

260-L LAr System Progress Report

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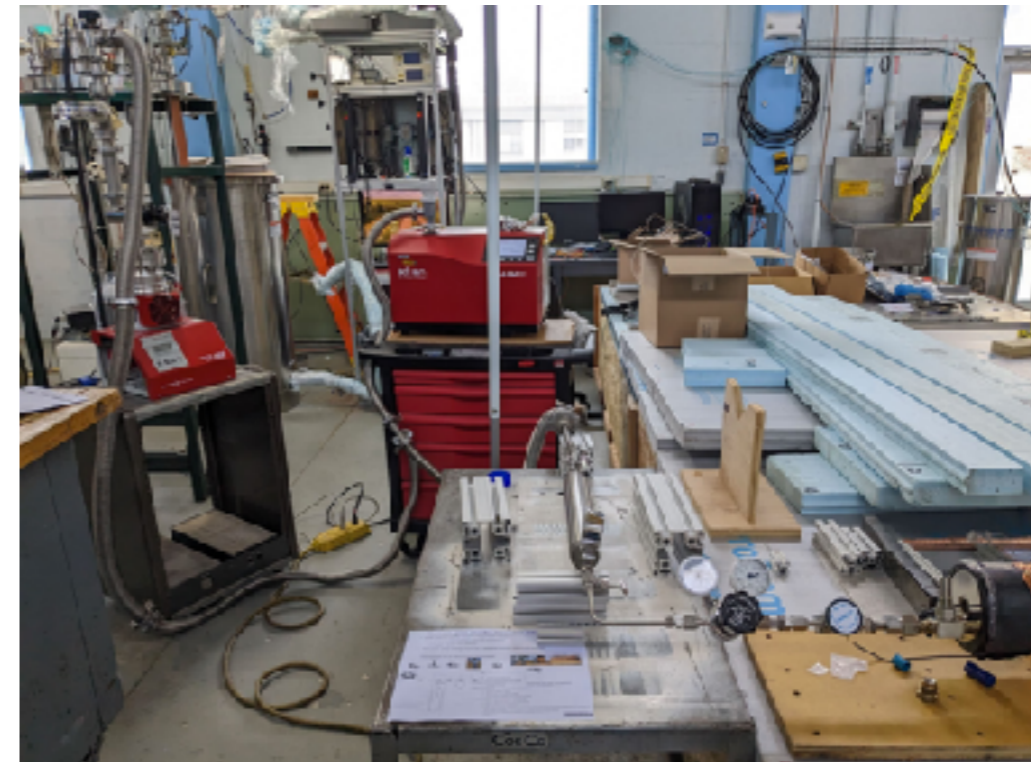
