

# LArFCS Cryogenic System Progress

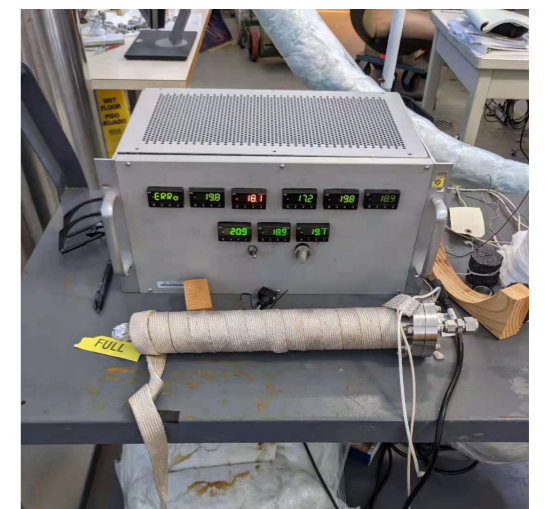
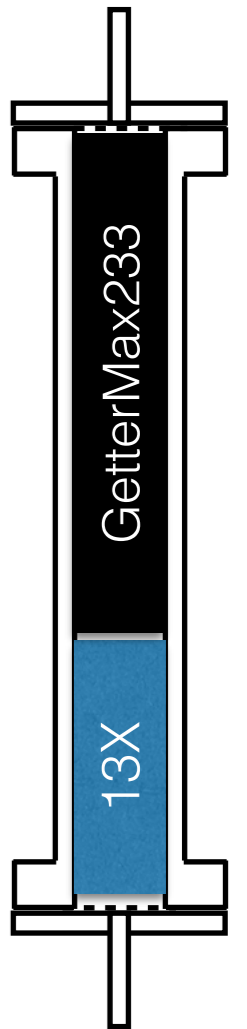
Yichen, Sergey

8/24/21

# LArFCS Construction

## ▸ LArFCS purifier assembly

- Cylinder filled with the scrubber materials
  - ~220ml, 180g 13X molecular sieve
  - ~440ml, 561g GetterMax 233 O<sub>2</sub> Oil contamination on the mesh accidentally found
  - Capped with mesh at the top and bottom to hold the materials
  - Materials containment works well, no leakage with vigorous vibration
  - Reactivation system installation in progress



# LArFCS Construction

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## ▸ PrM preparation

- PrM electronics has been tested with calibration pulser
- PrM stack refurbishing in progress
- Integrated test w/ our PrM stack+electronics will be conducted at UCI
  - Together with their new ProtoDUNE PrM assembly 75 cm in length
  - Cryogenic system fixed

## ▸ PrM mounting structure

- KHV finished the top flange
- Started to fabricated mounting structure below the top flange
- Minor modification on the tube design with 3/8" venting holes added



