in LArFCS system

- Mechanical model build for the PrM implementation
- Sufficient of room inside the dewar to accommodate the PrM
- 8" spare Conflat flange can be used for the HV and fiber feedthru
- Mechanical mount bracket can be machined by our technician
- Parts procurements in progress
 - UCI can start with parts and blank NIM box received
- Ordering the Edmunds flash lamp as light source
 - Consulted with Jianming, the power seems to sufficient, additional shielding maybe needed if noise is a problem
- Asking the lab laser safety for proper procurement procedures