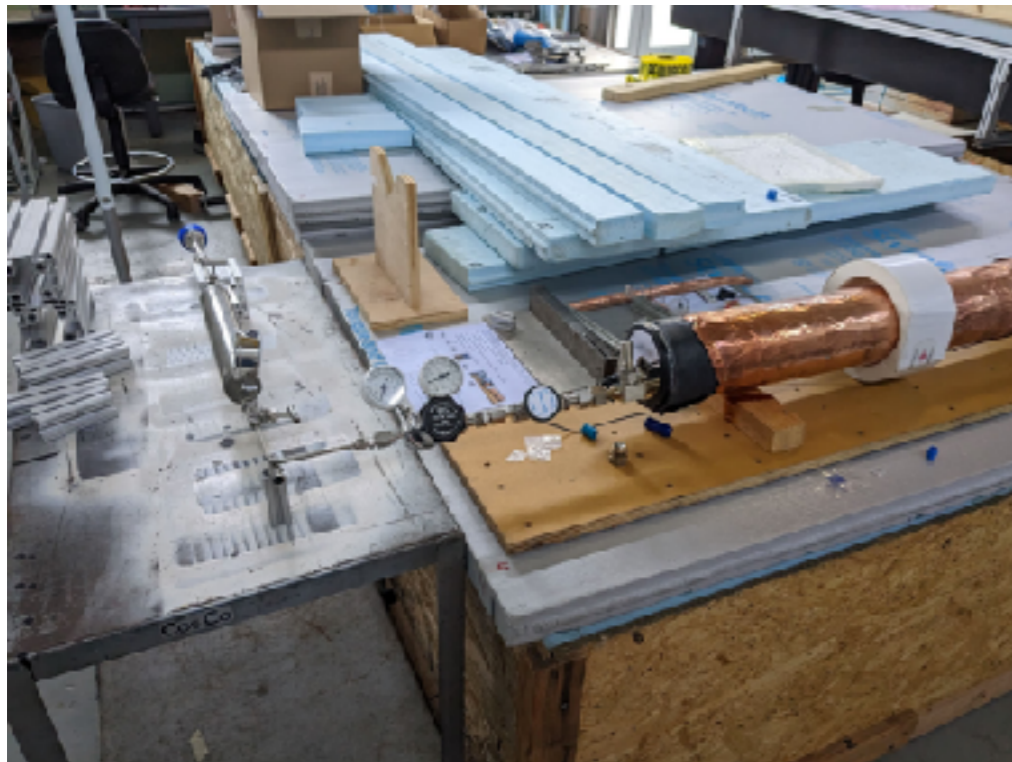
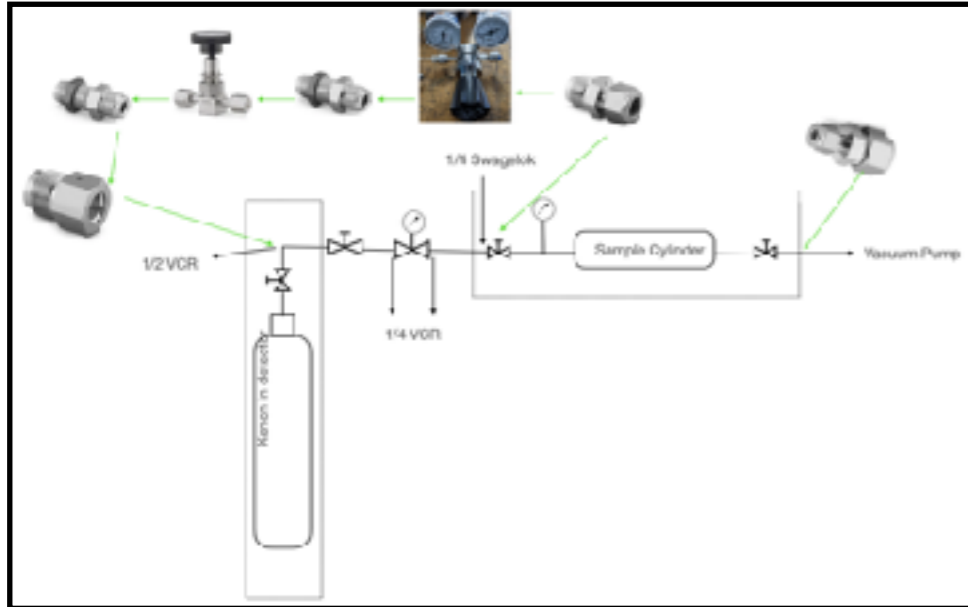
Lab Safety and Space Management

