

LAr R&D Progress Updates

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4/29/25



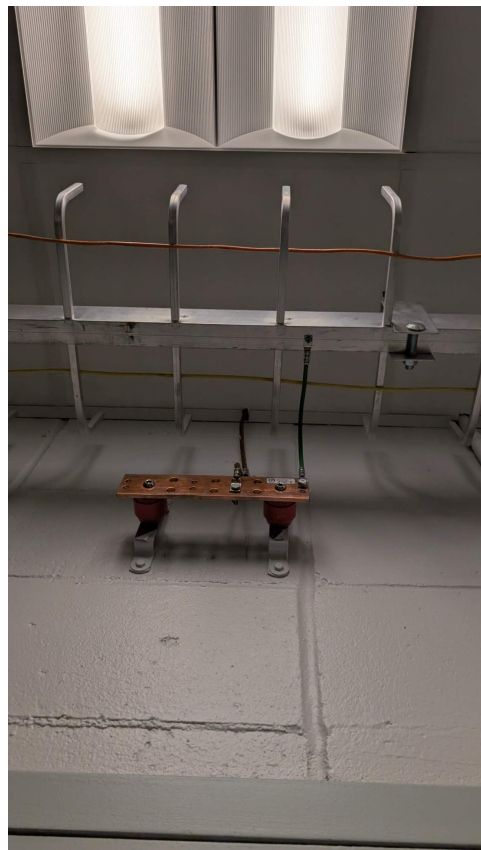
Lab Safety and Space Management

▸ LOTO training

- Pass the LOTO in class training and test yesterday
- Part of the ECP assignment
- Need to conduct a LOTO JPM

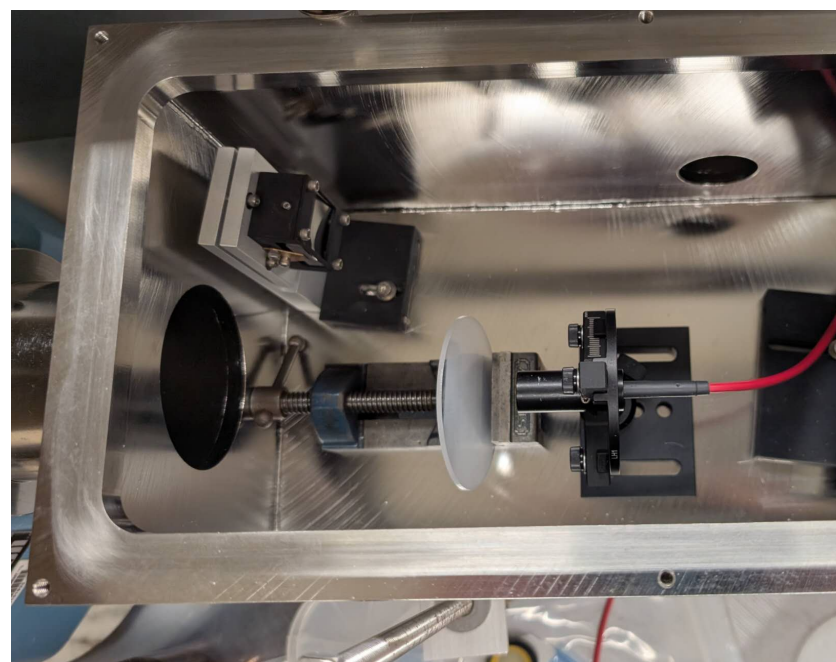
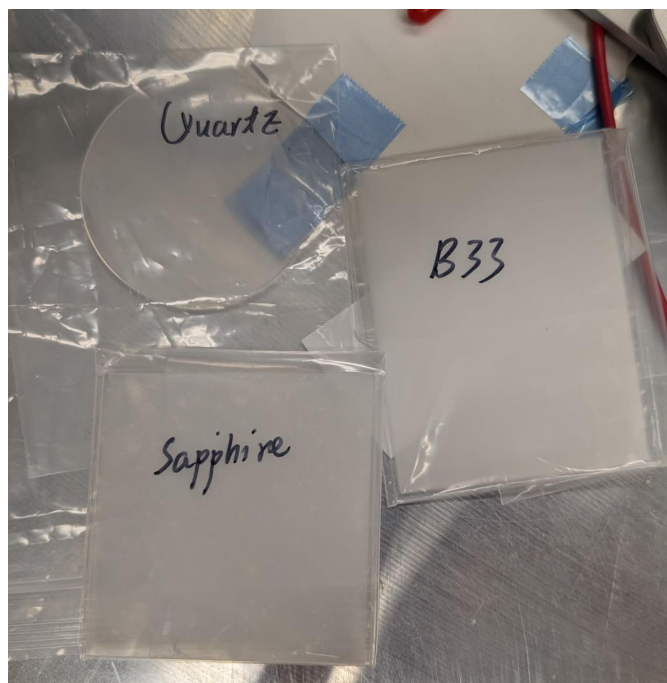
▸ Grounding check for 2nd floor lab

