

BaBar DIRC bars for ePIC hpDIRC

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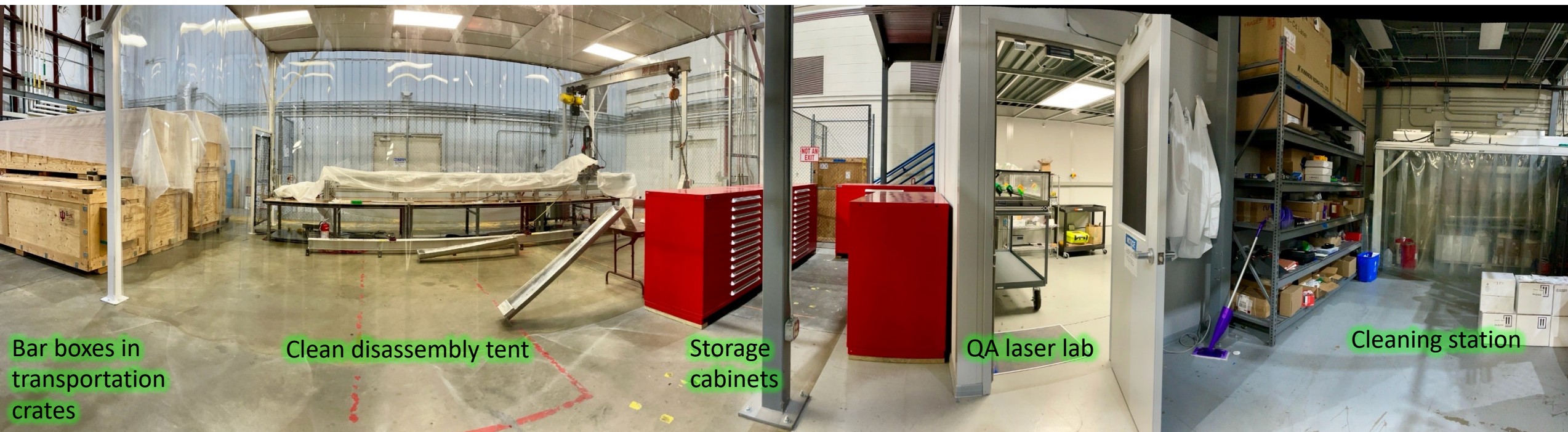
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Jefferson Lab



REUSE OF BABAR DIRC BARS



Bar boxes in transportation crates

Clean disassembly tent

Storage cabinets

QA laser lab

Cleaning station

Disassembly process in JLab:

- Bar boxes are disassembled and bars are separated in **clean tent**
- **Cleaning station** to remove residue glue, visually inspect bars
- **QA laser lab** to inspect quality of the bars after disassembly
- Measured bars are wrapped, tagged and stored in **cabinets**

Team working on disassembly:

- JLab Technicians: Andrew Lumanog, Caleb Graham
- 2 Scientists: Greg Kalicy (CUA), Sourabhi Tarafdar (JLab)
- JLab DSG Group: Tyler Lemon
- Graduate Students: Shelby Arrigo (W&M), Imran Hossian (CUA)

