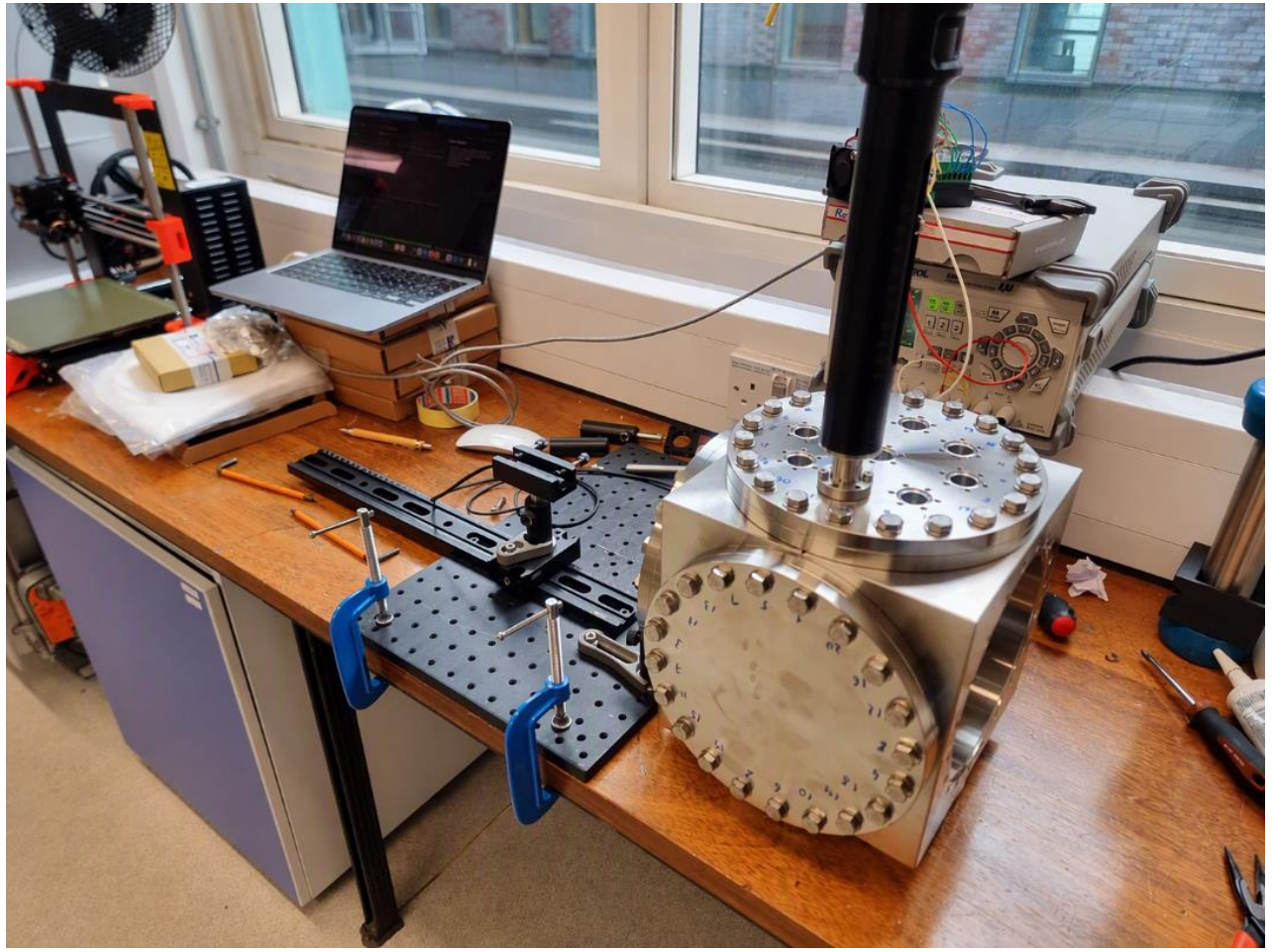
# Project Update 28/10/26

Mathias Zurbriggen

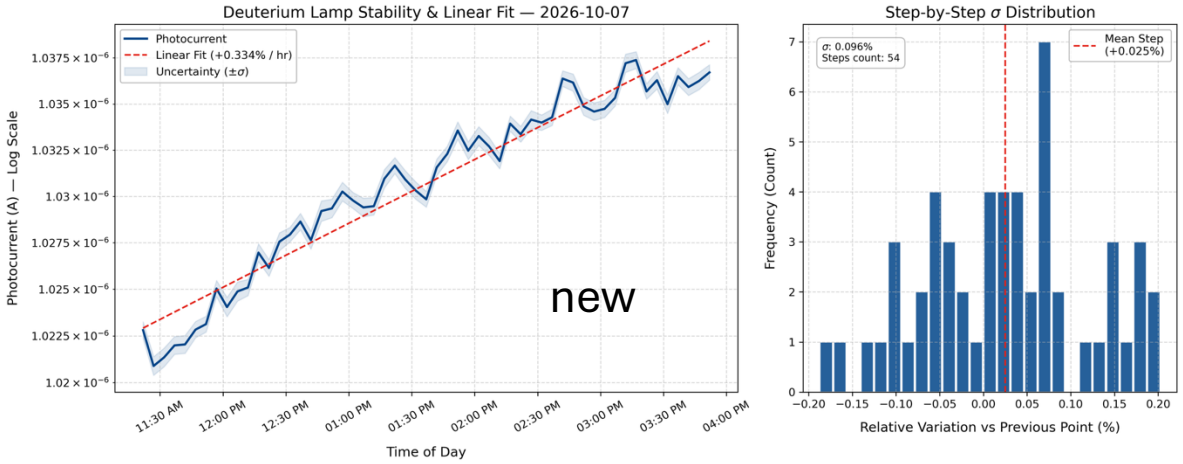
# Putting together the vacuum box

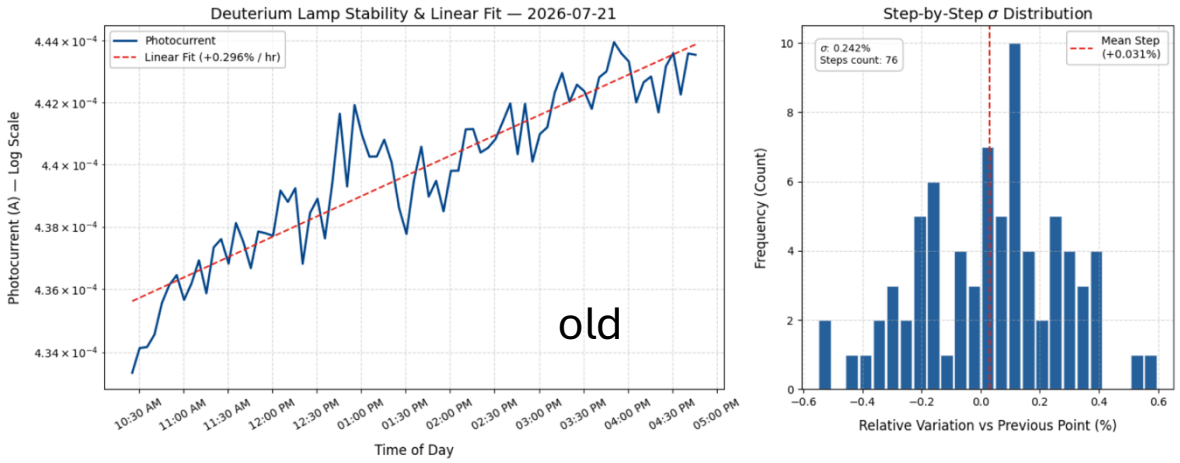
- Alignment process created using Thorlabs pieces available and a laser
- Mirror ordered to do alignment
- Software written and tested for stepper motor
- Small calibration of linear feedthrough and stepper motor