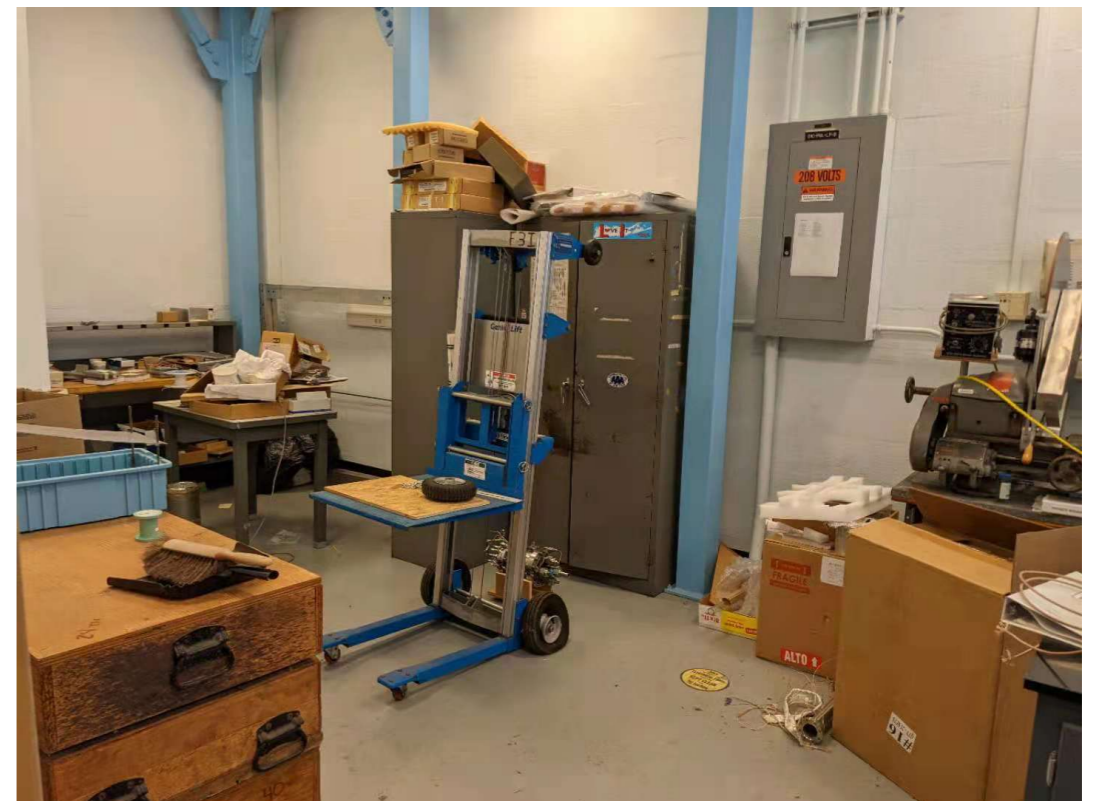
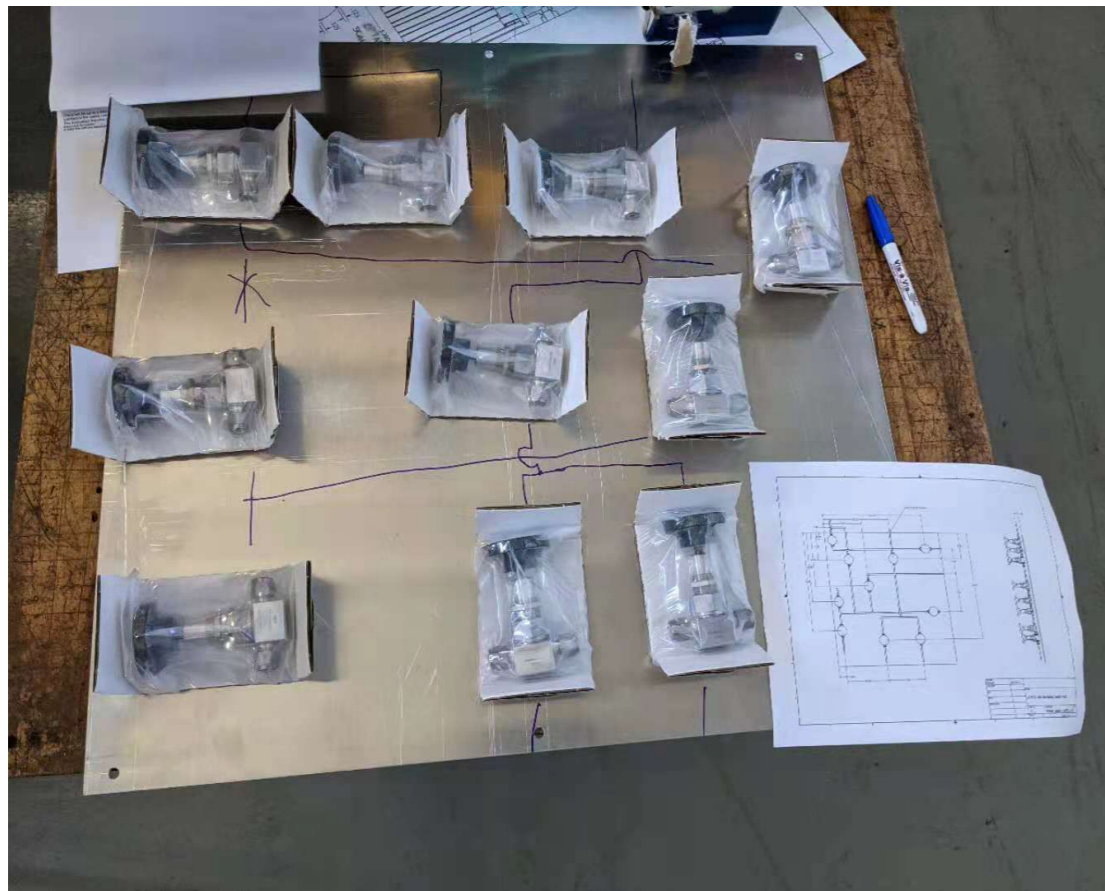
# LArFCS Construction

## ▶ Gas panel assembly

- Went through a mocking-up arrangement on the panel with Russ
- Minor modifications on the assembly design to optimize the assembly
- Plan to finish the panel this week

## ▶ HighBay corner room cleanup

- Most of useful items fetched from the room
- Waiting for walking through with Brandon



# 6000 Gallon LN2 tank painting

## ► The painting job is done

- *"The last (and only) green dewar has disappeared. I have look on sites for years, and that was the ONLY dark green dewar I found in the whole world."*  
—Mike Gaffney
- Significant surface temperature reduction observed measured by IR thermometer
  - After the painting, With 90°F outdoor temperature, Building 510 roof temperature at 146°F
  - The tank had a uniform temperature of 120°F, with less than 5° difference between the middle and top. The Building 510 High Bay roof was recorded at 146°F.
  - When it is in Green, with 90°F outdoor temperature, the tank average temperature was 165°F and the tank top was 225°F.
- Re-labeling done before the hurricane, now Tank Code BNL 1
- Safety approved for test LN2 filling once the site survey by the vendor is done
- Still waiting for the scheduling of site survey by Airgas