NEW LAB ARRANGEMENT



Empty DIRC transportation crates



2nd DIRC bar box

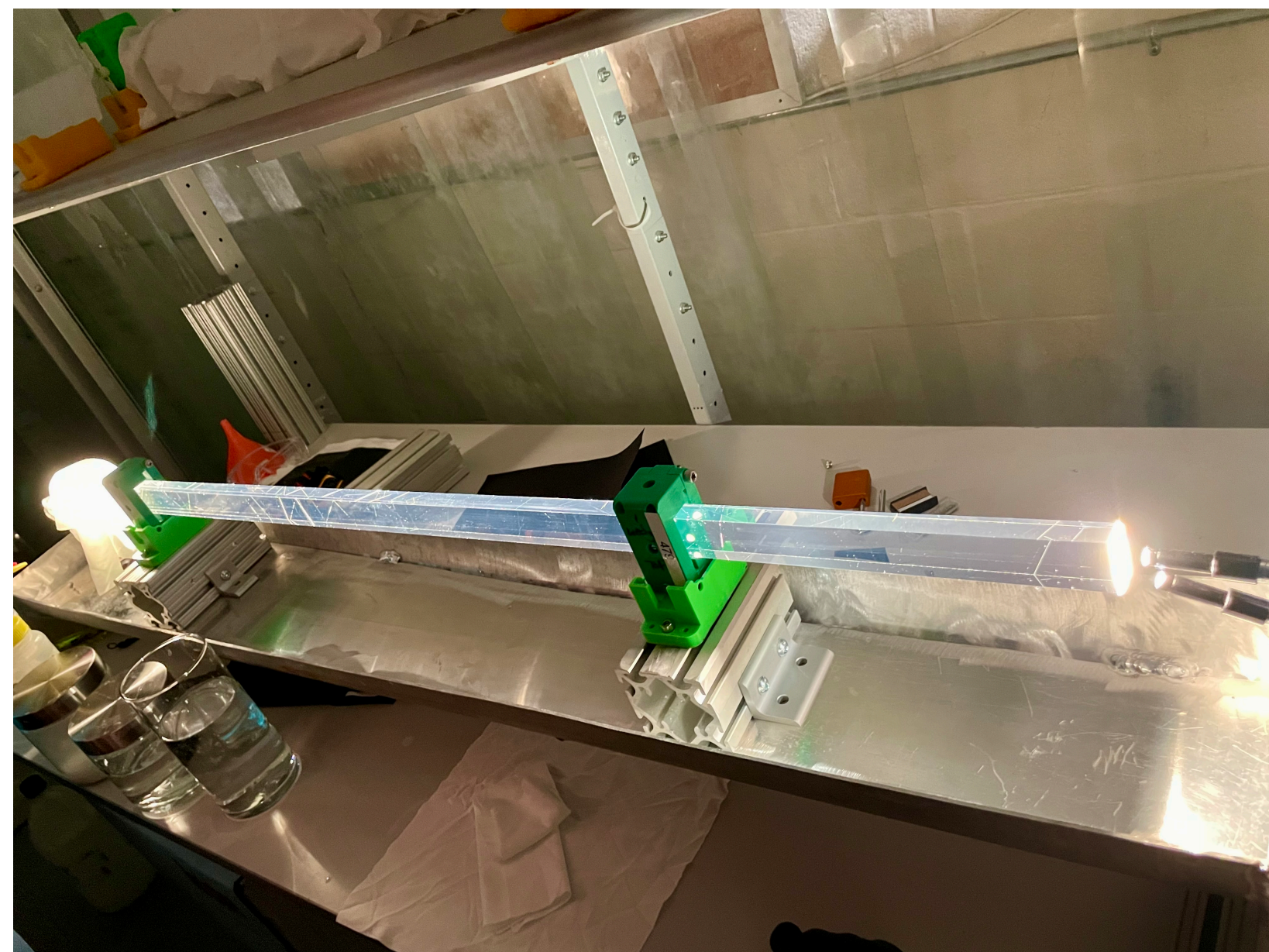
Remaining 6 DIRC bar boxes

REUSE OF BABAR DIRC BARS

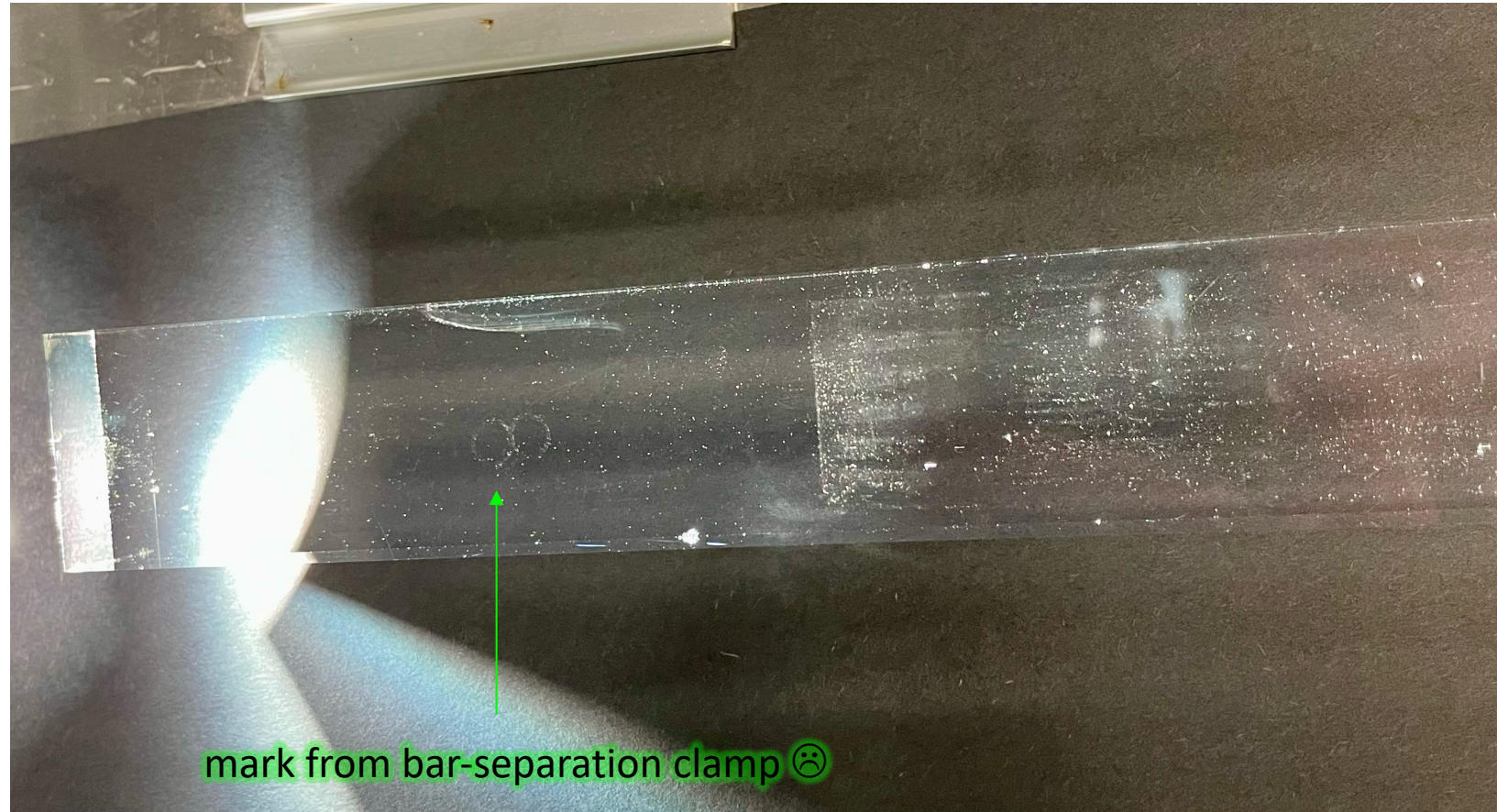
- 3 bar boxes are fully disassembled
- Bars from 2.5 bar boxes are separated
- Residue glue from separated bar ends is removed, bars are wrapped and stored in drawers
- Cleaning procedure and QA measurements are significantly optimized (added halogen light to improve inspection, DAQ for laser measurements works now much faster)



