

# 260-L LAr System Progress Report

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# Lab Safety and Space Management

- Safety reminders for the coming summer students
  - A lot of summer students/interns are expected on-site during the summer
  - Please watch out for the summer students around
- Crane Ladder Replacement
  - New ladder installation completed, entrance restrictions to highbay removed.
  - Waiting for the installation of a blocker to finish
  - The crane is still under LOTO
- Safety visiting the lab
  - Mike Gaffney showed up with a new employee
  - I went through our LAr setup and LXe extraction setup
  - It turned out it was for the introduction to the new guy. They were mainly for the crane inspection



# 260-L System 2nd purity run

## ▶ LN2 filling hose re-pumping

- The hose was pumped down over the weekend with the leak detector
- Pressure dropped very slowly but achieved the required vac.

## ▶ Instrumentation Conflat

- 2x flanges delivered today, 8-inch conflat with 3x 2.75-inch
- Installing one on the top flange for the instrumentations

## ▶ Purifier materials received

- Sufficient to construct a new inline filter cylinder
- The activation will be conducted as a lab topic of EDIT school



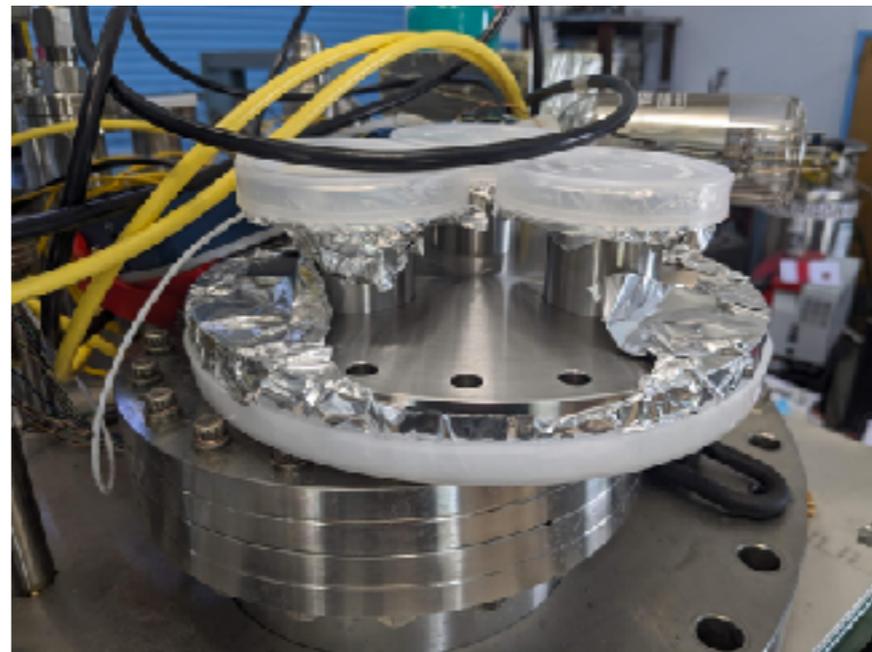
# 260-L System 2nd purity run

## ▶ **Inline filter performance validation test**

- There is a significant difference in the gas concentrations with an inline filter engaged
- Baseline is still existing with 10s ppb in terms of [O<sub>2</sub>] with inline filter engaged
- The gas sampling plumbing leak check was impacted by the leak detector malfunctioning
- Repeating the leak check now to confirm the leak tightness

## ▶ **Top Flange Assembly**

- Start to the assembly of the top flange parts and sensors



# LXe Collection for PIONEER

- Quoted for 40 m<sup>3</sup> Xenon gas, e.g. 70 L in LXe with both domestic suppliers and suppliers in China
  - The standard package of Xenon is 10 m<sup>3</sup> gas in a regular-size cylinder, so 4 pcs in total
- Xenon pricing from China
  - Xenon price is 10 times less than the same time last year and at a historically low
  - Praxair (China) will start to produce Xenon at their Huizhoug plant in Guangdong starting Oct. The current pre-sale quote is less than 50000CNY/m<sup>3</sup>, e.g. **~\$1.2 per gram**. But they need to check if there are any restrictions on the sale due to their company policy.
  - Wuhan Iron and Steel Corporation can offer **\$1.6 per gram**. They have supplied Xenon to SJTU, Columbia and UCSD. They have sufficient Xenon available for shipping right now.
  - Fuhaicryo offered 58000 CNY/m<sup>3</sup>, e.g., **~\$1.38 per gram**. They have also sold to the US previously. They have sufficient Xenon available for shipping right now.
- Xenon pricing from domestic suppliers
  - Praxair (US) **\$12.35 per gram** 2023, **\$16.15 per gram** in 2024
  - Airgas can't even provide a quote for Xenon due to being in Force Majeure with Xenon supply in the next 4-5 months