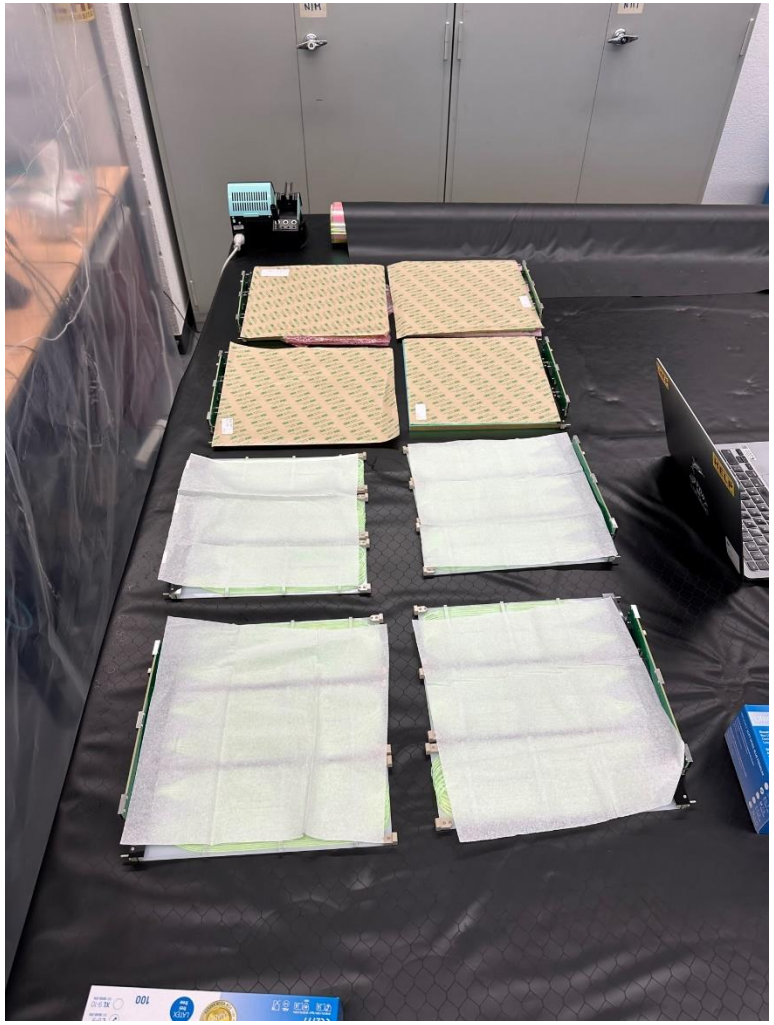
Module 2 Build

Wednesday, November 2nd

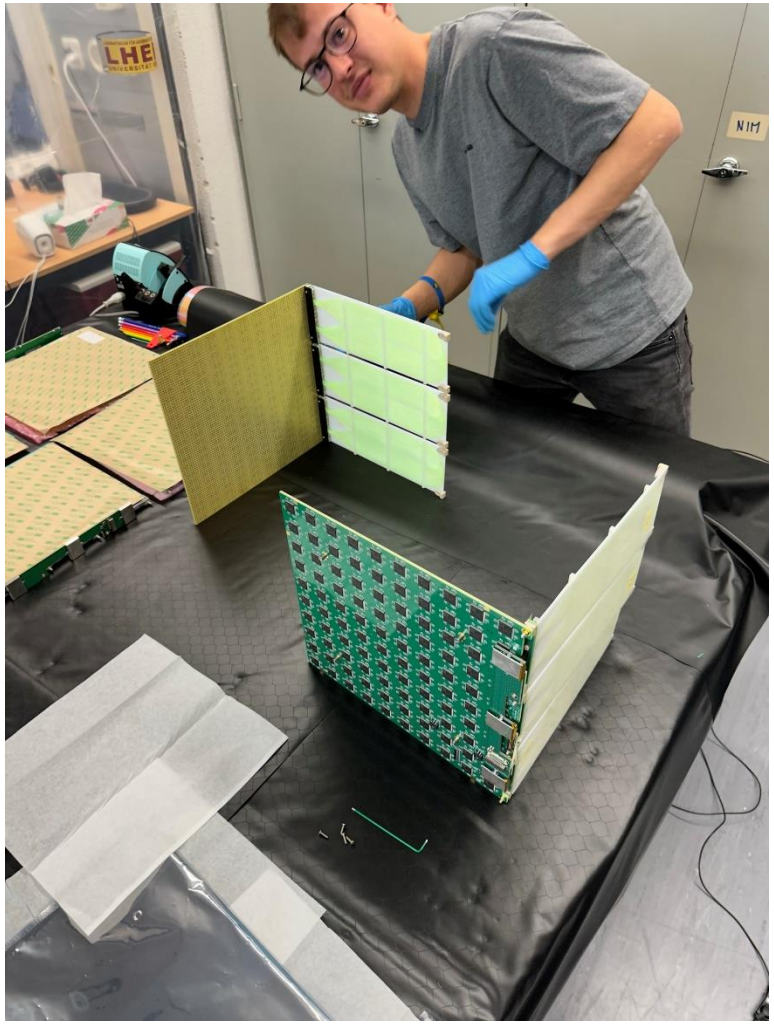
- Completed the anode assembly for TPC 1 of Module 2
- Inserted anode assembly of TPC 1 into the field shell
- Prepared pixel tiles in warm test enclosure for TPC 2 of Module 2
- Pictures follow

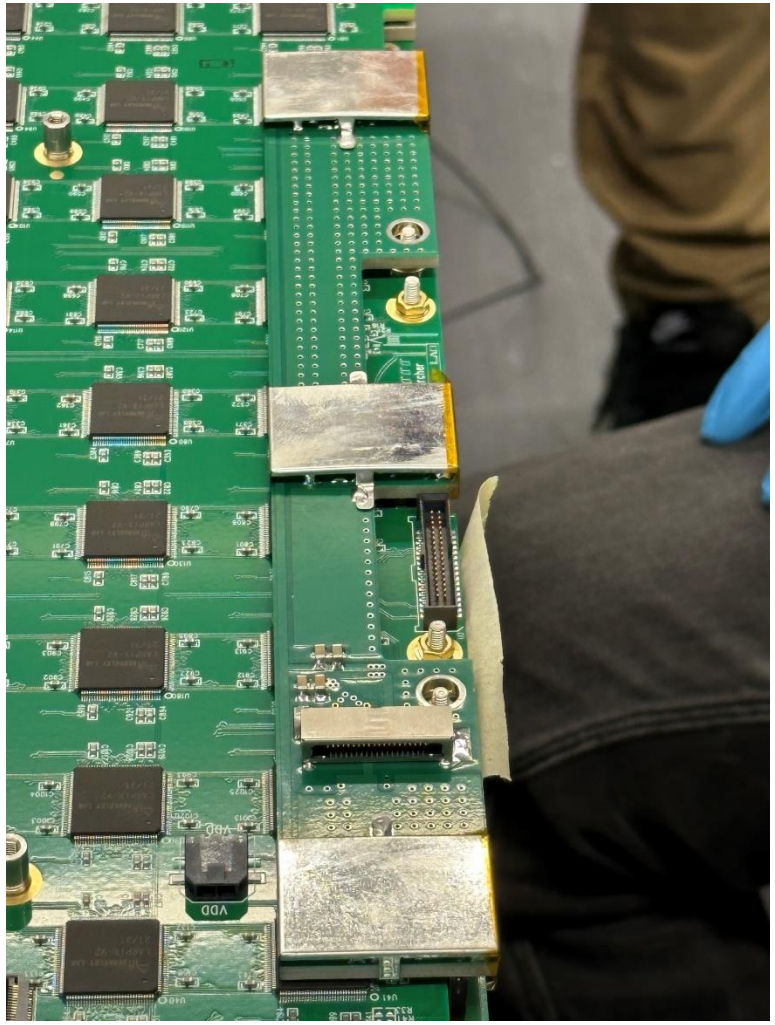
4 ArCLight Tiles and 4 LCM Tiles



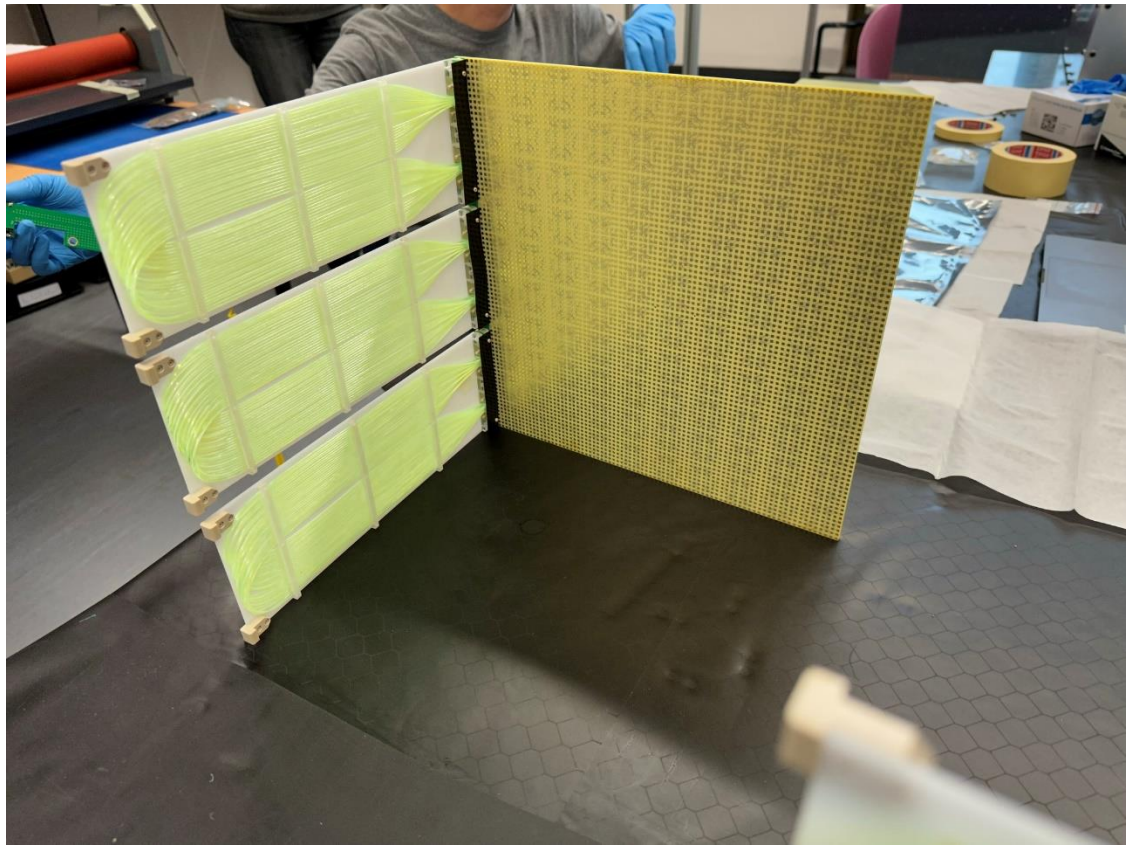
Livio

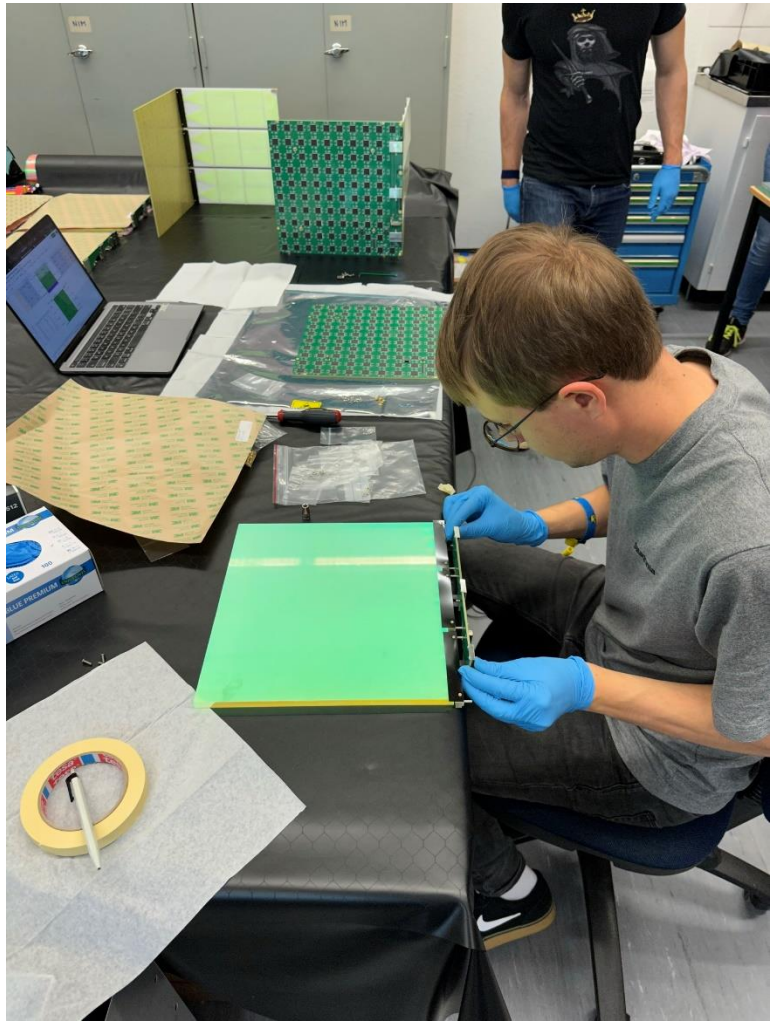
First assembly of each readout system, E-board on the right