# Stability comparison

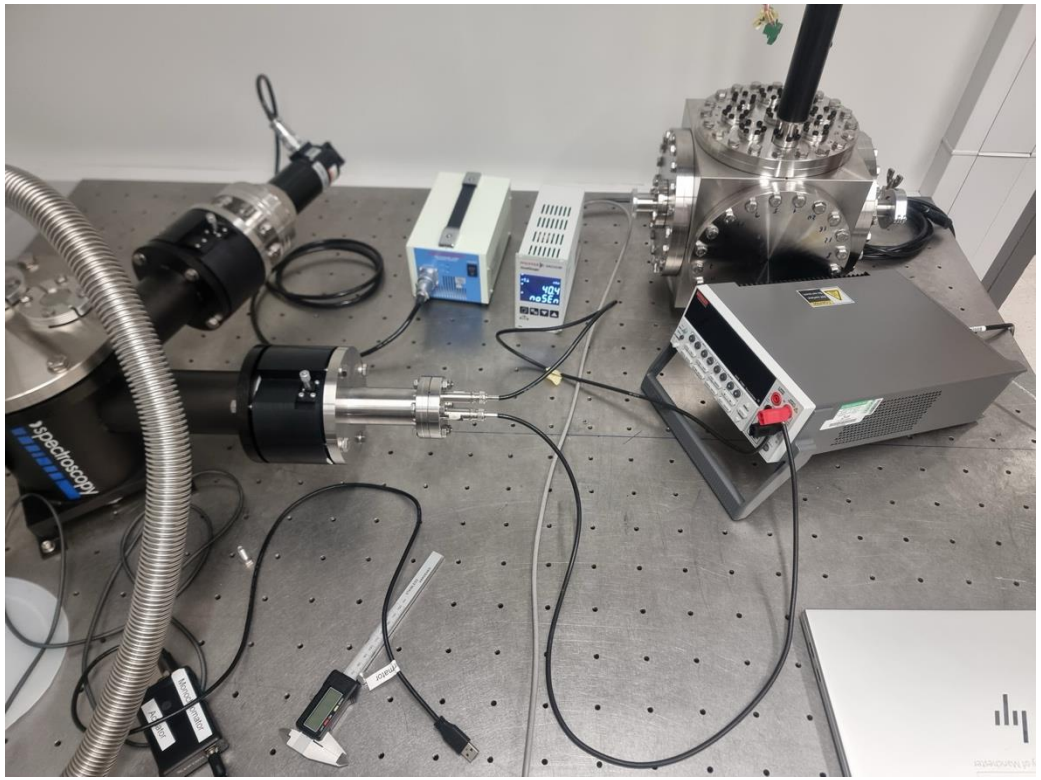
- Deuterium lamp and monochromator
- Great stability over time
- D2 lamp should not be left on for over 7 hours due to heat buildup

