

LAr R&D Progress Updates

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Lab Safety and Space Management

▸ QEW Field Audit for EDG group

- All Qualified Electrical Workers including Lingyun, Shanshan, Volodya, and me are done with audit in Dec.

▸ LAr ESR renewal

- New ESR PO-109-2023 approved in the ES&H system

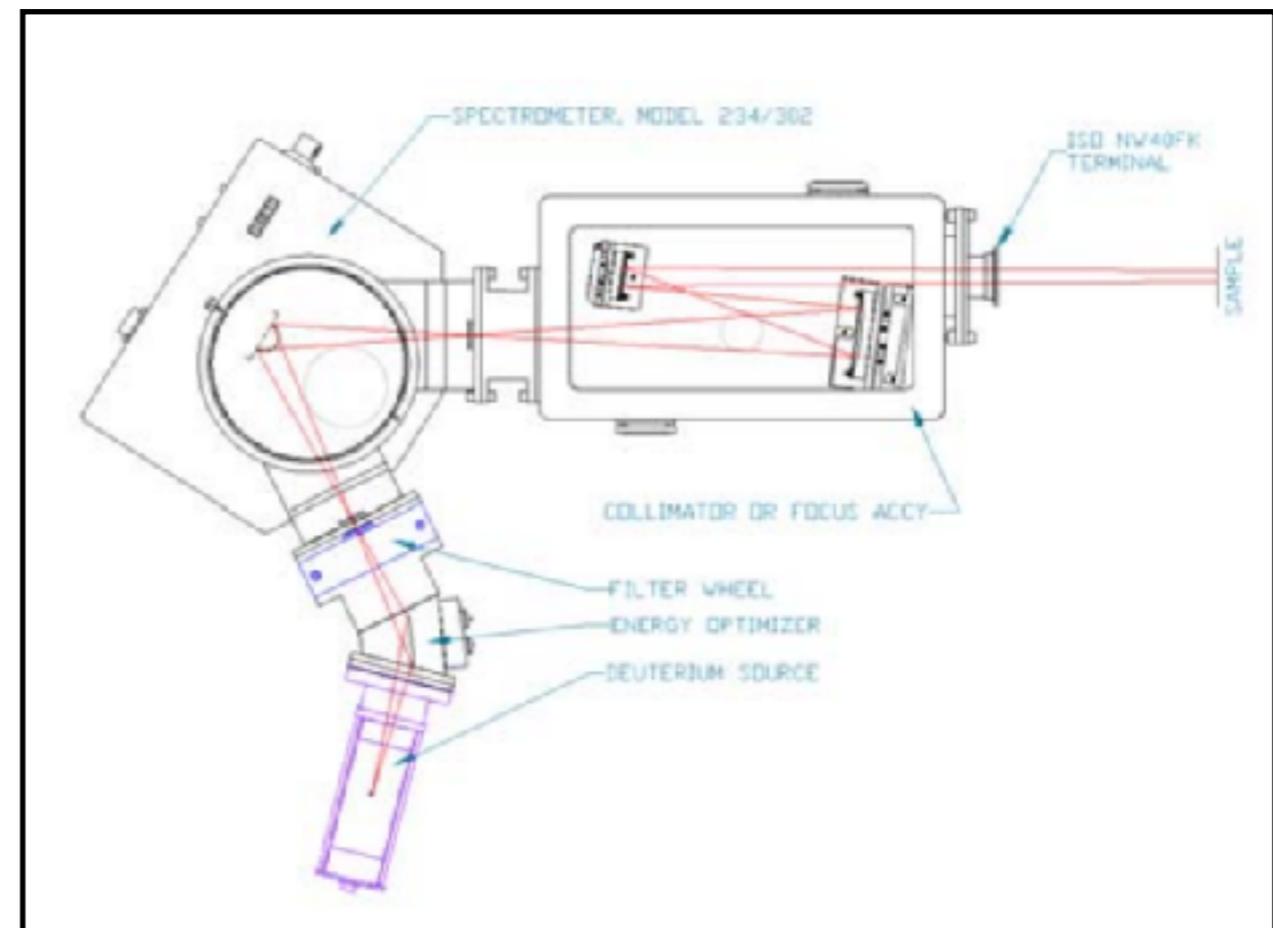
▸ LN2 Buggy Transfer

- IO took over the buggy and moved it to Bldg 538
- The buggy has been commissioned, filled with LN2, works fine so far
- The parking lot outside highbay lab is cleared now