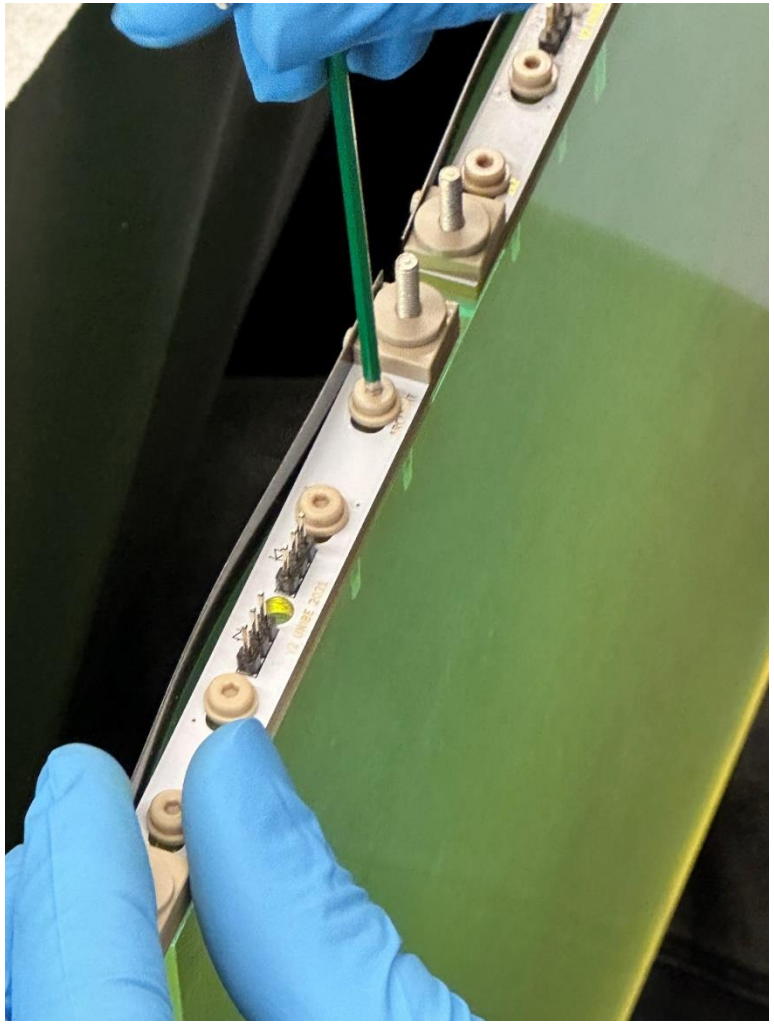


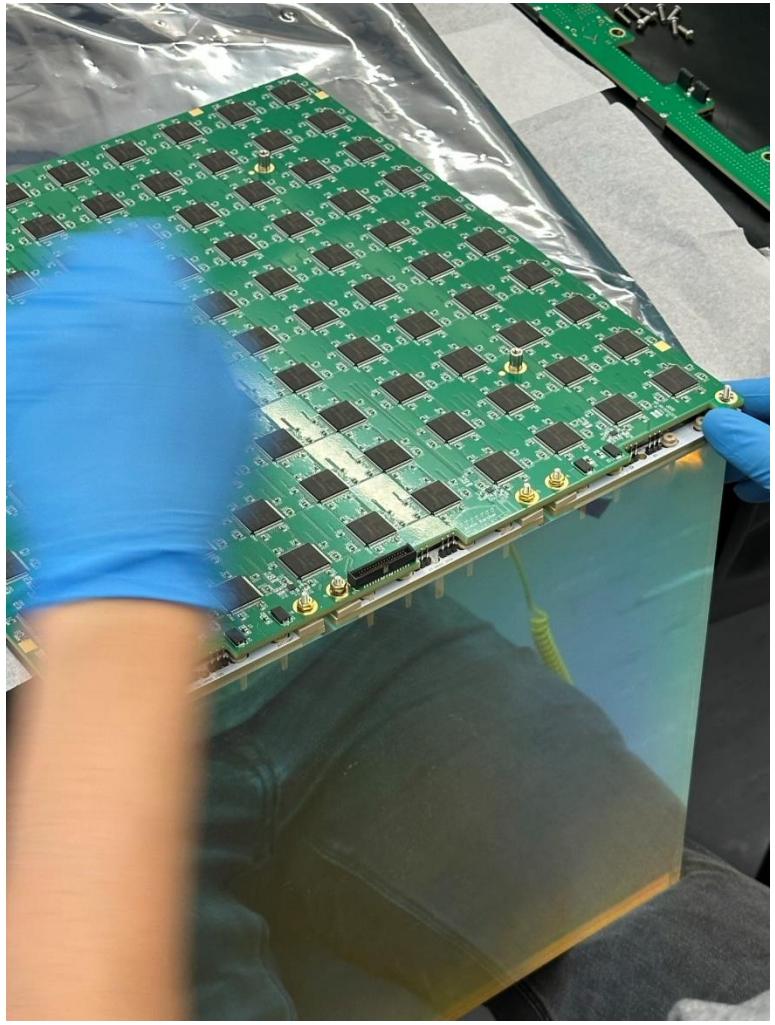
Pixel tile with LCM (left) and installation of ArCLight (right)



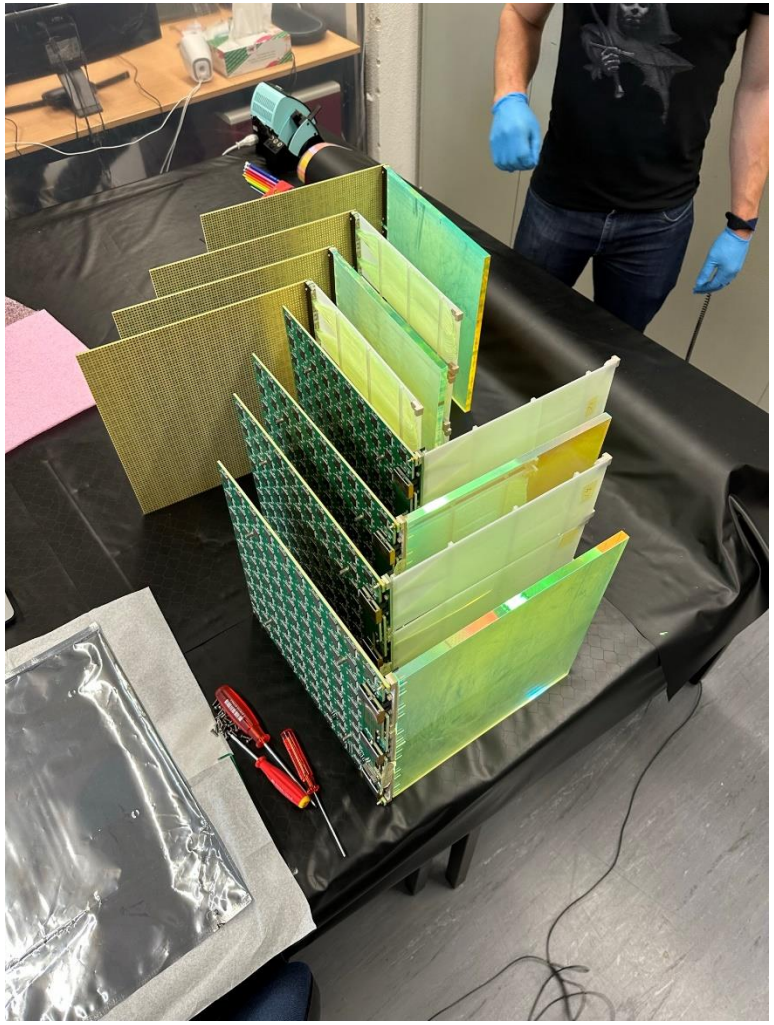


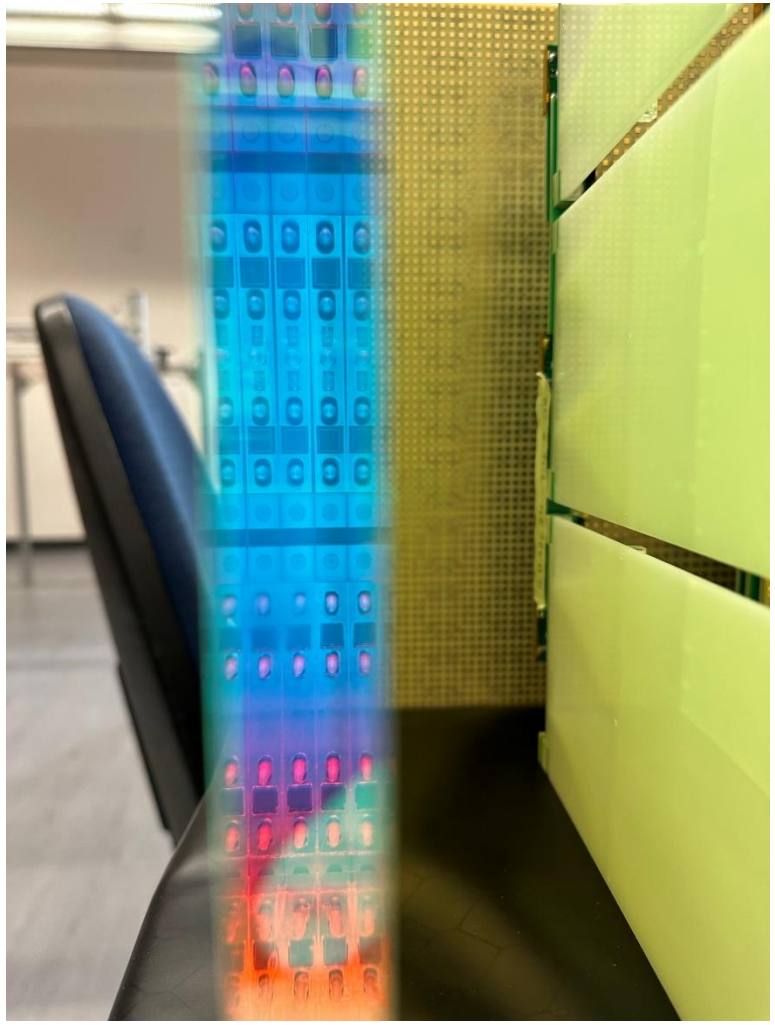
Adjustment of screws to get everything to fit (left), ArCLight installed (right)