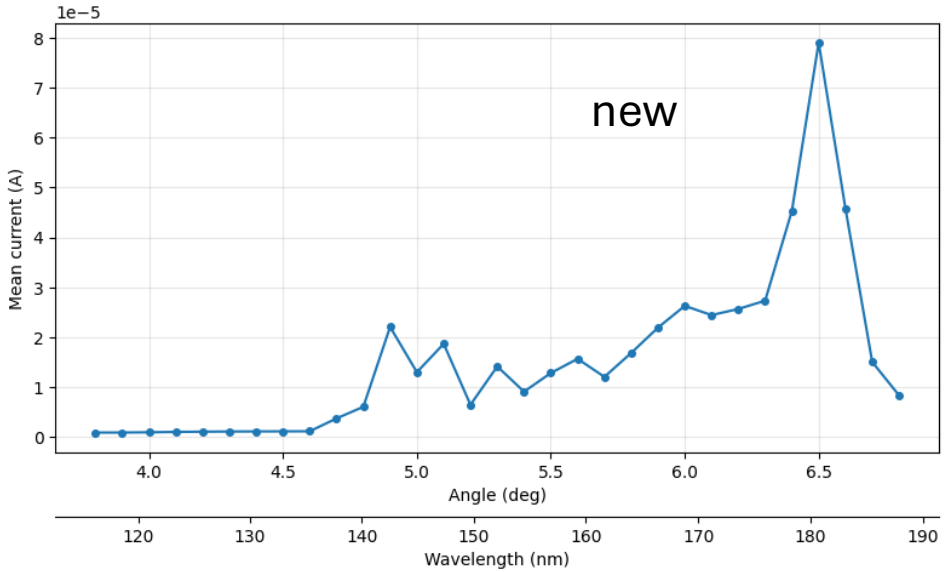


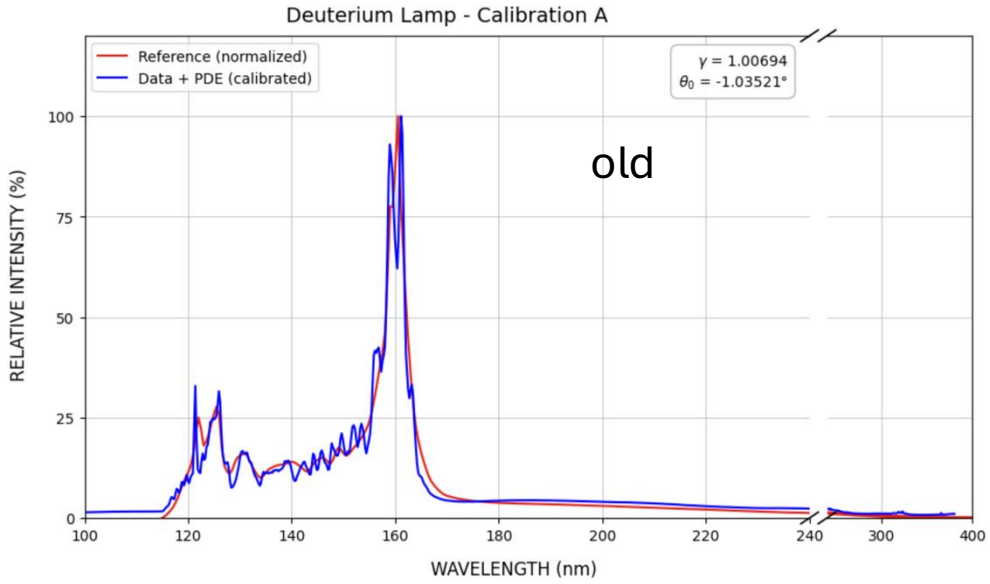



# Shift in spectrum

- Two new spectra taken on the same day at different times agree
- New calibration required