Spectrometer Refurbishment

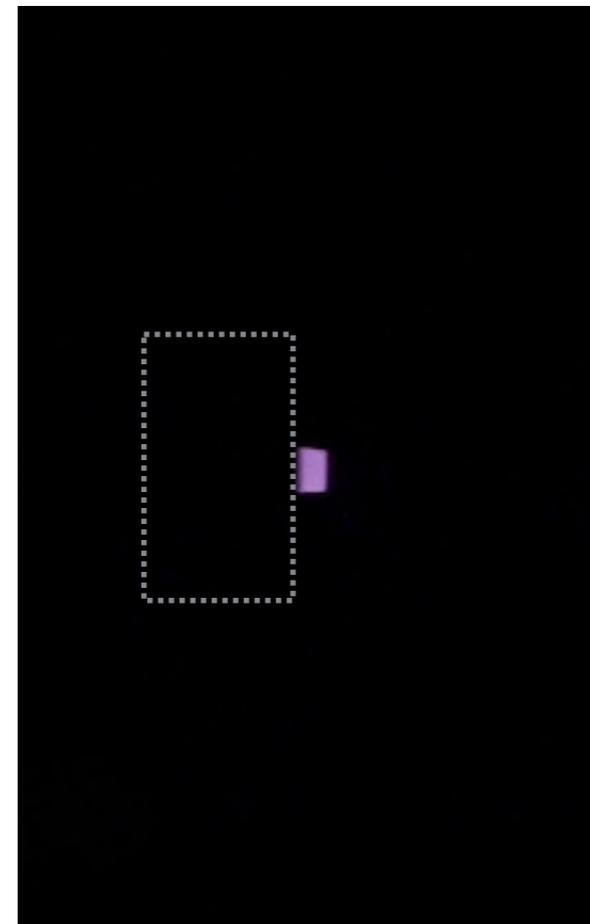
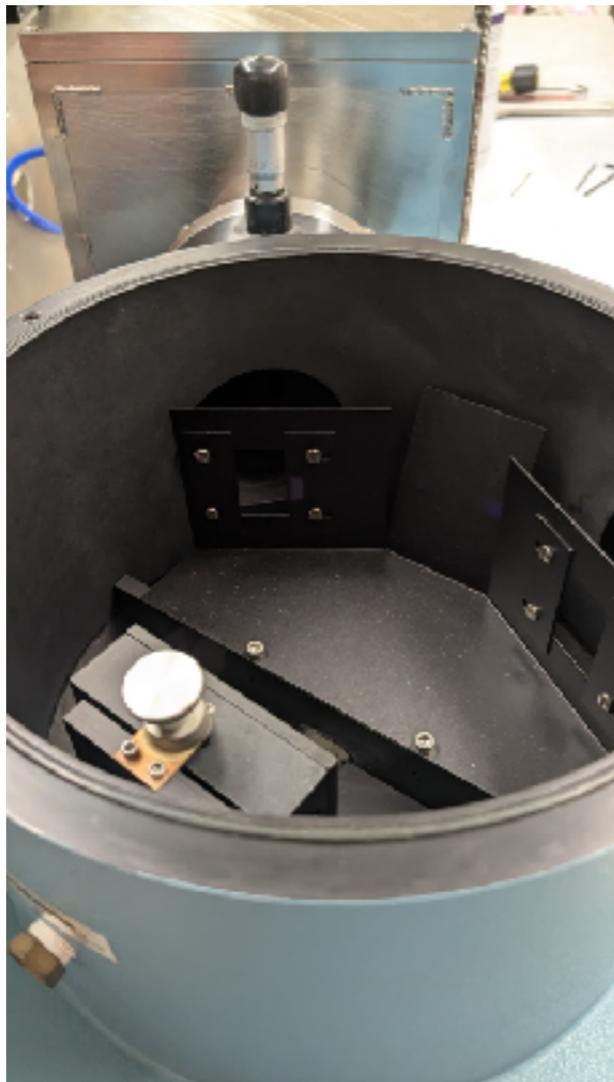
- It is supported by LDRD-c with the goal to refurbish the spare spectrometer owned by PHENIX group
- It is over 25 years old has been spared for over a decade
- It operate on the principle that the grating rotates and moves along the angle the slits. The grating's rotation makes the choice of specific wavelength with slits.
- We replaced the deuterium lamp, grating and collimator mirrors and the controller