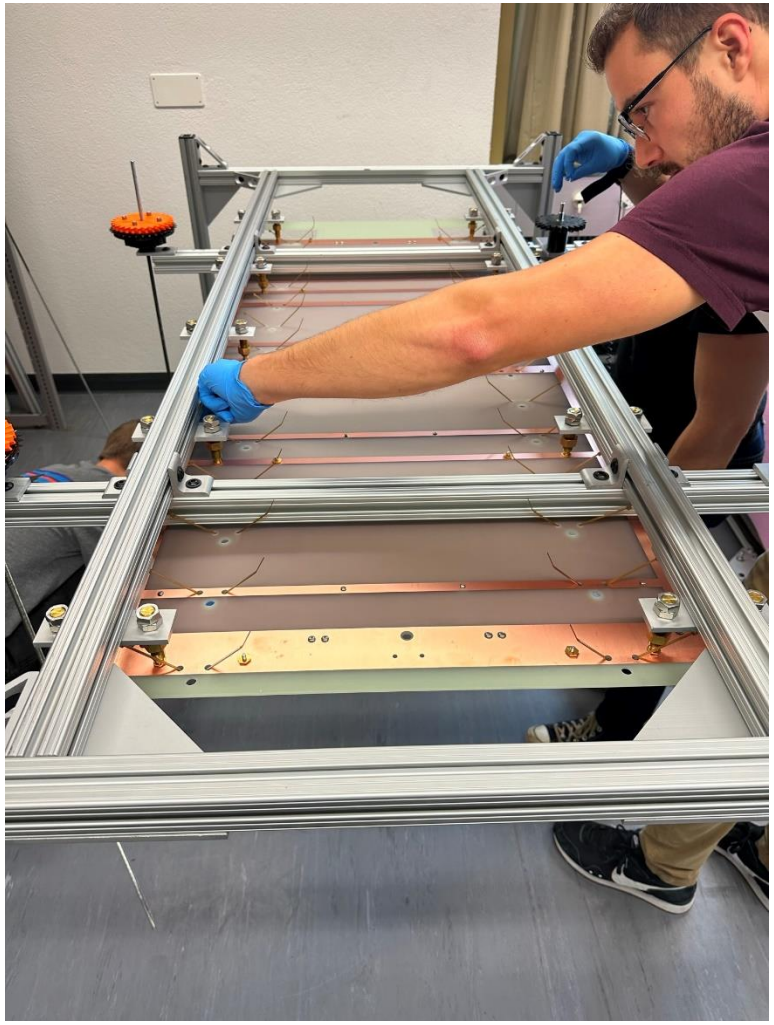


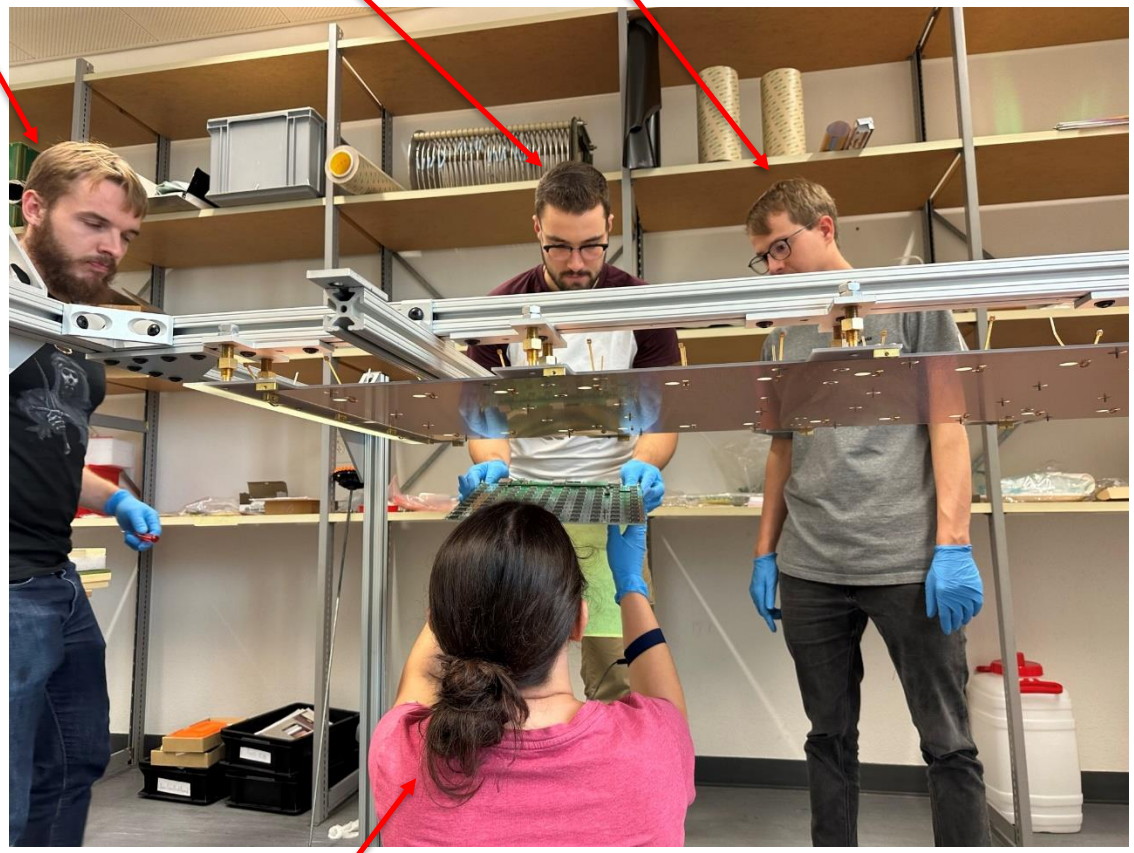
All tiles assembled and ready (left), and picture of SiPMs (right), there is only one but ArCLight coating reflects image



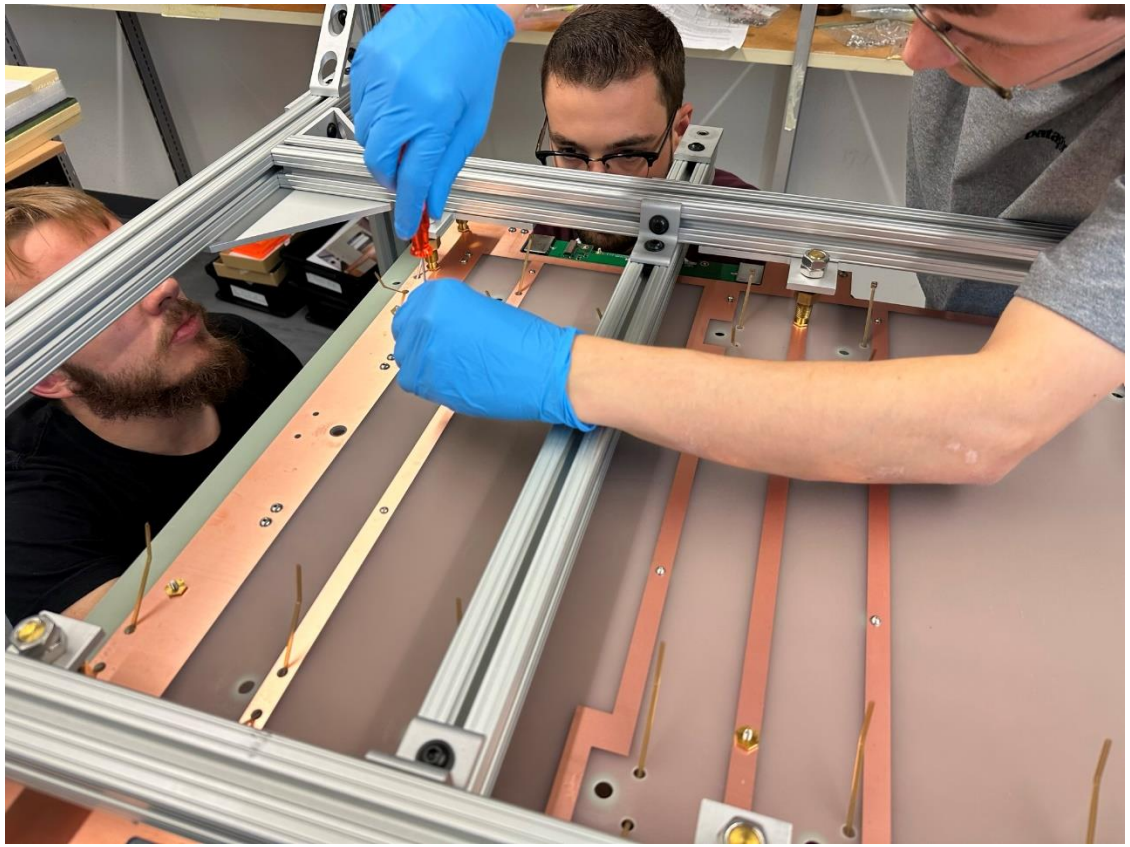


Preparing the Anode Panel (left) and installation of first pixel tile assembly (right)