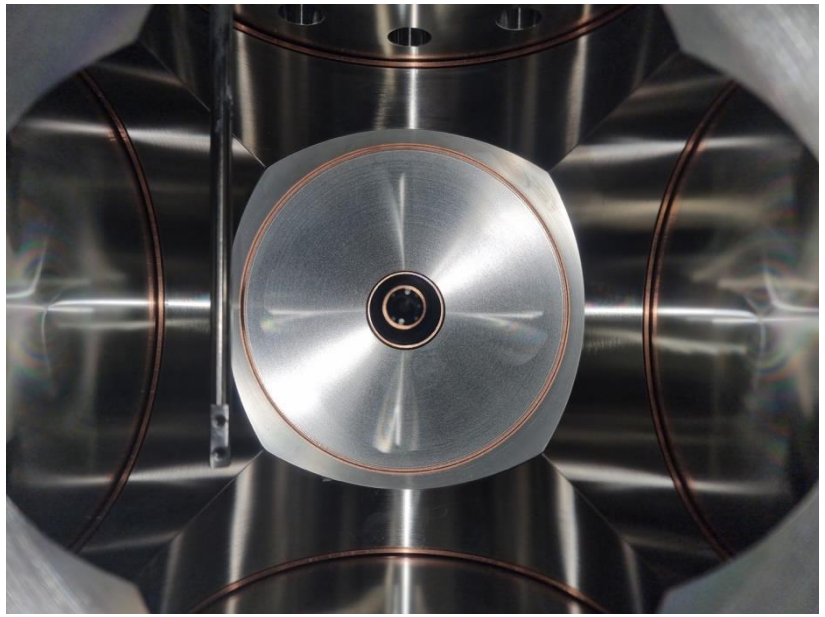


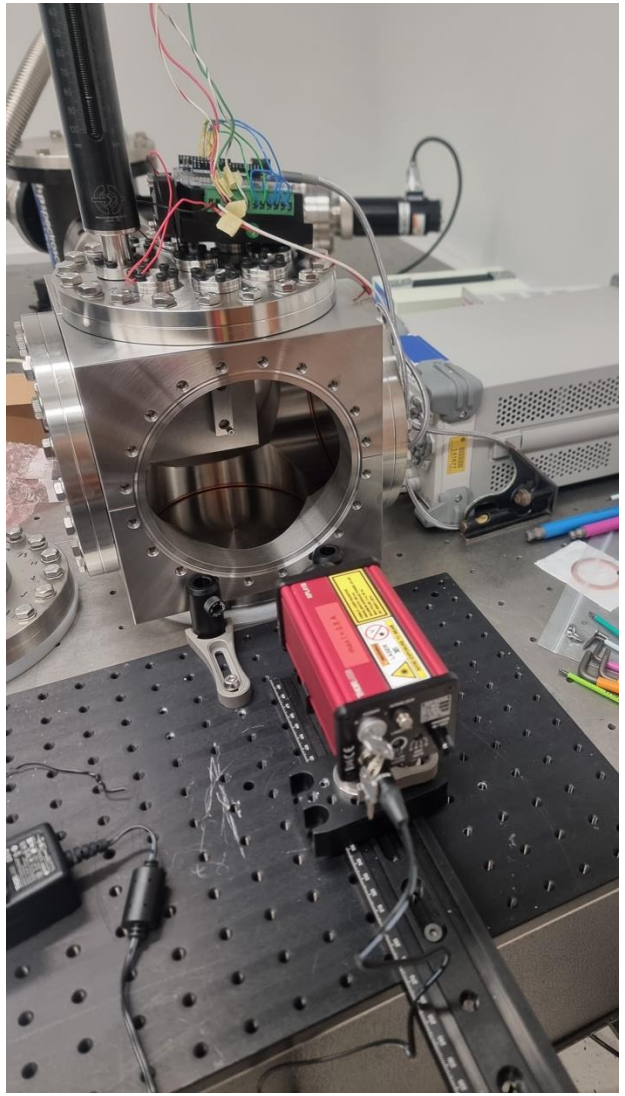


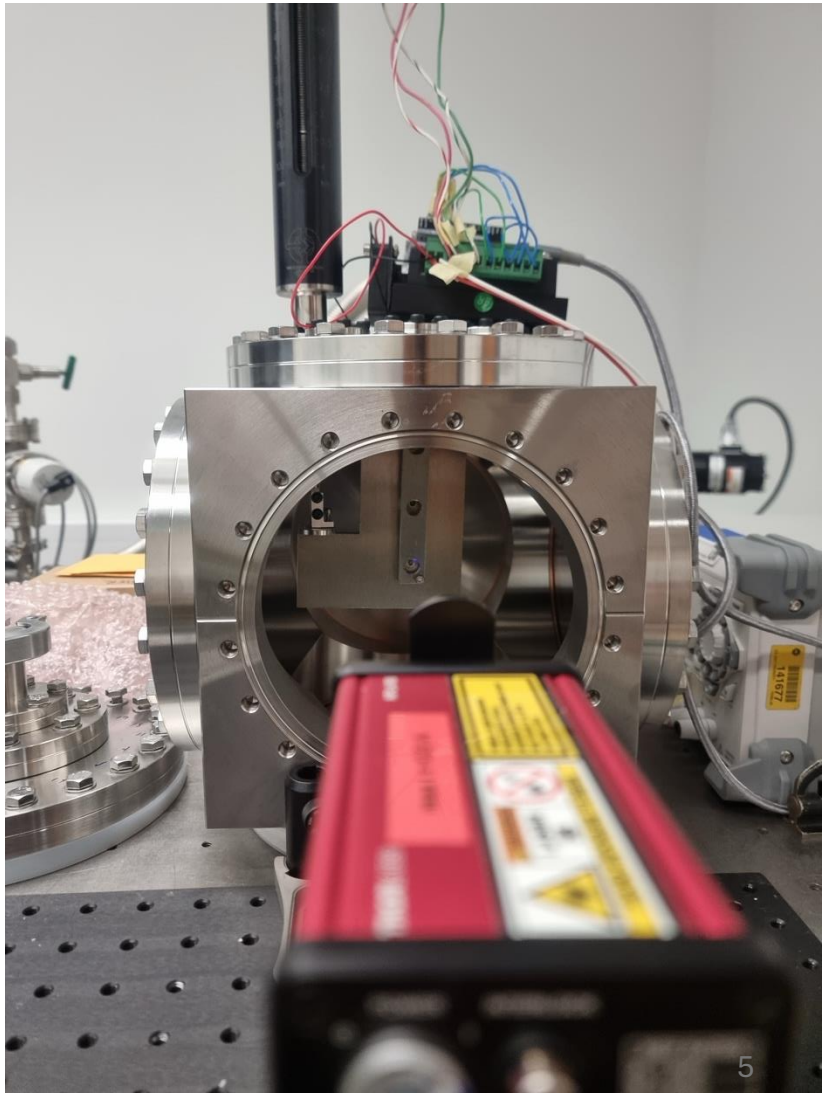



# Alignment

- The breadboard needs to be aligned with the box before the holder can be aligned