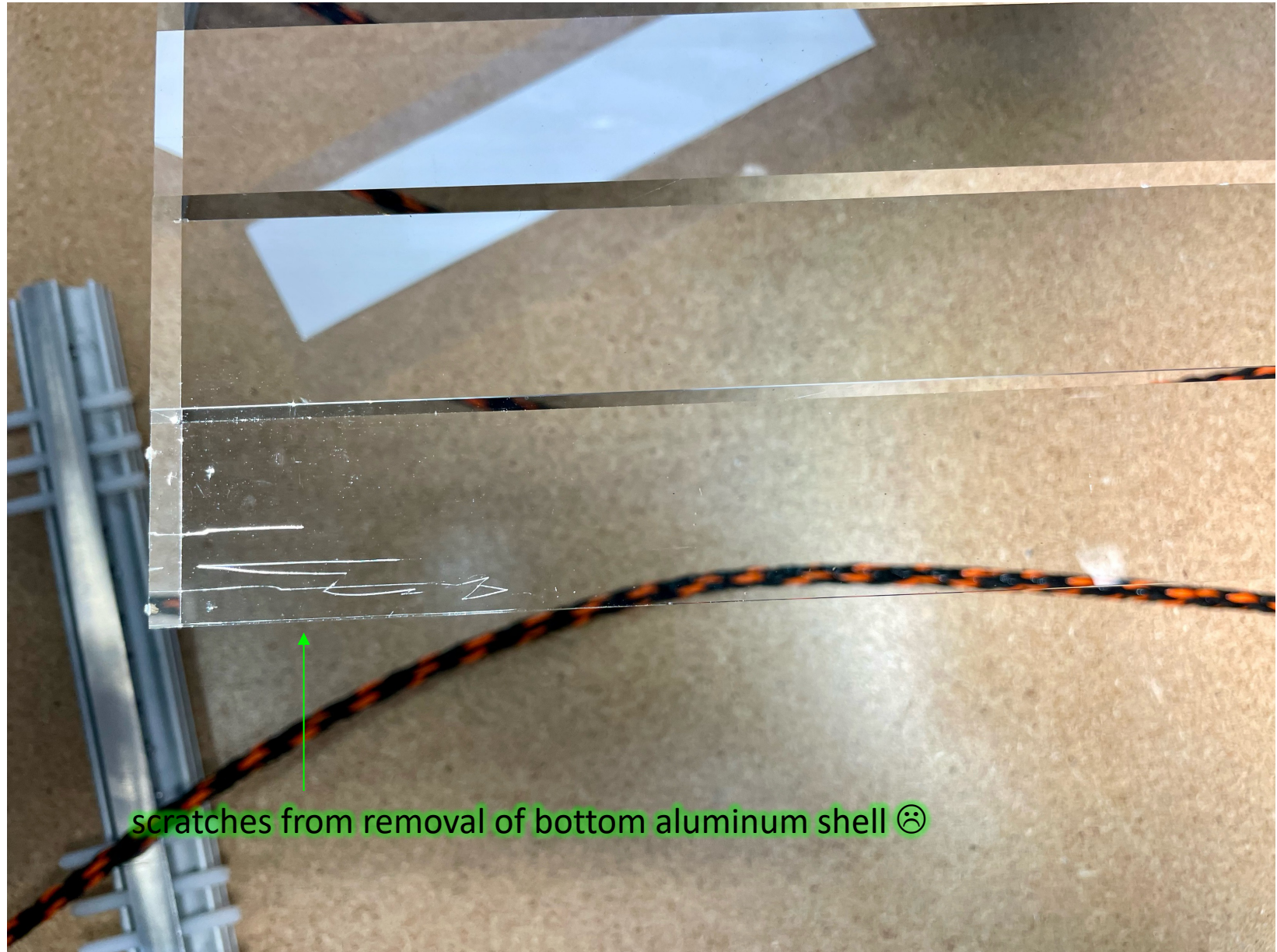
BARS CLEANING



BARS SEPERATION

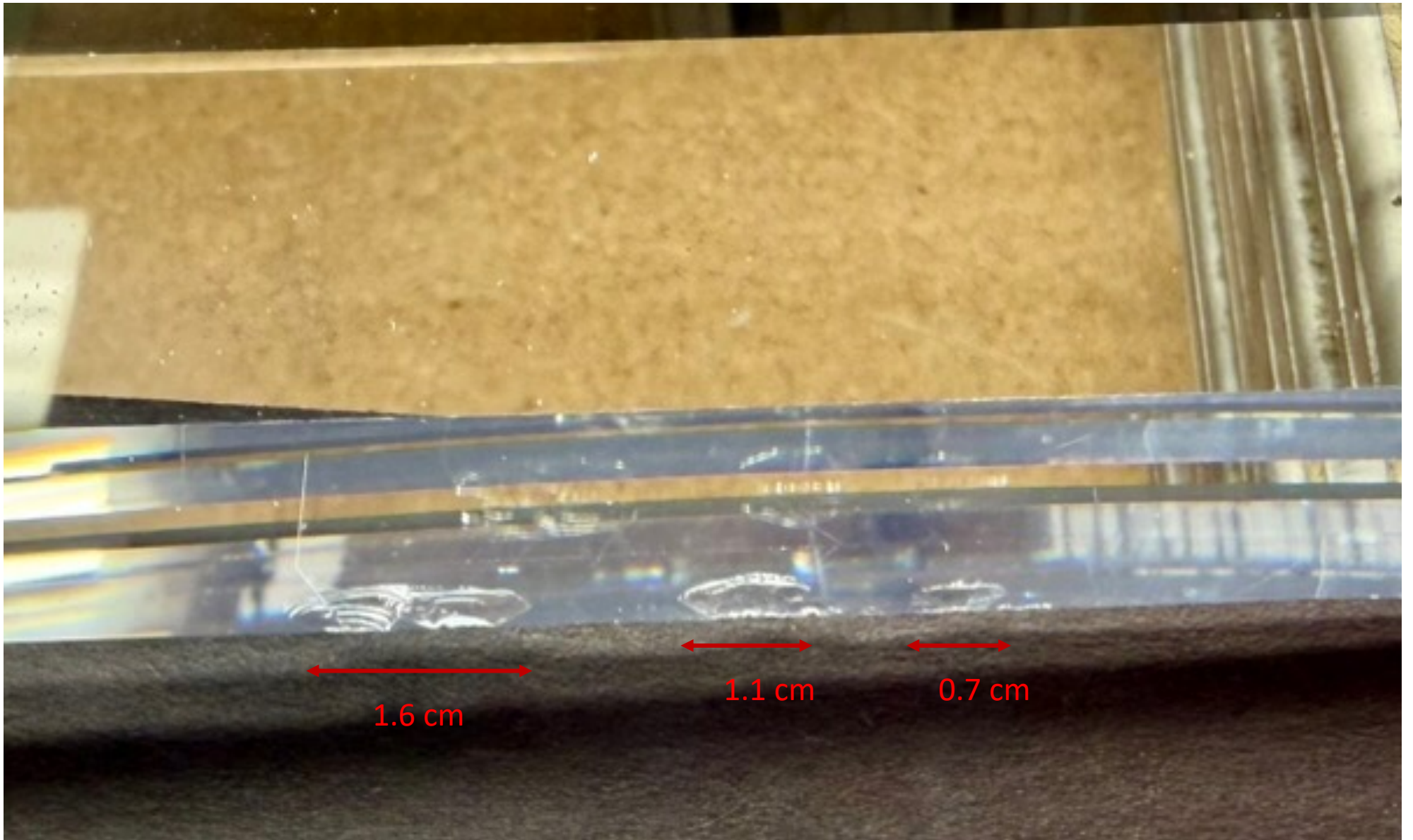