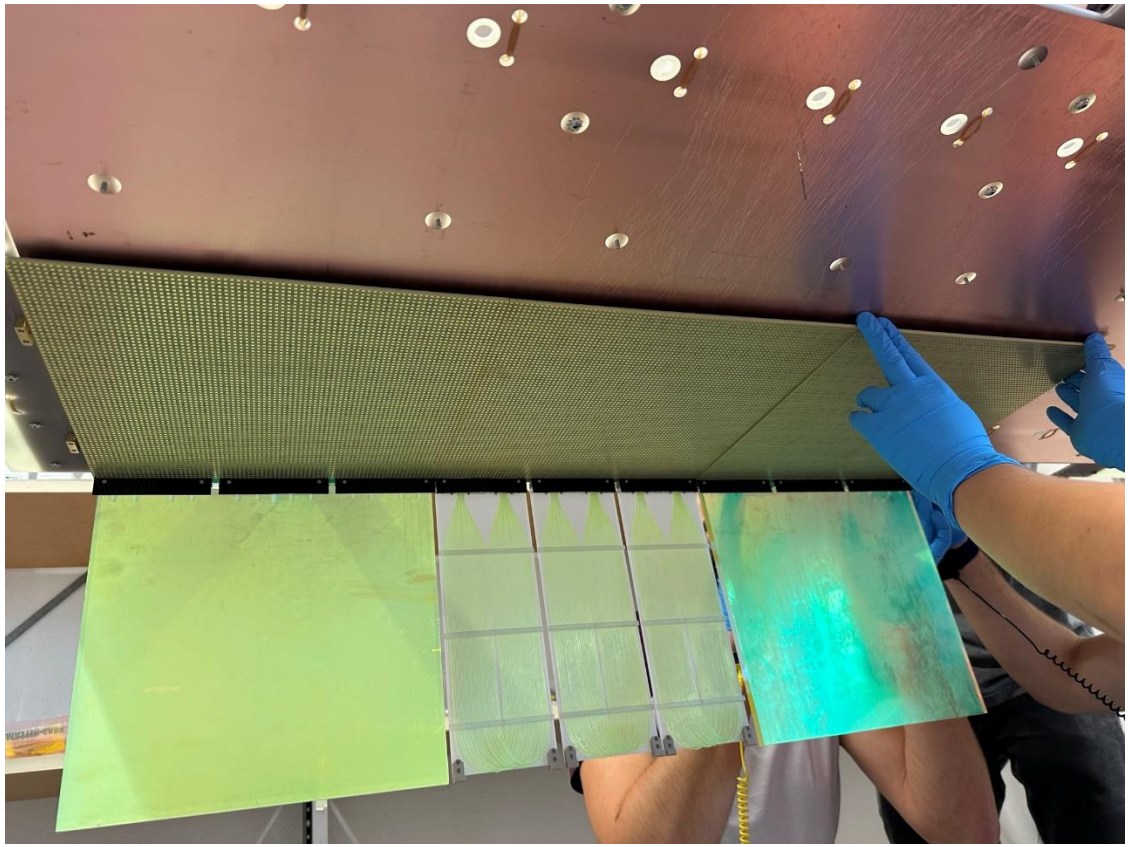




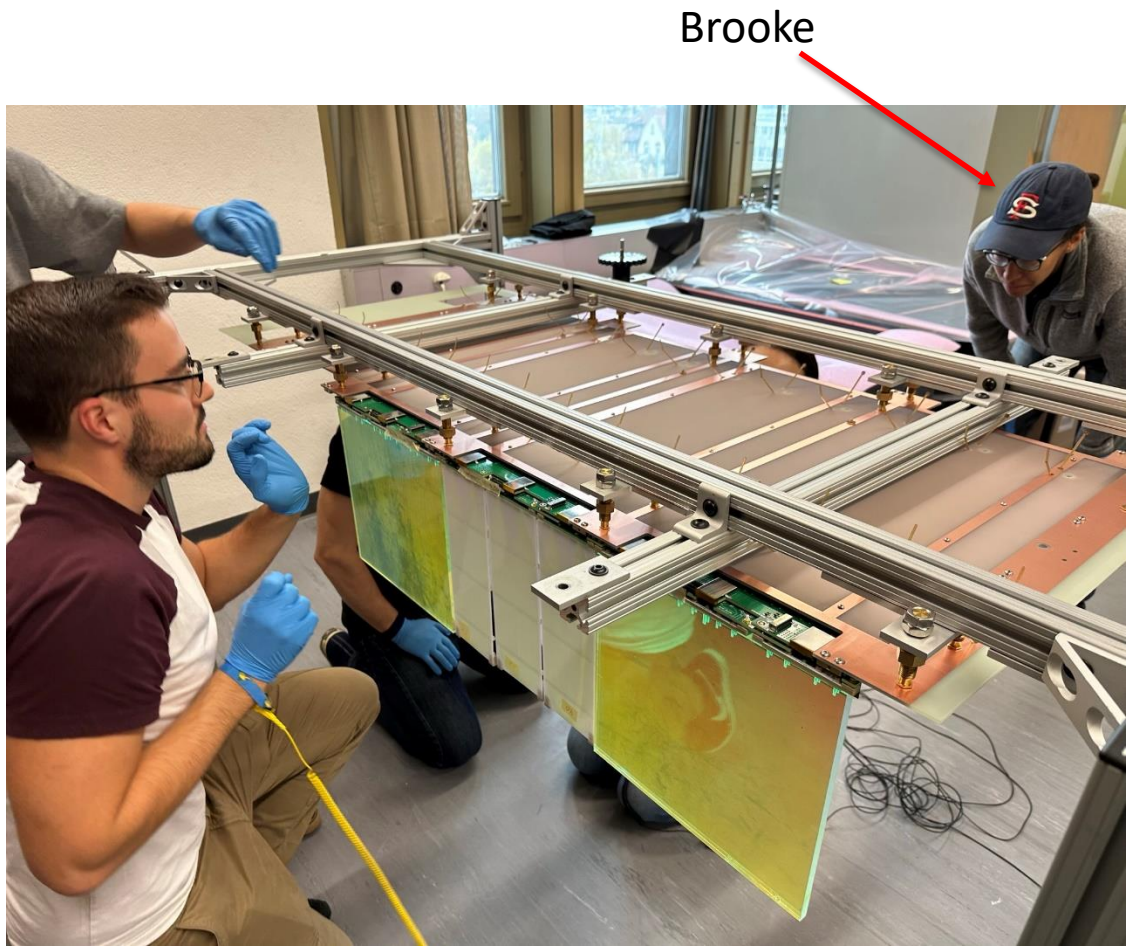
Pixel tile is held underneath (left) and fasteners are installed from the top (right)

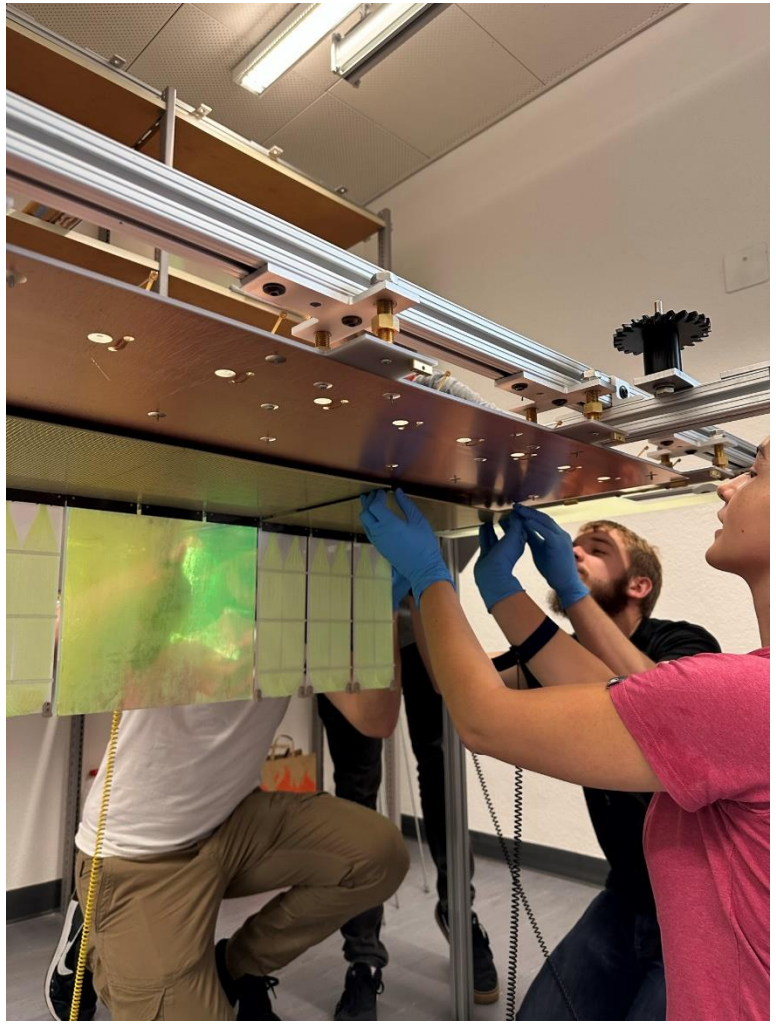


2nd tile assembly is installed (left) and 3rd is installed (right). Notice that ArCLight and LCM alternate

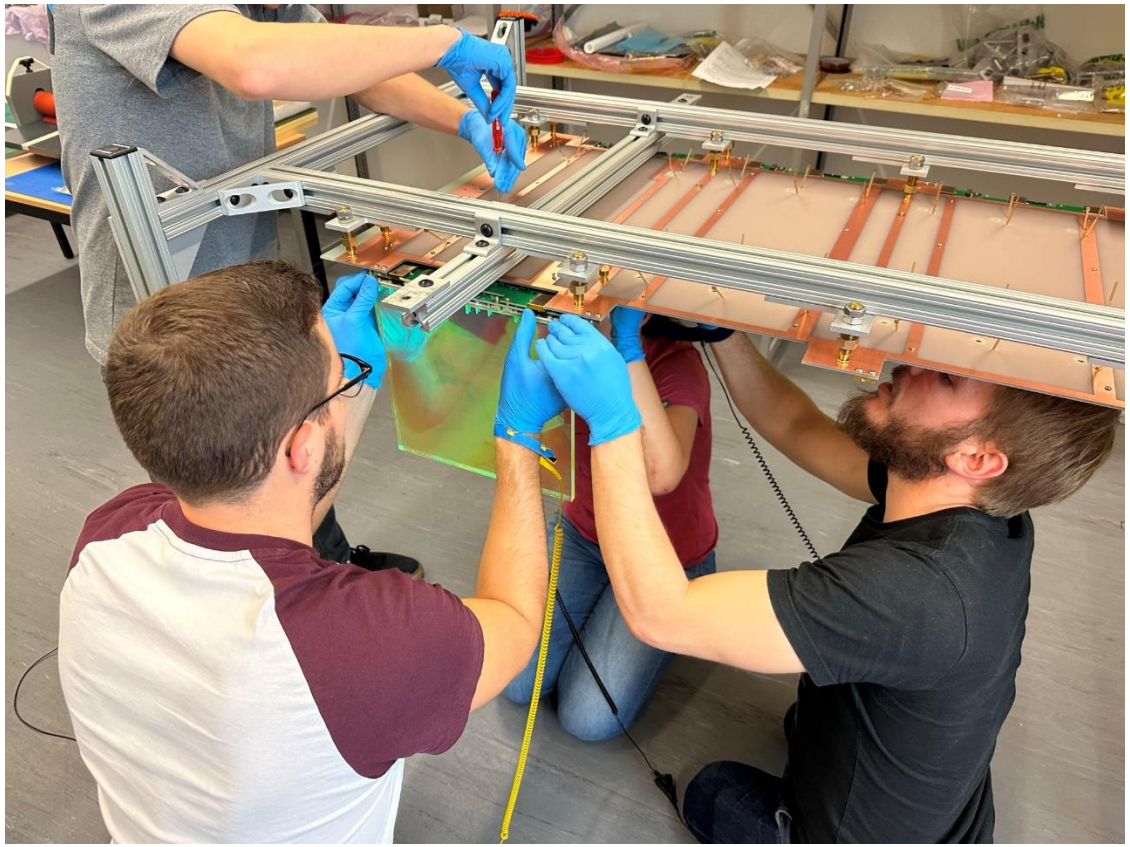


Installation of 4th tile assembly (right)