- Volodya required for DAQ crate grounding check
- Grounding cable added for the DAQ crate and Xenon lamp
- The same Xenon lamp I inspected for ePIC experiment
- The cable tray connected to the building ground bus in the room can be used as extended grounding point



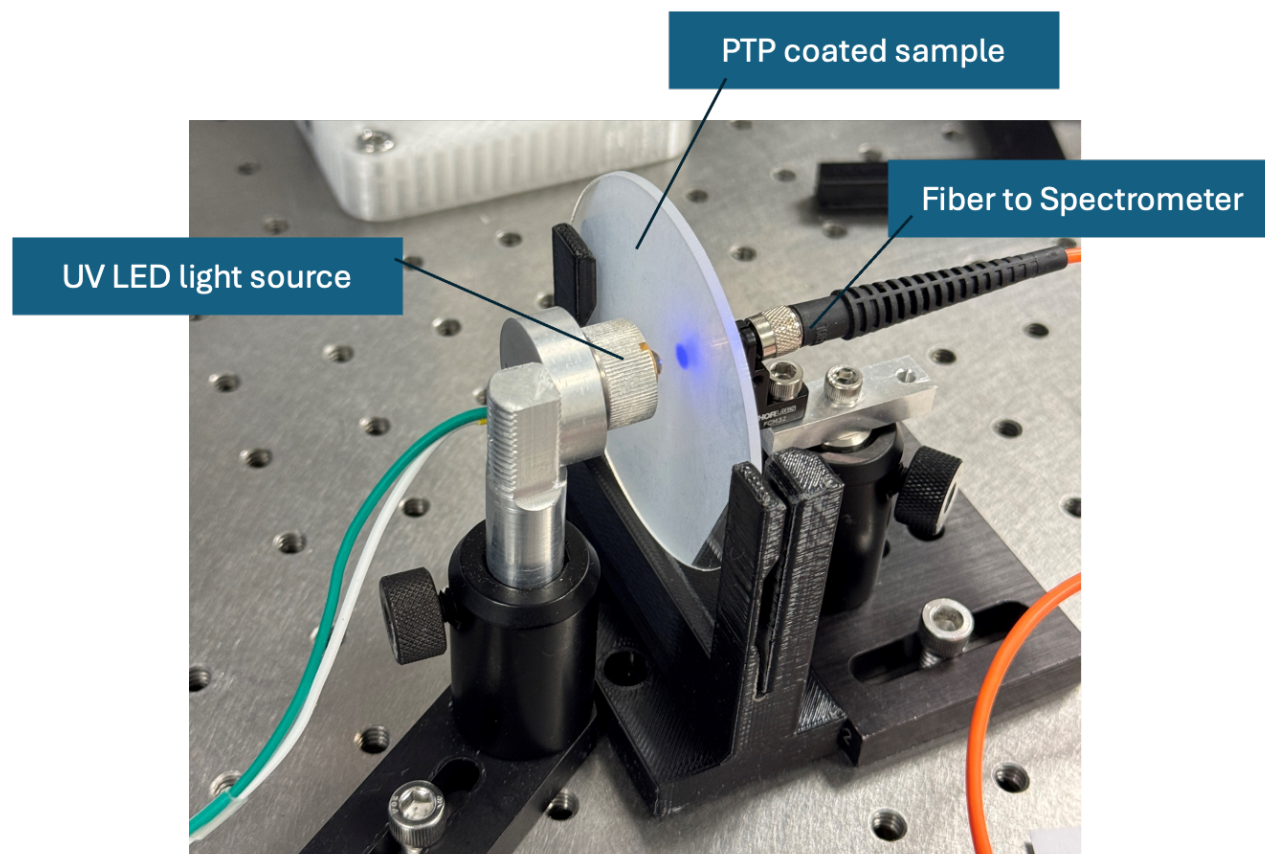
PTP coating filter status

- Small size samples received from Yimin with PTP coating
- Smaller than the size we ordered, provided to us as a courtesy to start first
- Yimin is still committed to produce the large size sample we originally ordered
- Tried to setup the sample, but didn't find proper holders
- Ordered dedicated filter holder from Thorlab, expected tomorrow