BAR BOX DISASSEMBLY



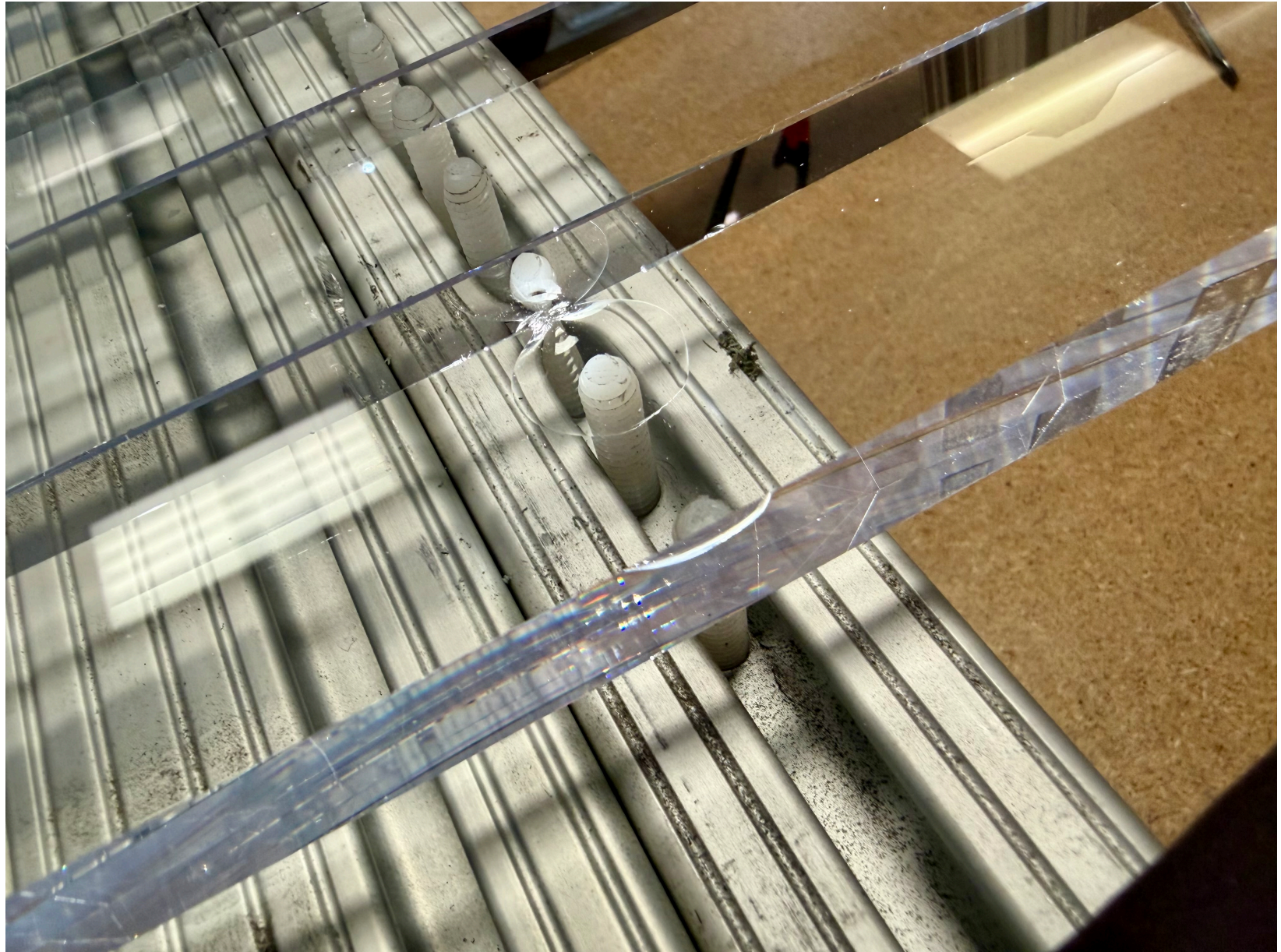
BAR BOX DISASSEMBLY

SIDE CHIPS



