

# 260-L LAr System Progress Report

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10/25/22



# Lab Safety and Space Management

- COVID level in Suffolk County is MEDIUM now
- Face masks are optional onsite at BNL
- CRP lifting structure was load tested
- 6000-gallon LN2 tank refill for CRP test
  - 3000 gallon LN2 refilled, the tank is almost full
  - The 2nd cold fill after the tank was commissioned
  - Filling took only about half hour
  - No venting during the filling, tank pressure drops from ~50 psig to ~32 psig after filling



# 260 L System Dewar Inspection

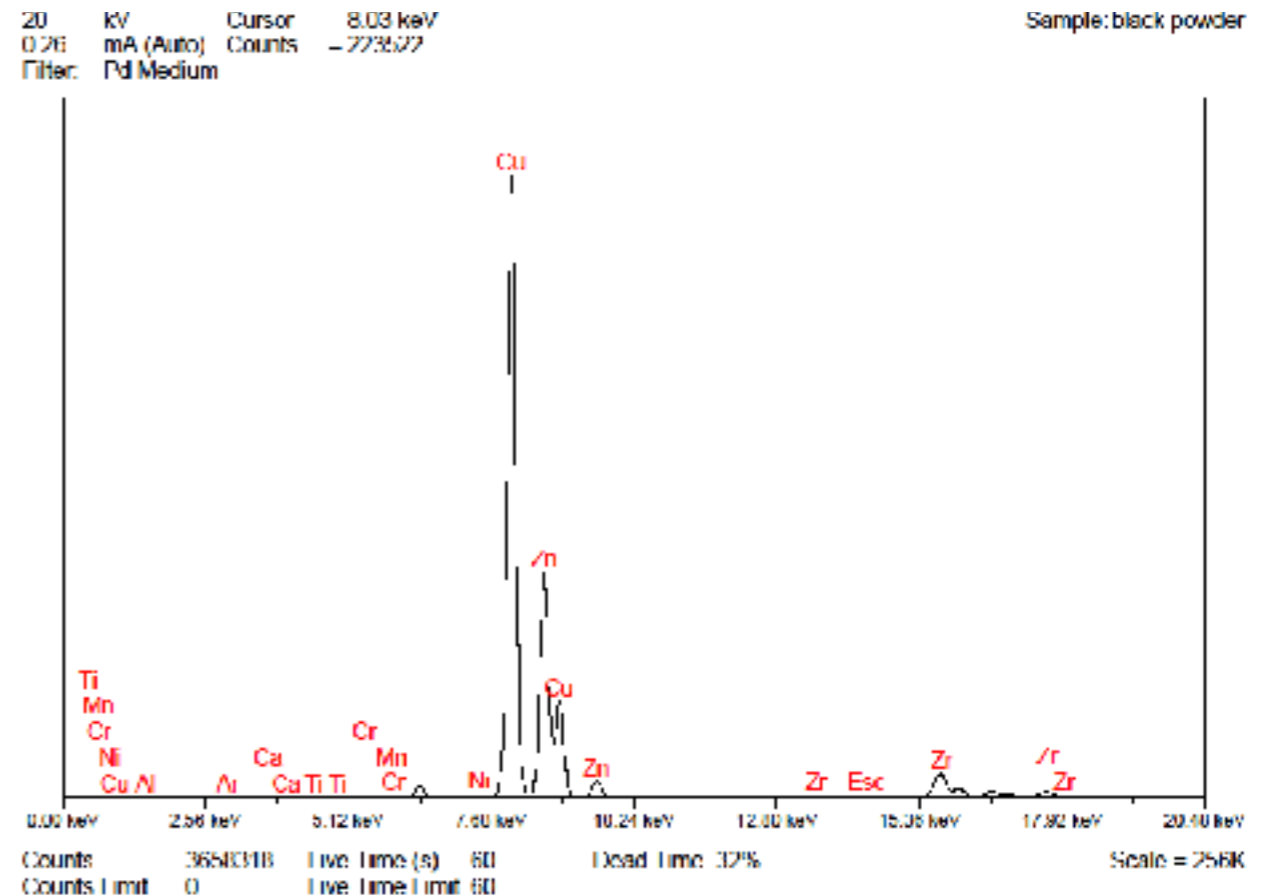
- ▶ **The main dewar was laid down on the side**
  - I get in the dewar to get close visual inspection on the surface
  - The hole-like spot was confirmed no penetration
  - Many other similar dents found
  - Most likely caused the welding spatter with molten SS



# 260 L System Dewar Inspection

## ▶ Black powder collected and analyzed with X-ray Fluorescence

- All of the black powder collected from the bottom of the dewar
- Run a XRF analysis with help Richard at Chem. Dept
- The major component contains Cu, agree with the GetterMax 233 oxygen getter components with  $\sim 2/3$  CuO
- The power was flushed during the filling through inline filter
- Need to add filter on the fill line



# Preparation for the next run

## ▶ **Burst disk replacement for the inline filter**

- Quoted with Rembe for the burst disk+holder+assembly
- Tech specs with burst pressure and leak rate requirements provided

## ▶ **LAr heater**

- Consulted with several vendors including Lakeshore, Watlow and Cryocomp
- Lakeshore and Cryocomp use similar cartridge heaters for cryogenic system
- The heaters are controlled at low power  $<100\text{W}$
- Watlow recommended the thin film polyimide heaters
- We have some polyimide heaters to test in LN2



# Preparation for the next run

## ▸ Plumbing for the fill line

- Russ is expected to on medical leave for ~6 weeks soon
- Going to priority the plumbing work this week before he left

## ▸ Plan for the next run

- Plan for the next purity run in ~ 5 weeks
- To do list on the next run
  - Inline filter modification
    - flipping the cylinder
    - burst disk replacment
    - replacement of filling line
    - add in filter for CuO powder
  - LAr heater modification
    - Running with cartridge heater at low power < 100W
    - Running with Polyimide film heater at higher power
  - Gas analyzer calibration
    - Still got response from Servomax
    - Added the regional manager on LinkedIn to access to the tech support
  - Hardware fixing
    - Differential level gauge testing and replacement
    - LN2 filling re-evacuation



# Electron Attachment JINST paper

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## ▸ JINST Review Report for the Revision was received

- Overall quite positive. Minor revision required with 14 days deadline
- Referee acknowledged the revision addressing the comments in the last run, only a few comments on the new content added in the revision
- Most of the comments are cosmetic and have been fixed
- Now down the last 2 comments to address
- I'm plan to finish the revision this week and submit back to JINST
- Review report sent out to the mailing list
- Draft available on Overleaf: <https://www.overleaf.com/1485348912xkfyfncxgsql>
- Response to the review report: <https://docs.google.com/document/d/1Wtxt1iGGcYamffE-zmBbN9S5KTBJnALXbQJwbhy9YqI/edit?usp=sharing>