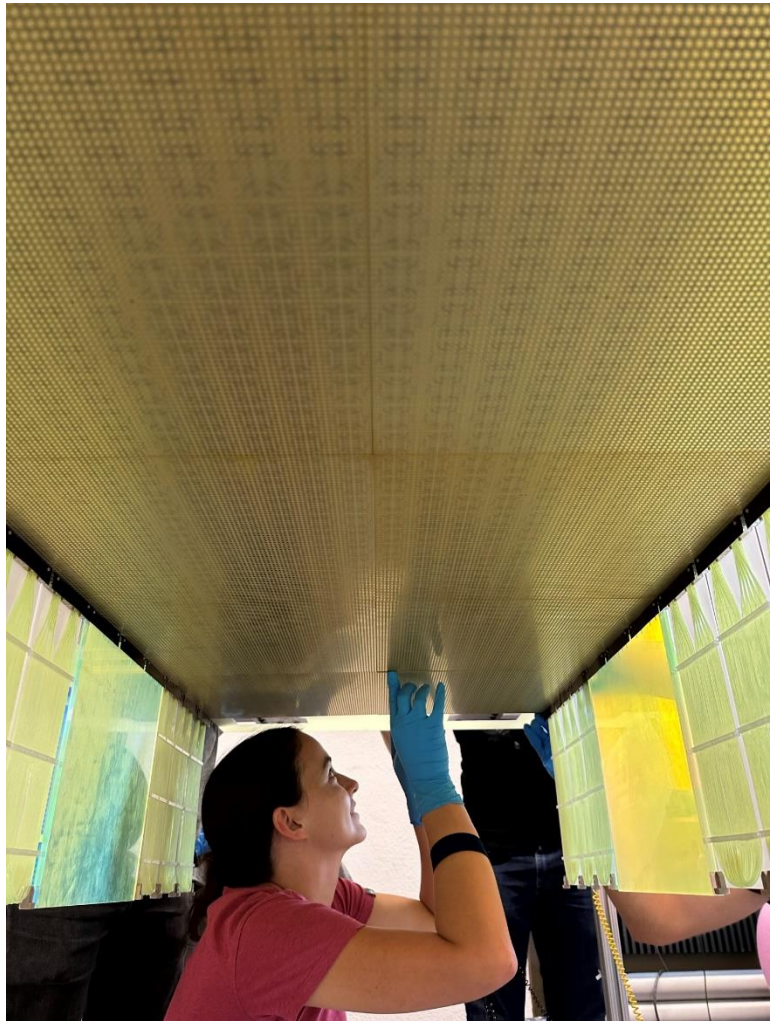




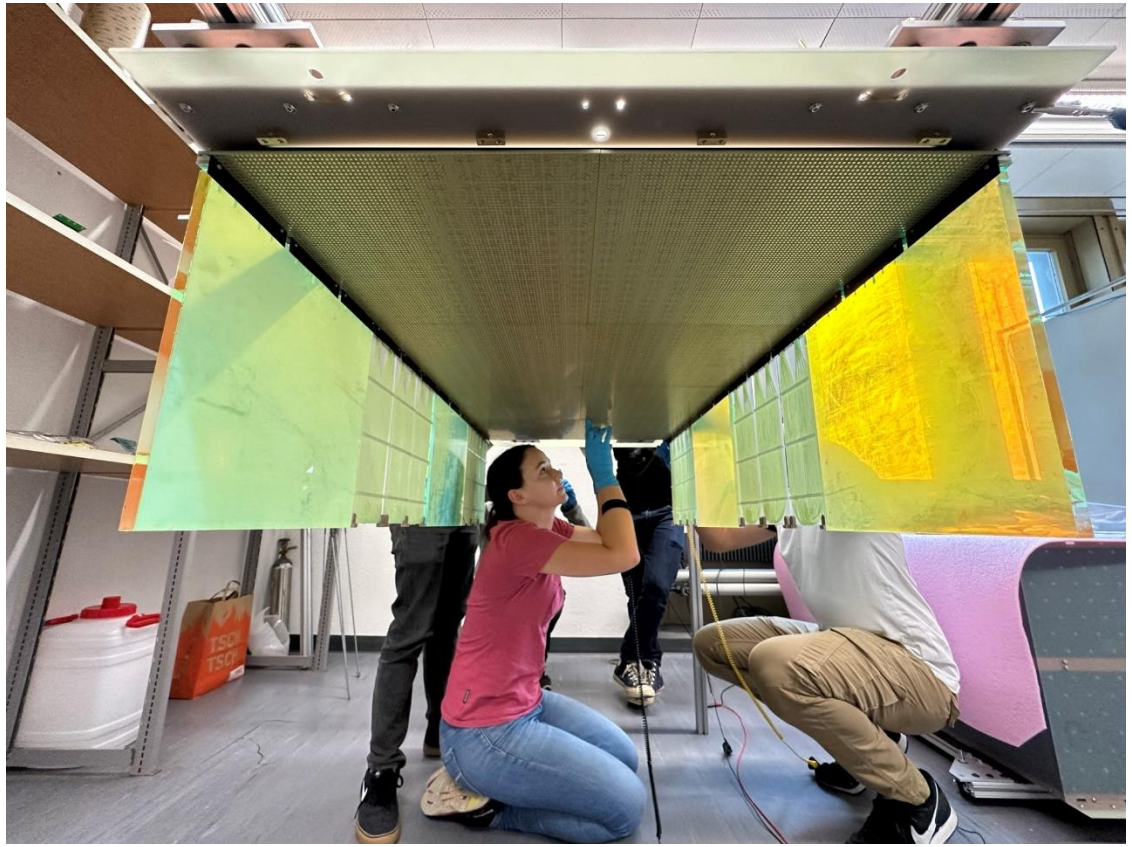
Installation of 4th tile assembly (left) and 5th tile assembly (right)

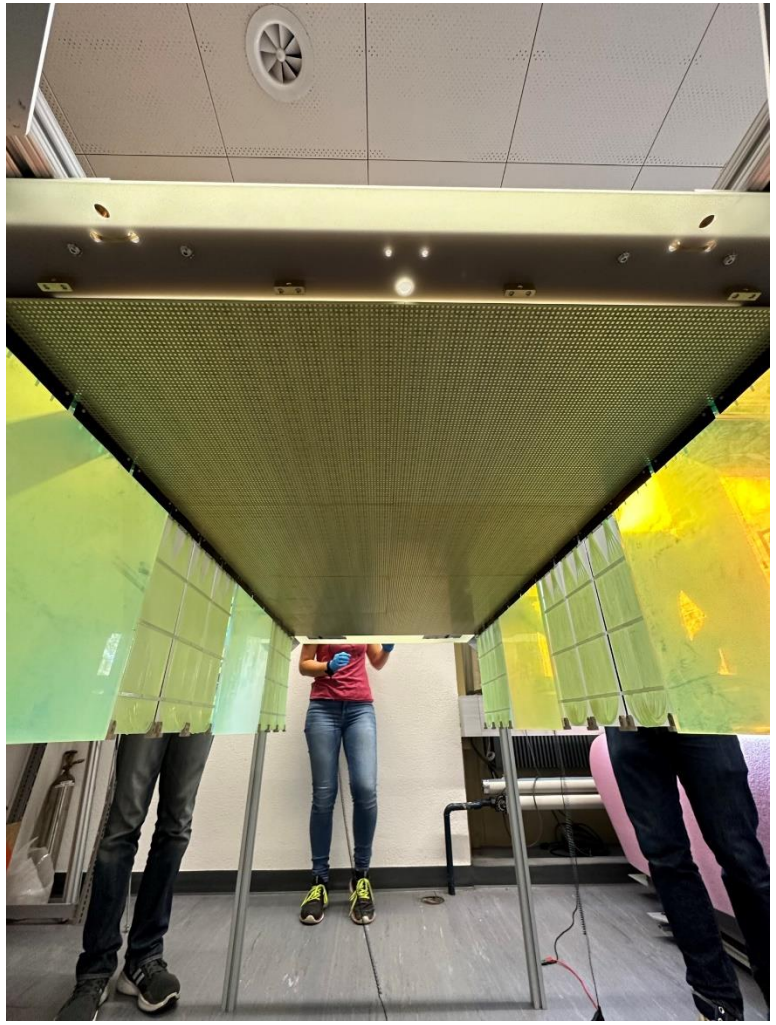


6th tile assembly installed (left) and 8th (final) tile assembly installed (right)

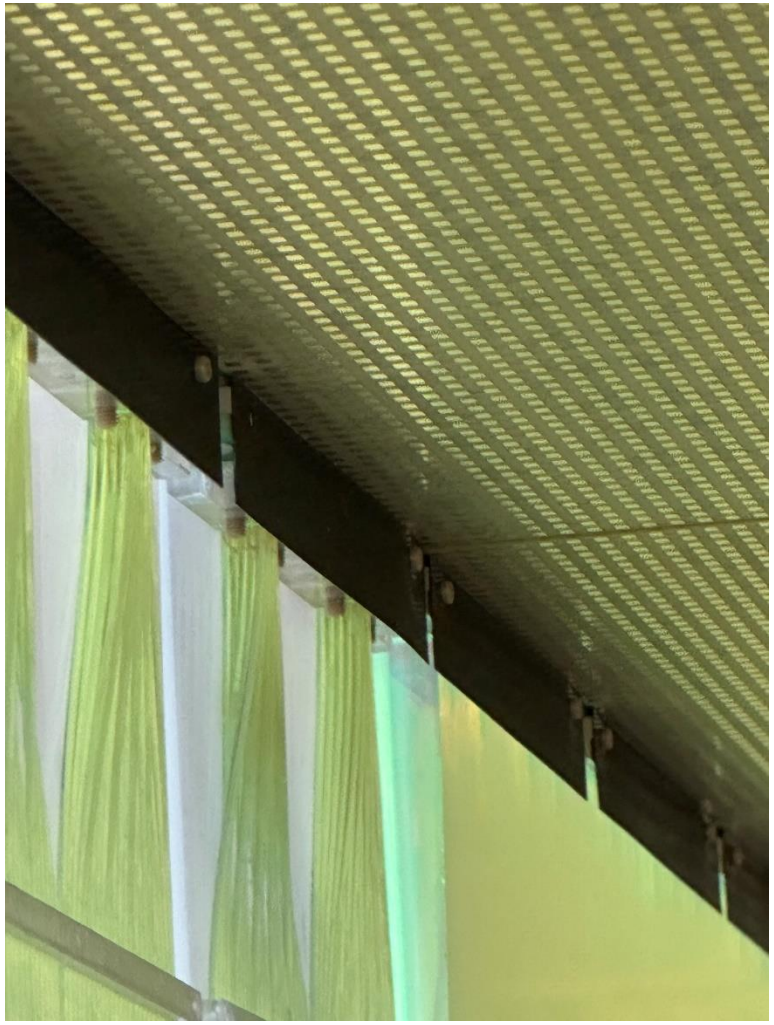


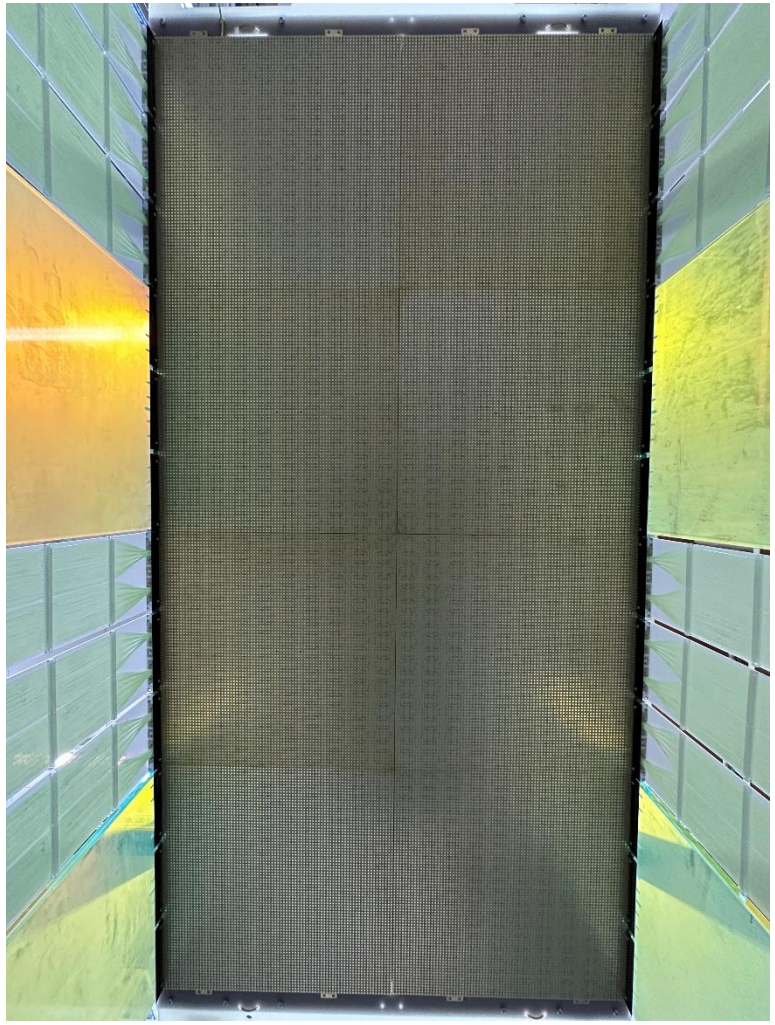
Full pixel tile and light readout installed to the anode (left & right)