BAR BOX DISASSEMBLY

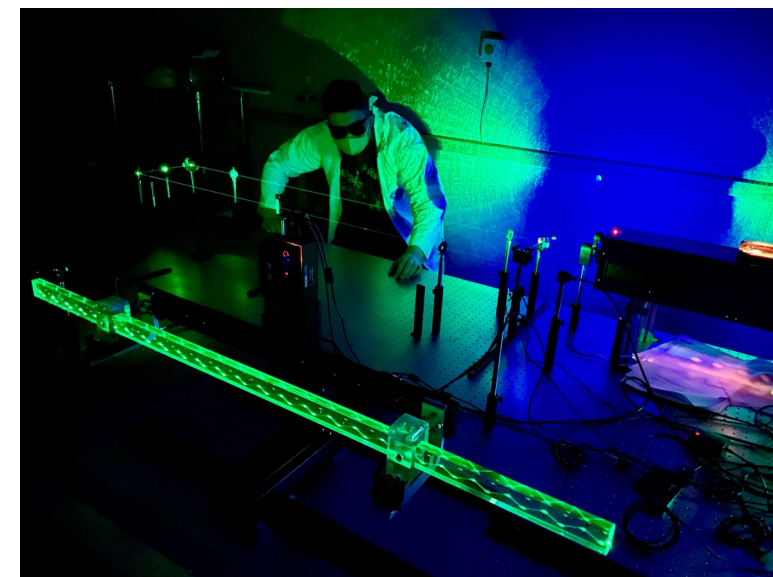
DAMAGE DURING PULLING
OUT THE BOTTOM PLATE 😞