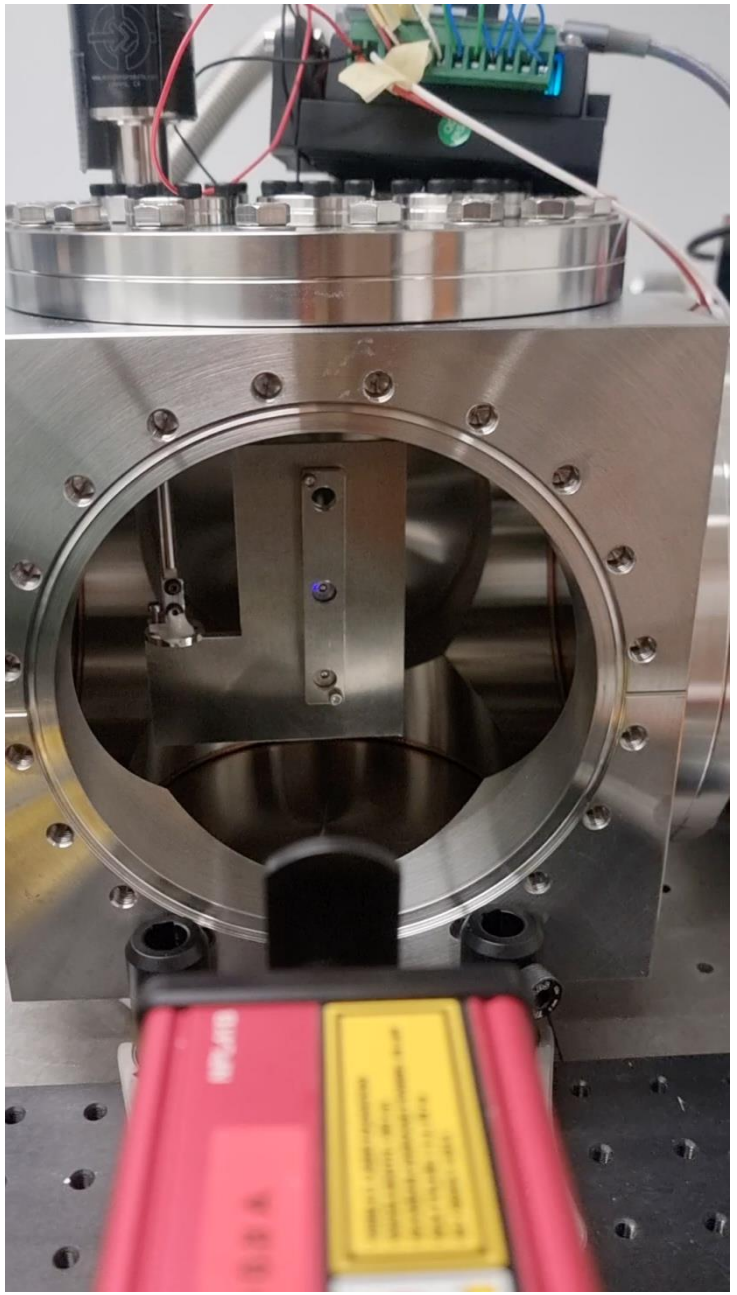






# Alignment

- Mirror is inserted in one of the positions
- 20 step alignment process is followed
- The linear motion feedthrough needed support for the vibration from the motor
- The holder requires gluing due to vibration from the motor



# Set-up ready

- All parts have been vacuum tested individually
- Successfully evacuated to 10^-5mbar in just over 12 hours
- Currently setting a baseline for stray light with windows blinded
- 28 CF160 flanges