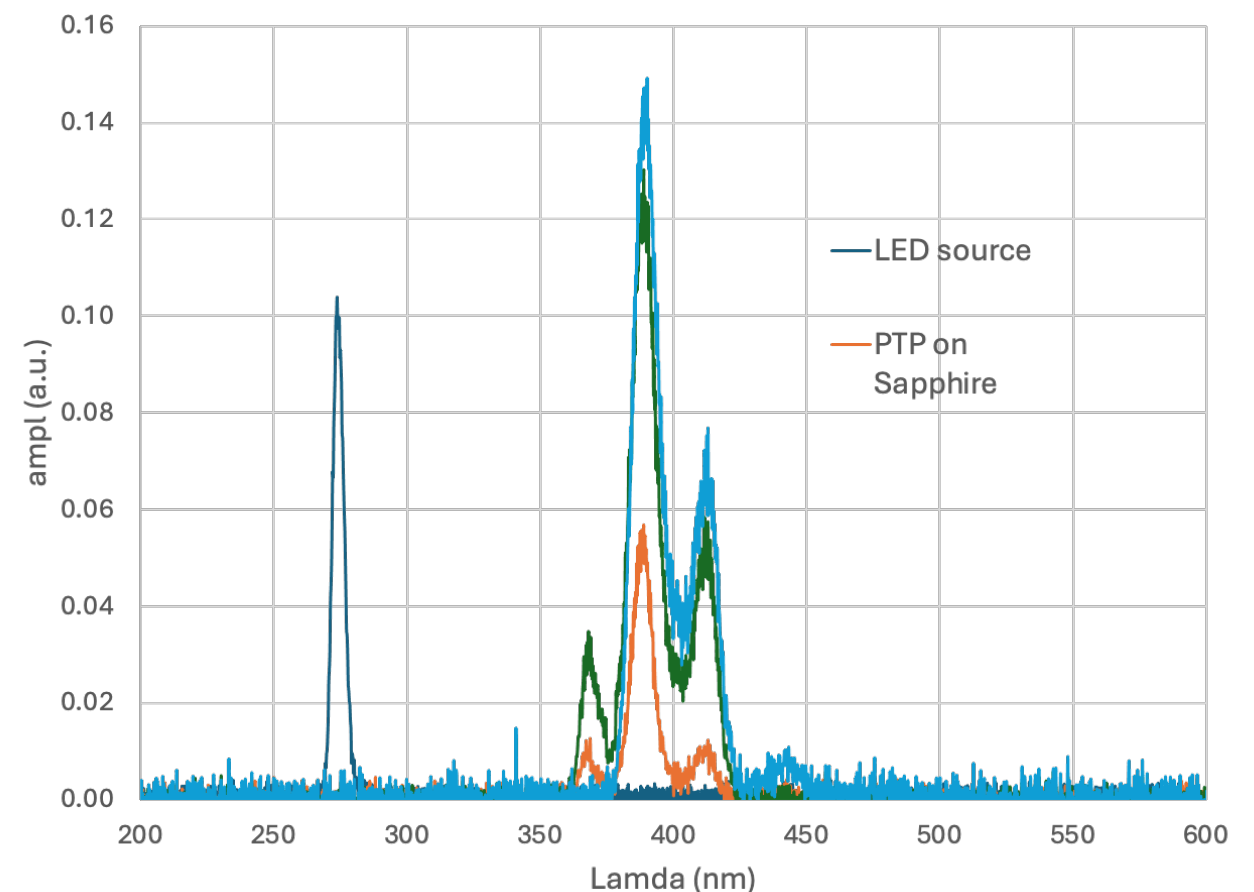


Filter test at the vendor

- Yimin only tested the emission spectrum of the PTP coating with a 266nm UV LED
- No measurement on thickness
- We will conduct the thickness measurement at IO



Spectrum Test Setup



Current status and plans

► **Near term plan for the filters received**

- Wavelength shifting performance measurement with monochromator (in progress) with comparison to vendor results
 - Getting wavelength shift from Sean, BC408 or BC404 scintillator as the reference
- Coating thickness measurement at IO
 - Will hand over the samples to Abdul after the spectrum measurement
- Thermal stress measurement
 - Plan for the last given the risk of damage

► **Long term plan**

- Mechanical drawings of the test chamber is done
- Need to conduct the light spot profile measurement to determined the adapting tube length
- The profile measurement is planned after putting in the new grating and mirrors next week.
- The apparatus inside the test chamber in discussion with Bill and Bob

Plan for the spectrometer FY25

► Time line estimation starting from March 1st

- Mechanical Design 03/01-04/15
 - ☑ Precise measurement to the test chamber dimensions
 - ☑ Development of CAD model for the test chamber
 - ☑ Mechanical drawing for the additional portal
 - Design of apparatus inside the test chamber
 - Produce the drawings for the review of our engineers
- Machining on the test chamber and parts 04/15-05/15
 - Need to go through the PO process or Work Order
- Design of the Cryogenic Test chamber 04/15-05/15
 - In parallel with the machining
- Assembly of the apparatus and troubleshooting 05/15-06/15
- Measurement in Vac. And GAr 06/15-07/15
- With contingency for potential delays in procurement and fabrication etc. and safety review, it should be achievable by the end of this FY
- Will refine the timeline after further discussion with colleagues