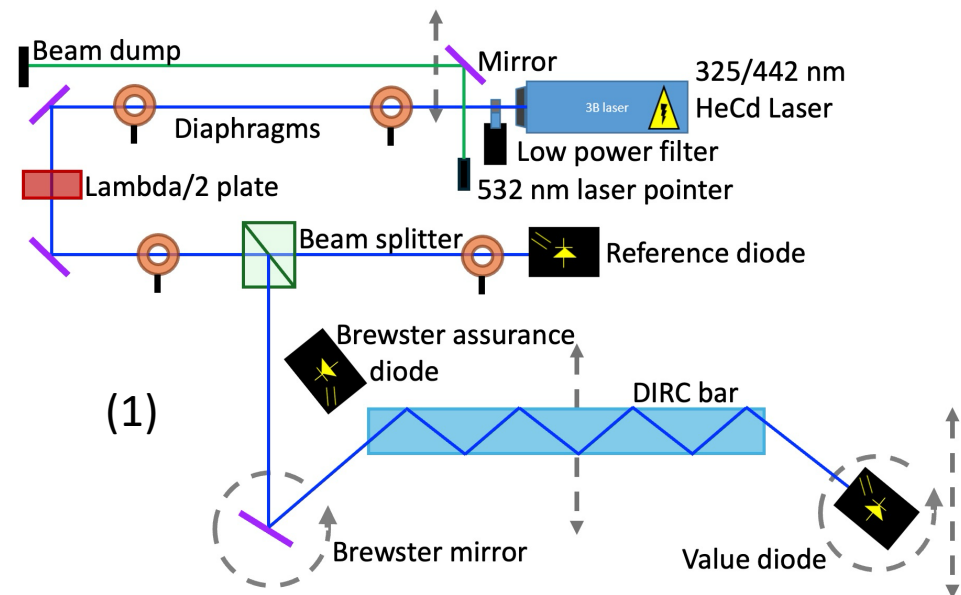
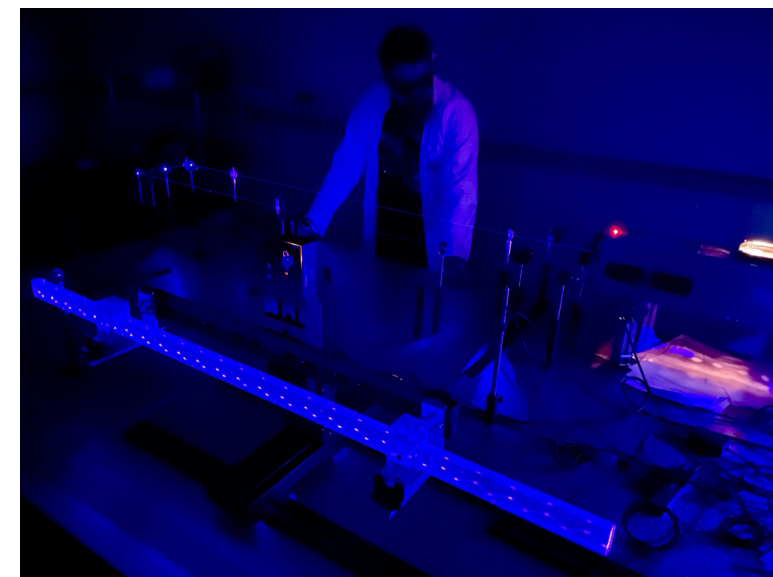
BAR BOX DISASSEMBLY