- COVID level in Suffolk County is in LOW
- Face masks are optional onsite at BNL
- ESH inspection on May 4th. Thursday
 - Lab has been kept in a pretty clean status
 - Xenon extraction test for chemical analysis on going with equipment arranged next to the coldbox
 - The area will be cleaned up after the extraction



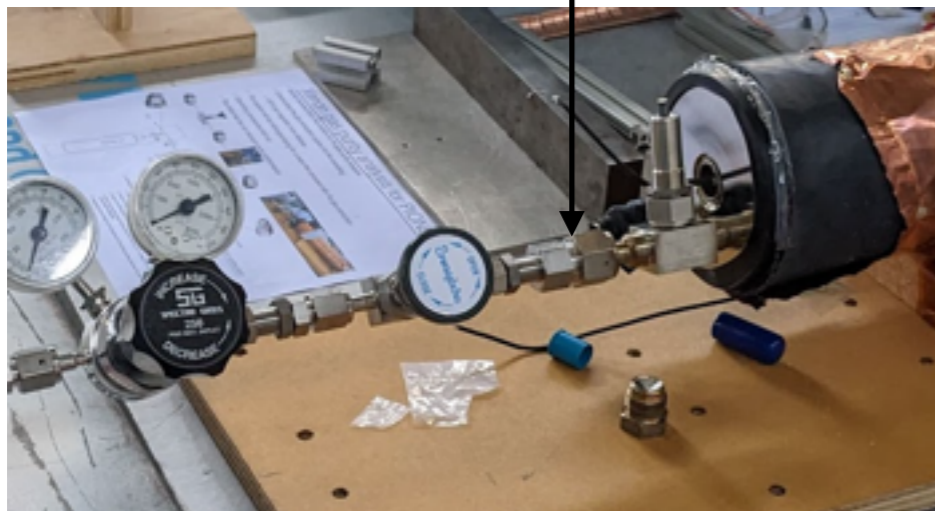
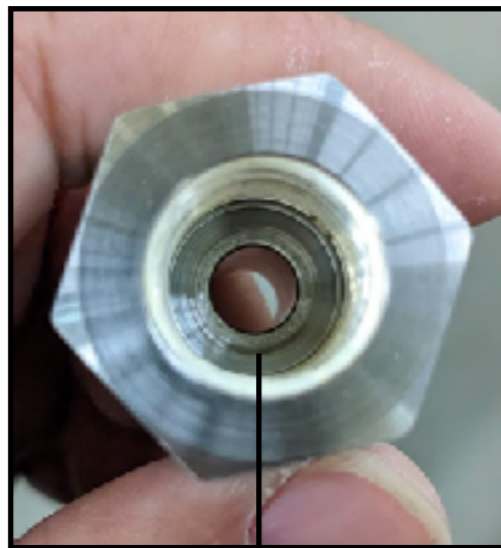
Xenon gas purity analysis for PIONEER

- Plumbing for the Xenon extraction is complete
- WebReq for the PO for purity analysis
- Leak check in progress
- Plan to start baking tomorrow for a week and conduct the extraction next Wednesday



Xenon gas purity analysis for PIONEER

- Latest update on the leak check
 - Only one major leak found at the 1/2 to 1/2 VCR reducer
 - The gasket was missing and the sealing surfaces in direct to each other
 - Trying to fix the leak by replacing the parts. Thanks Aleksey for helping get spare VCR parts



- Baking and pumping down

- The plumbing will be wrapped with heating tape after the leak is fixed
- Heater will be controlled with the inline filter heating controller
- Heating temperature will be set at 100-150C

Procurements and Misc.

- A shopping list started for future procurement on the LAr R&D
 - <https://docs.google.com/spreadsheets/d/1-YX3etVIxnFmyvUY8N0I1J3vFYkHnpoA9hNqcBXclyk/edit?usp=sharing>
- Based on the current status of the upgrade parts, next run is going to proceed without the heater and UHP burst disk
 - Besides the repair of the malfunctioning devices and equipment.
 - The only major change from the last run is the filling of the inline filter cylinder
 - The inline filter will need new insulation and activation
 - I will present the detailed plan on the next meeting

PIONEER ATAR alternative readout design

- Base substrate size 2.11 cm x 2.11 cm x 120um, metal layer thickness 2um
- Stack up with reduced size to form a pyramid-like shape
- Guard ring at the edge: 0.5 mm; Strip width: 100 um; Gap between strips: 100 um
- Strip length: 1.99cm, 1.86 cm, 1.73 cm, 1.60 cm
- # of strips: 100, 94, 87, 81
- 7x cell for full ATAR target
- 100 um gap between cells