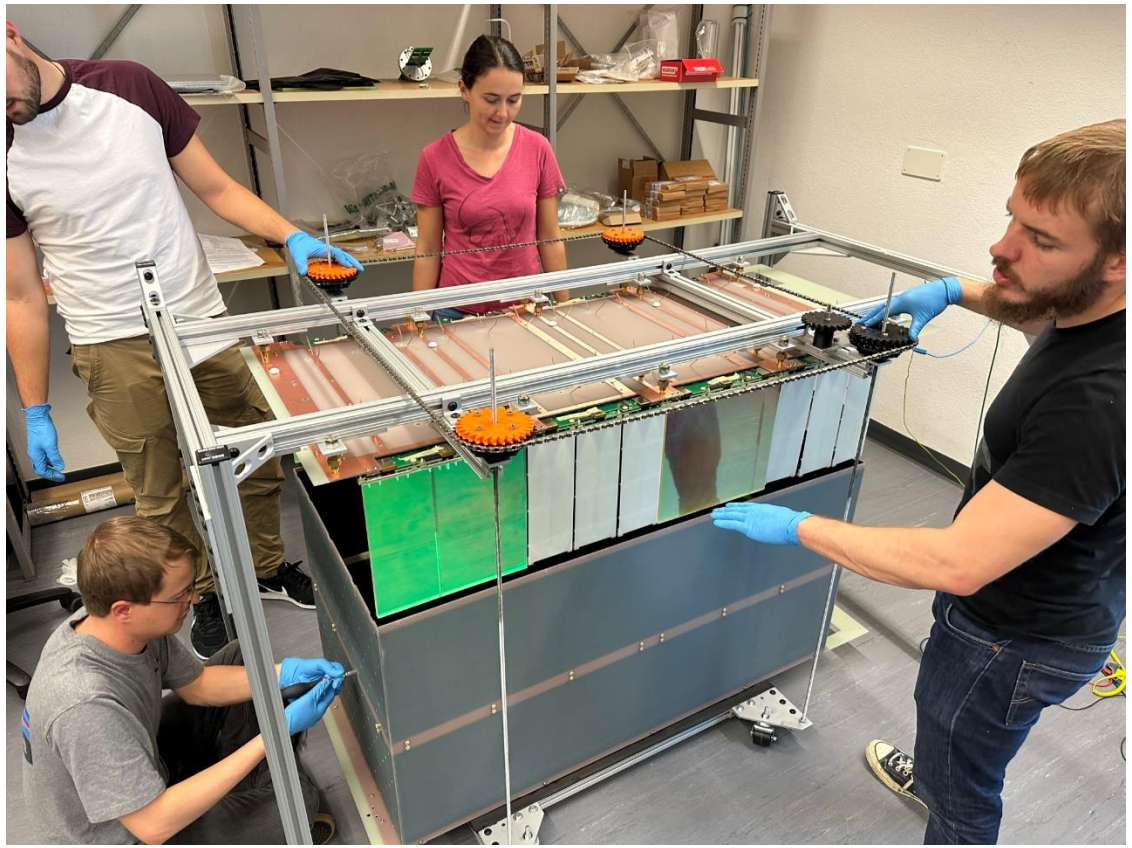


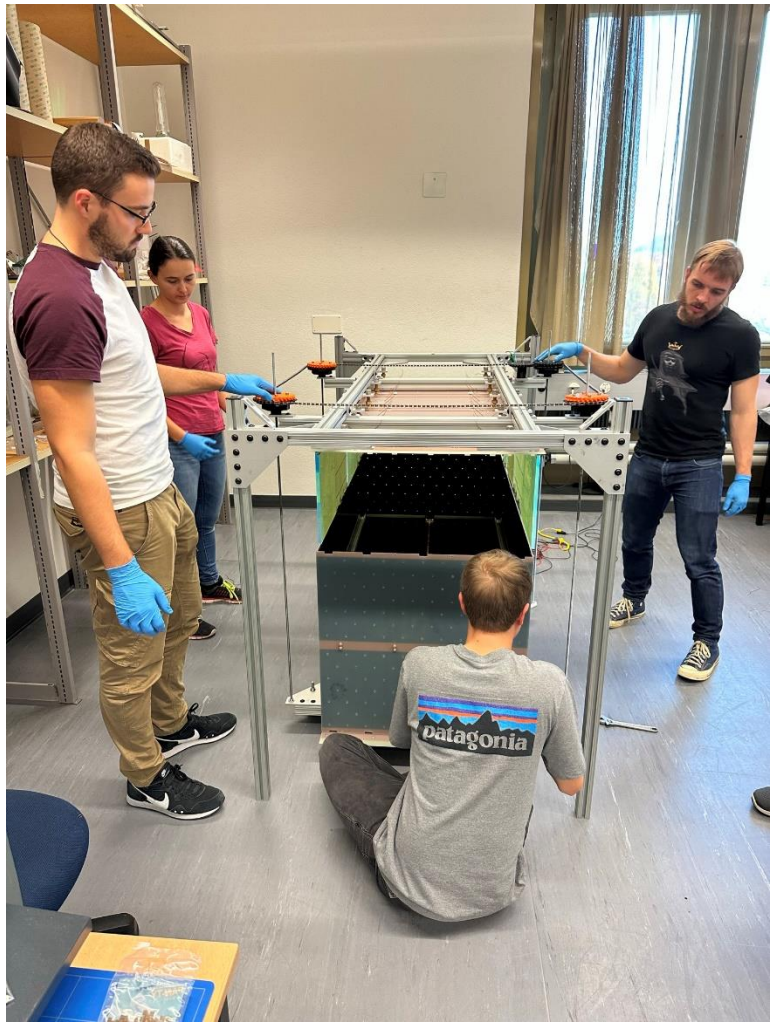
Zoom in on pixels + LCM/ArCLight (left) and full anode photo from below (right); tiles are not fully tightened down until all installed -> alignment of tiles



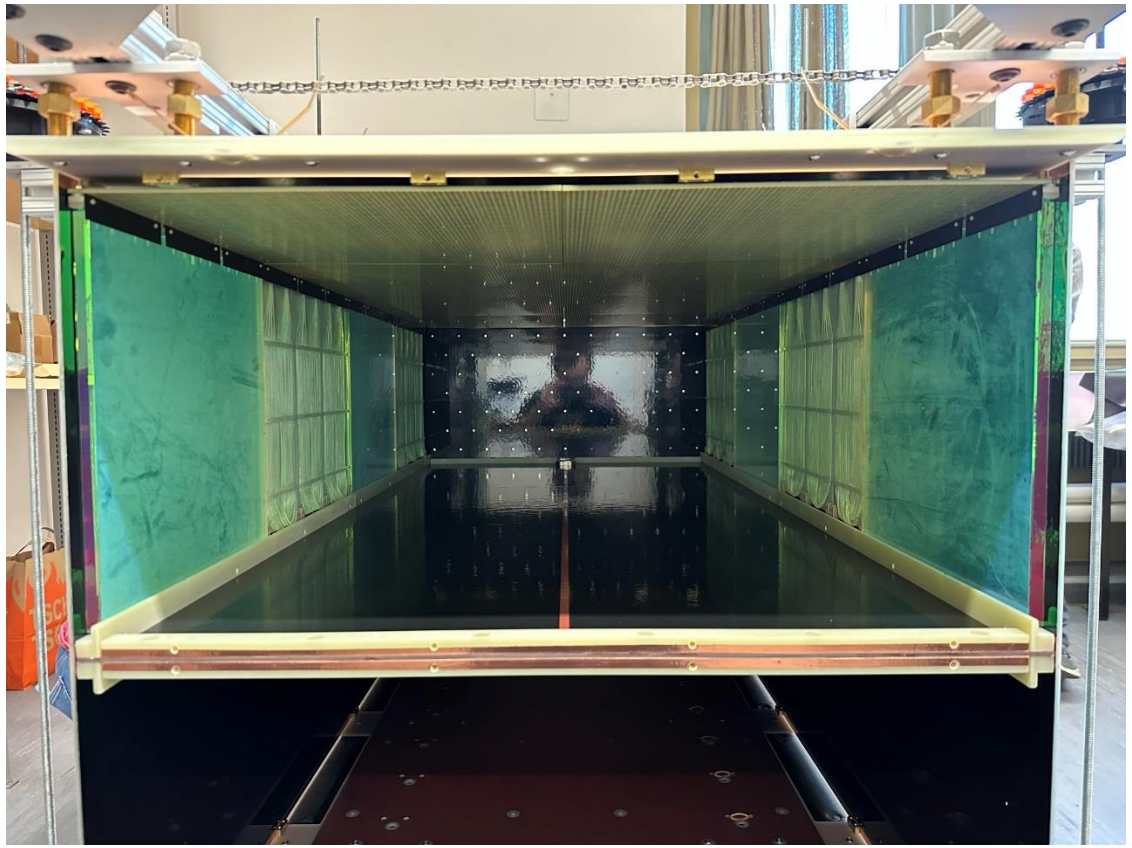


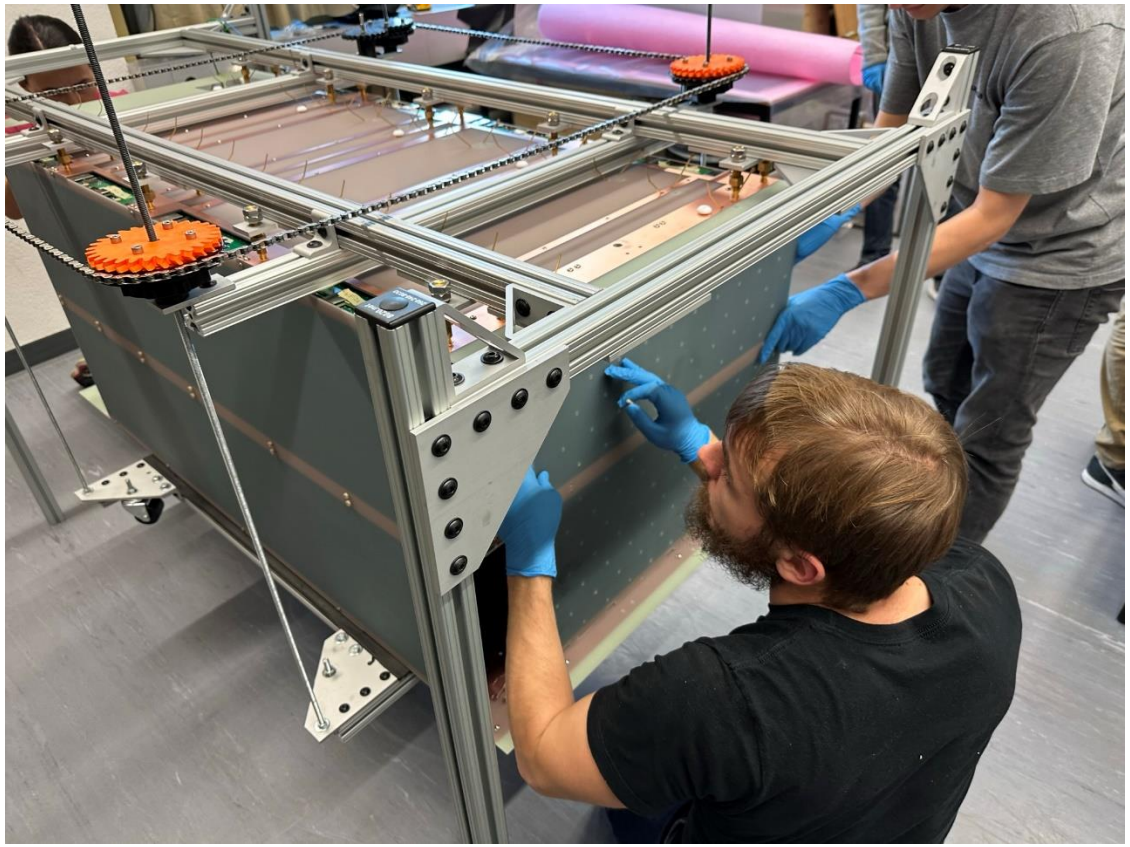
Installation of anode panel assembly into the field shell using installation fixture