Spectrometer Refurbishment

▶ Initial turning on with new lamp, old mirrors

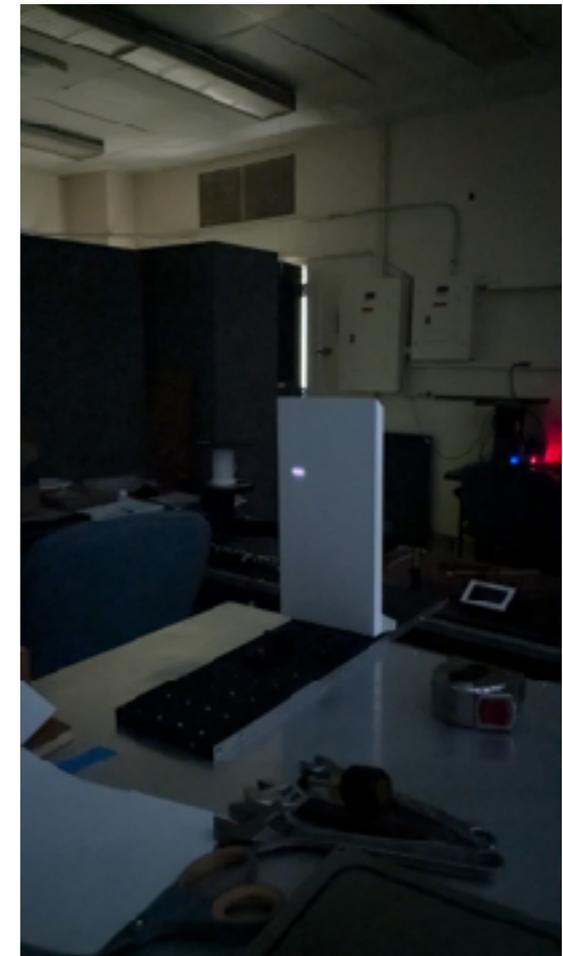
- The D2 lamp window is cleaned and flushed with continuous argon gas flow
- No light spot observed out of the spectrometer after initial turning on
- Troubleshooting tracking down the beam, the grating output is misaligned with the output to the wavelength selection slits