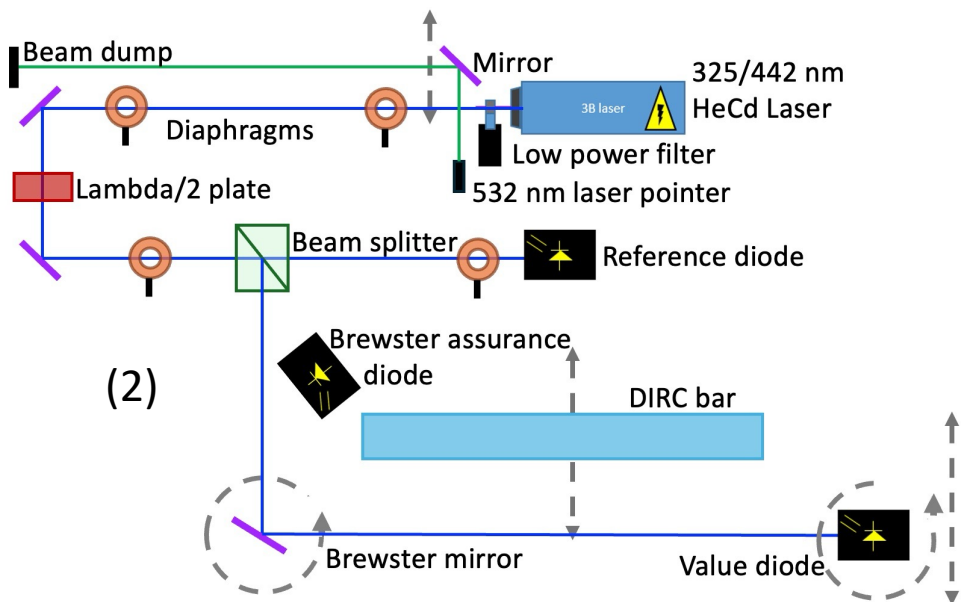
Setup alignment with 532 nm laser pointer



Measurement with 442 nm laser



Measurements are done by comparing (1) beam totally internally reflected inside the bar to (2) beam passing just through air, in both cases we look at the **ValuePD/ReferencePD** ratio to take out systematic effects.



DIFFUSOR STUDIES

New position of diffusor is 10.5 mm from sensor so beam spot should be ~ 4.9 mm diameter on 9 mm diameter sensor

(minimal distance of diffusor from sensor is 2.5 mm - beam spot should be ~ 3.4 mm diameter)