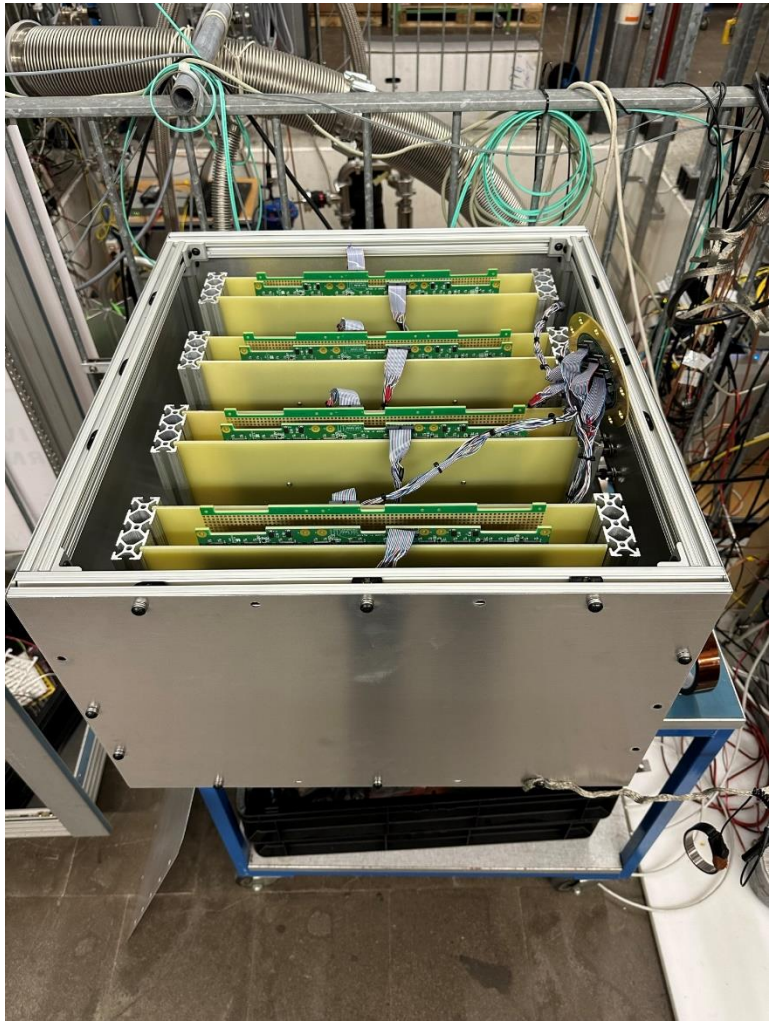


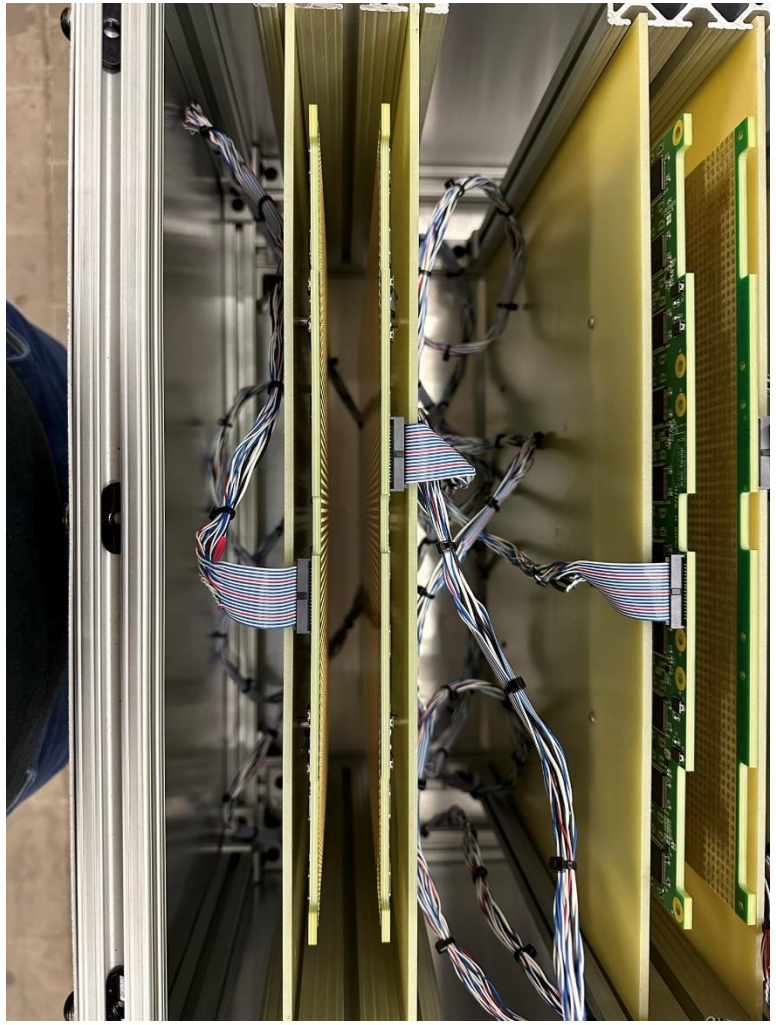
Anode panel assembly installed to the field shell (left) and re-installation of bottom field shell panel (right)



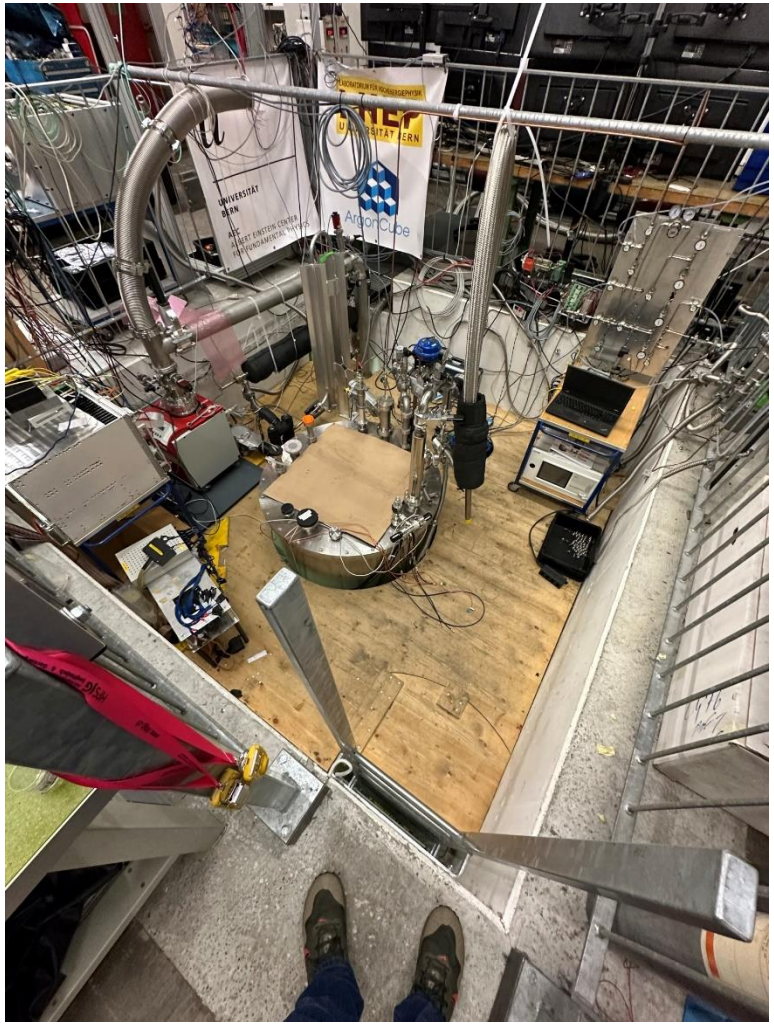


2nd TPC tiles installed to warm testing enclosure, testing will commence tomorrow morning and these tiles will then go through identical installation procedure





Module lid with feedthroughs (left), picture of cryostat in pit (middle), slow control and DAQ station (right)



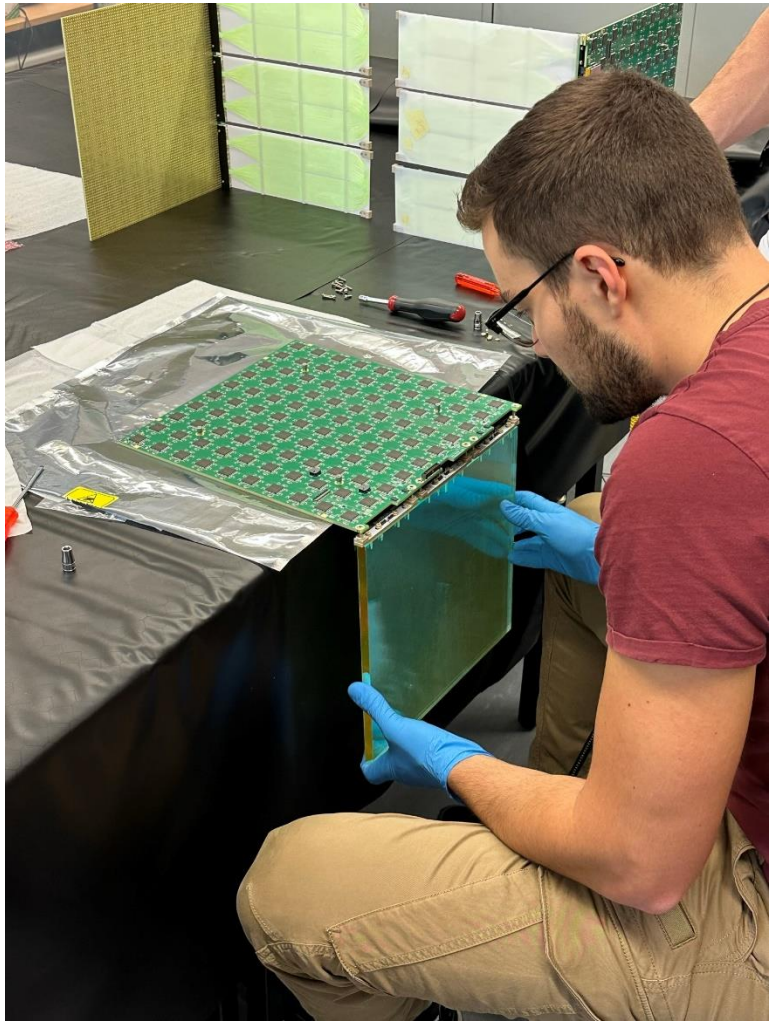
11/2/2022 Summary

- TPC 1 installed to Module 2: 50,000+ channels!!!! (10k more than previous 2x2 anodes)
- TPC 2 pixel tiles arrived this morning (delayed on east coast of USA due to weather), loaded into warm enclosure and testing will commence tomorrow morning
- Likely that TPC 2 can be installed to anode panel tomorrow, perhaps installed to field shell as well
- Potentially will be ready for cryostat lid integration on Friday and warm testing in cryostat over weekend or on Monday