Spectrometer Refurbishment

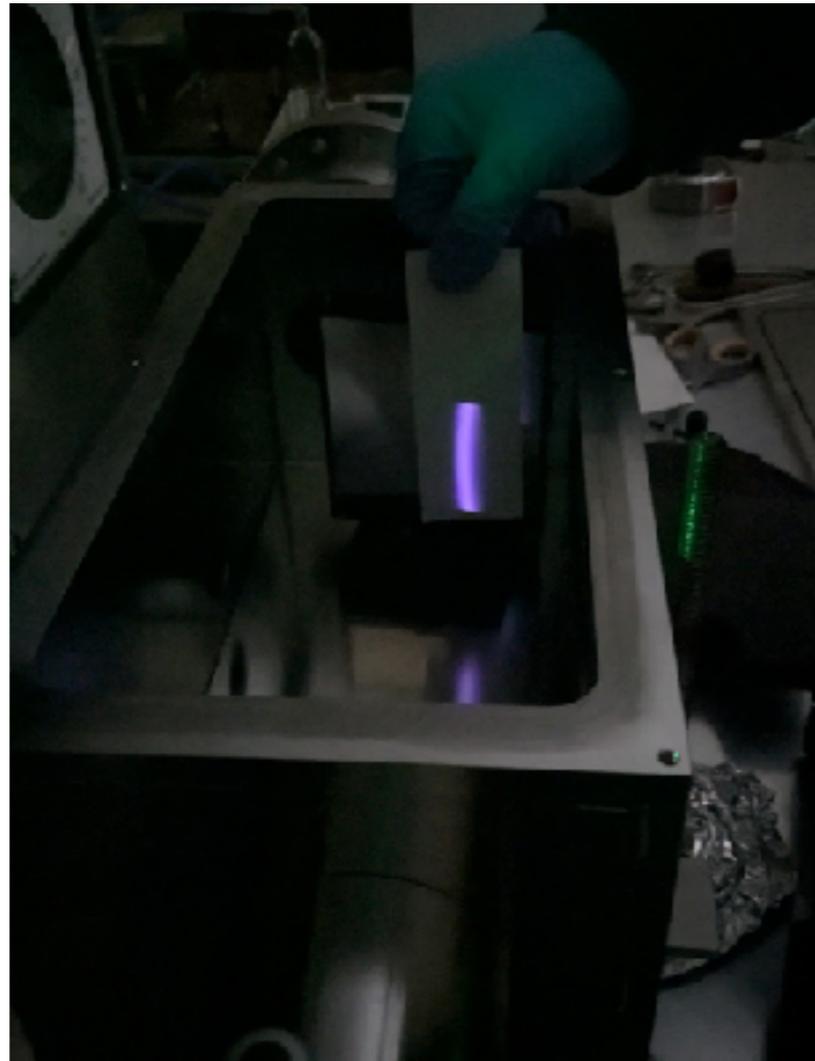
▶ Troubleshooting

- Changed to the new grating and the light spot is not moved
- Problem resolved after reset the grating rotational stage controller
- Light spot observed at the output



Spectrometer Refurbishment

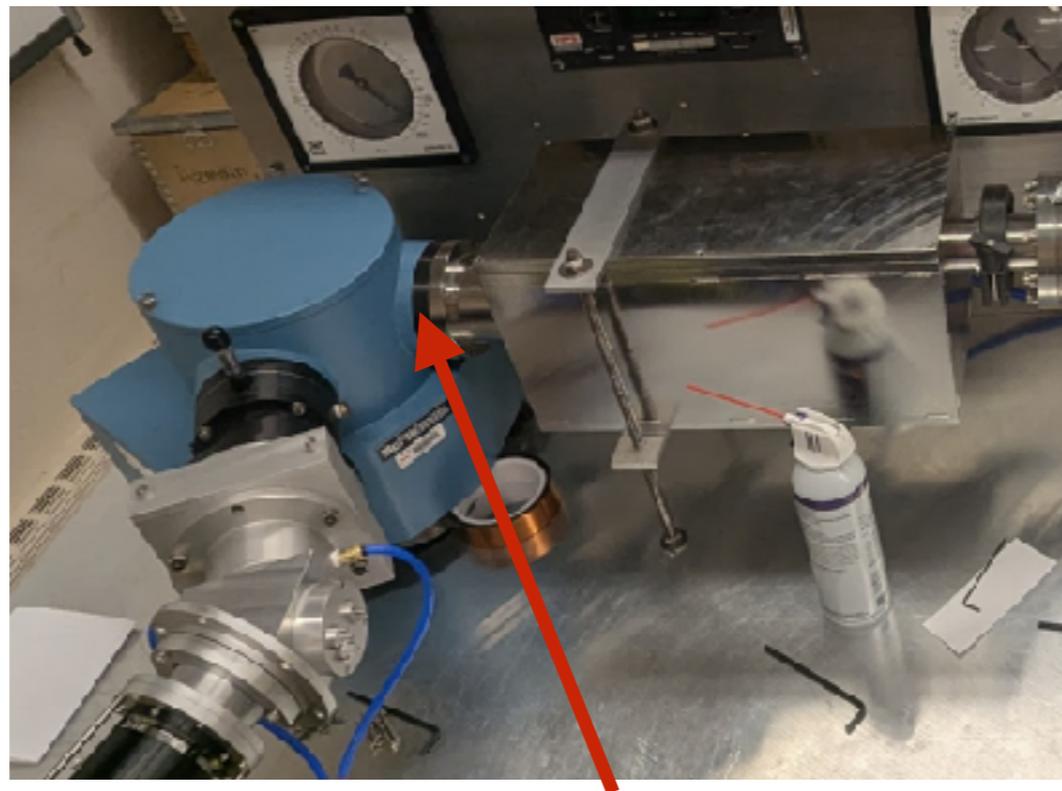
- ▶ **Check the light profile inside the collimator**
 - The final light spot shape is not square
 - Check in the inside of the collimator box
 - The wavelength selection slits is malfunctioning



Spectrometer Refurbishment

► To do list

- Replace the selection slit
- Validation of the wavelength
 - Will borrow a spectrometer to confirm/calibrate the wavelength



Selection slit