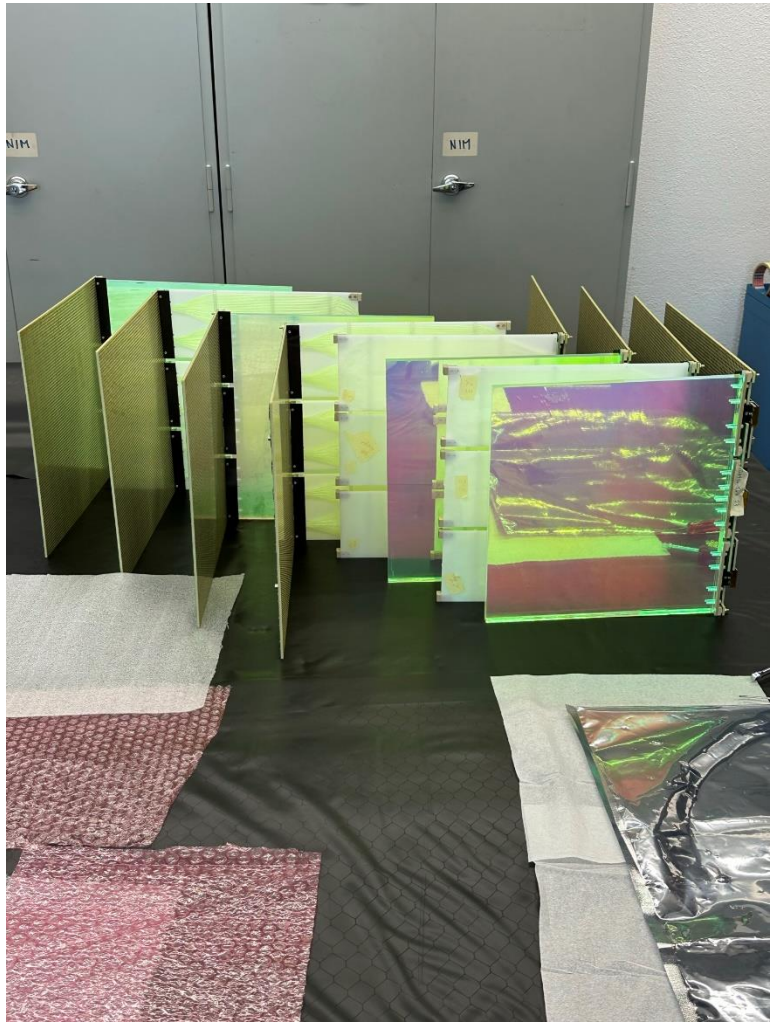
Thursday, November 3rd

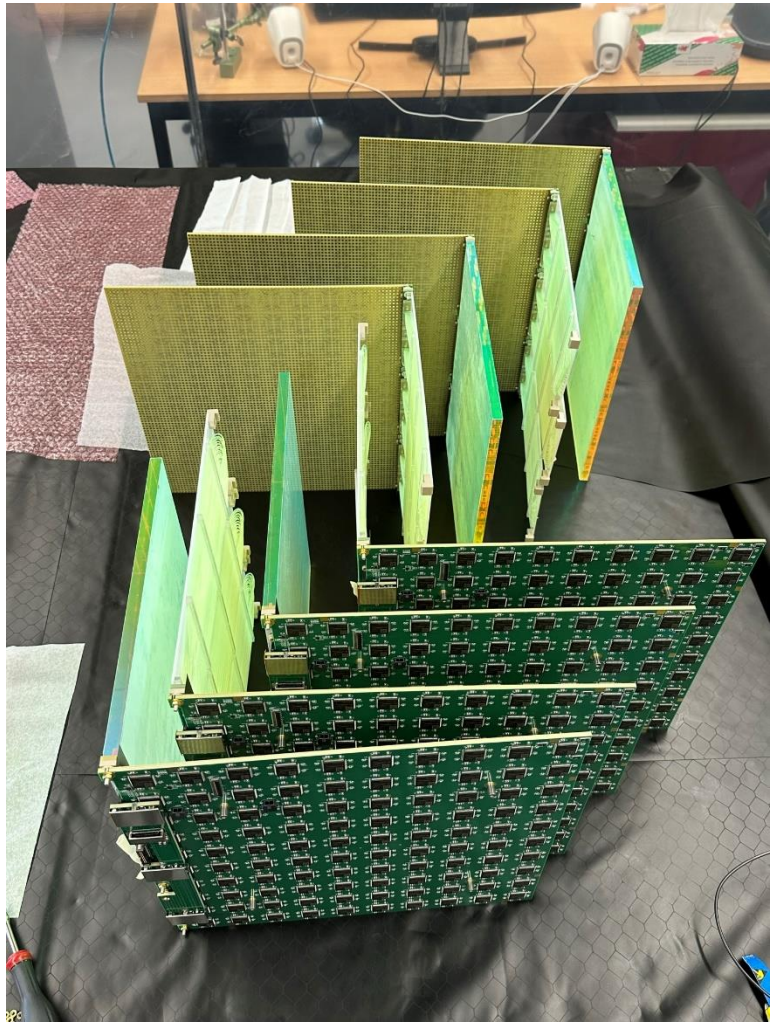
- Completed the anode assembly for TPC 2 of Module 2
- Inserted anode assembly of TPC 2 into the field shell
- Transported Module 2 to Grosslabor and Installed Top Flange
- Pictures follow

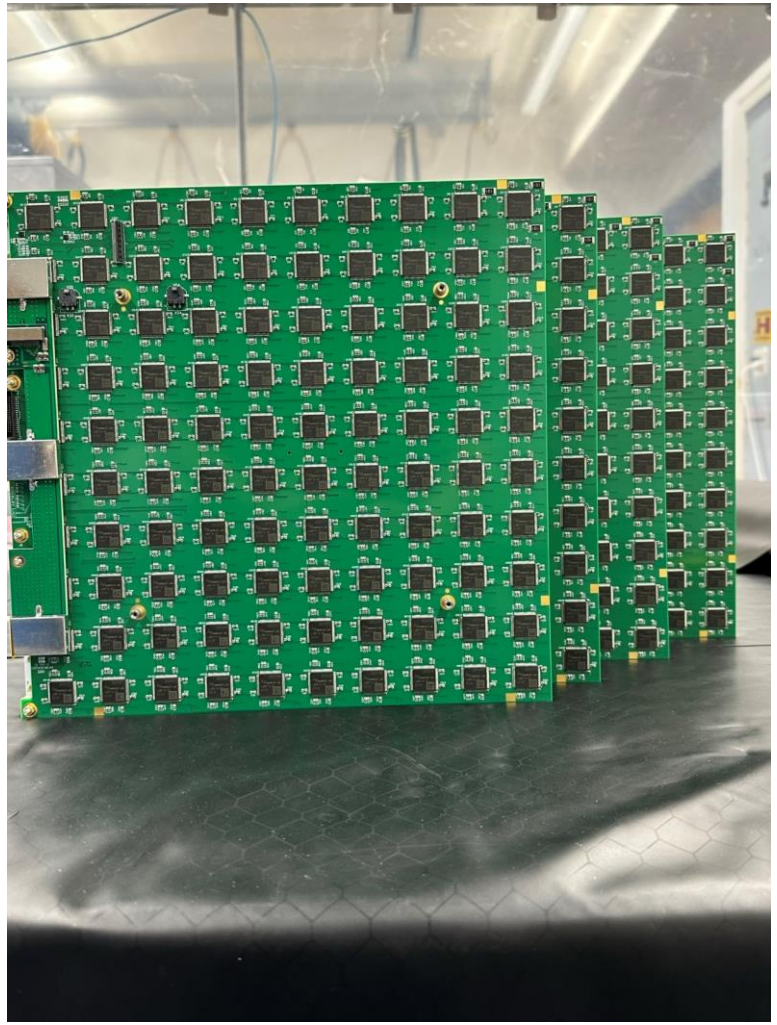
Assembly of pixel and light readout tiles for TPC-2



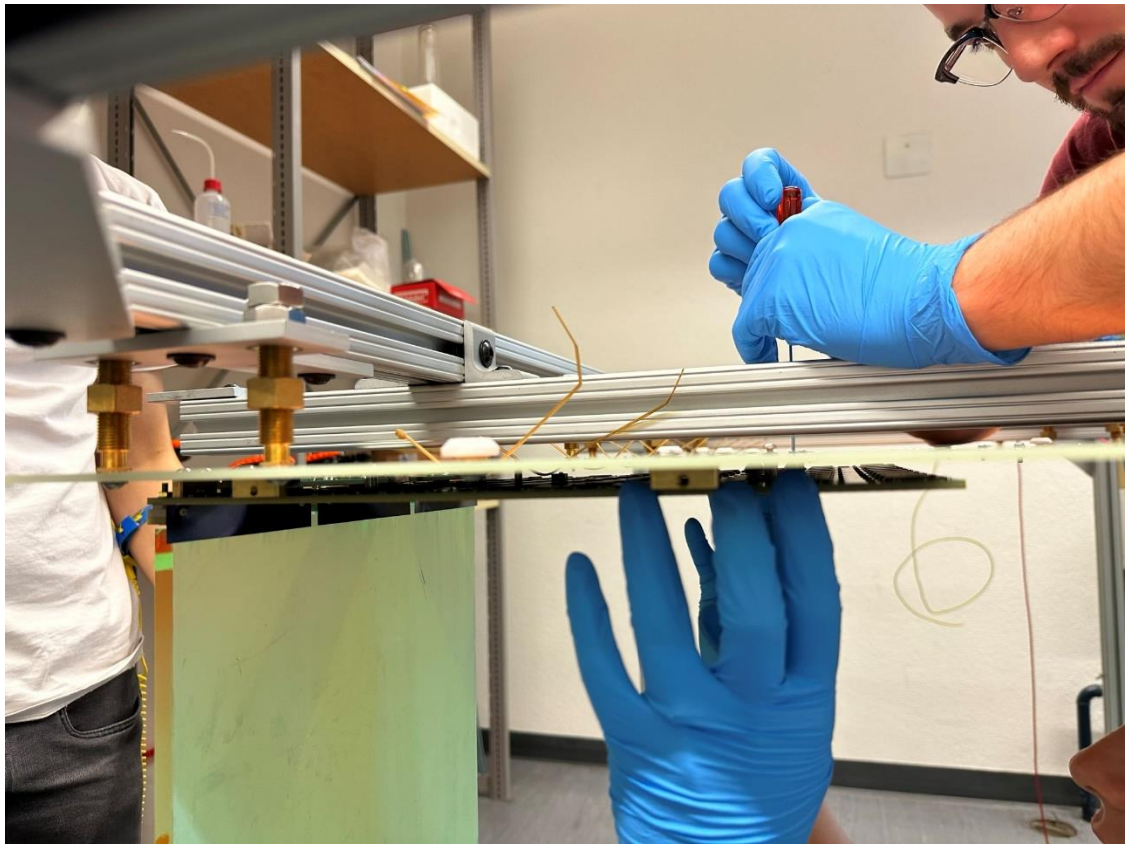
All tiles assembled for TPC-2 (4X with ArCLight, 4X with LCM)



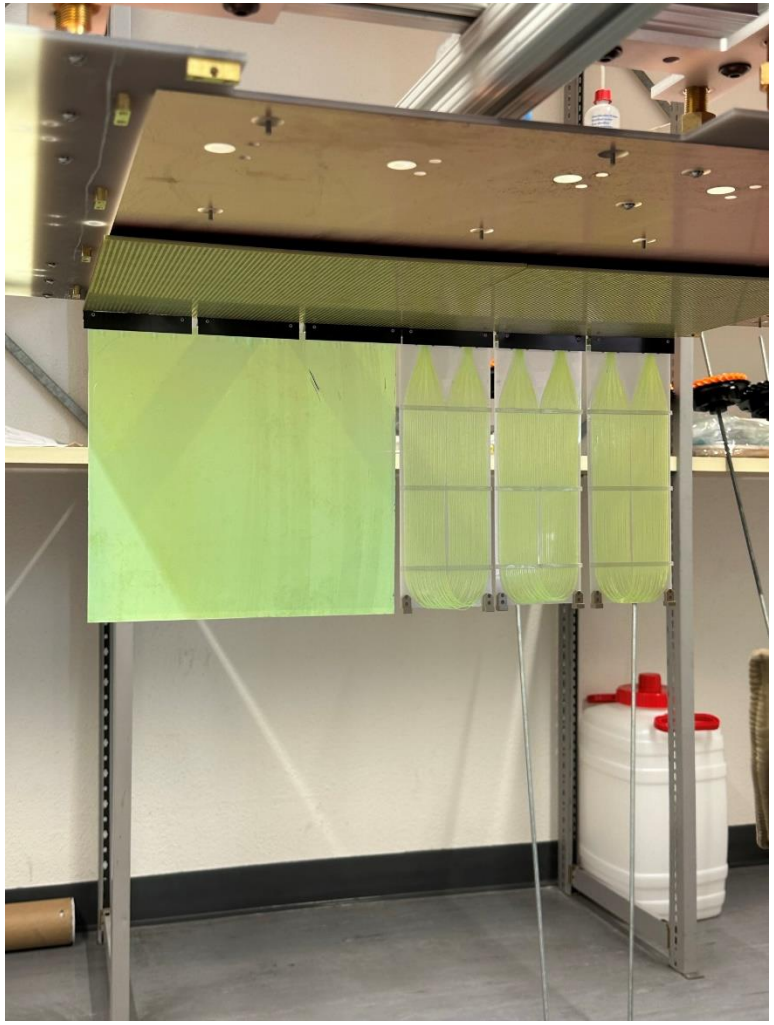




Installation to anode of first tile assembly for TPC-2

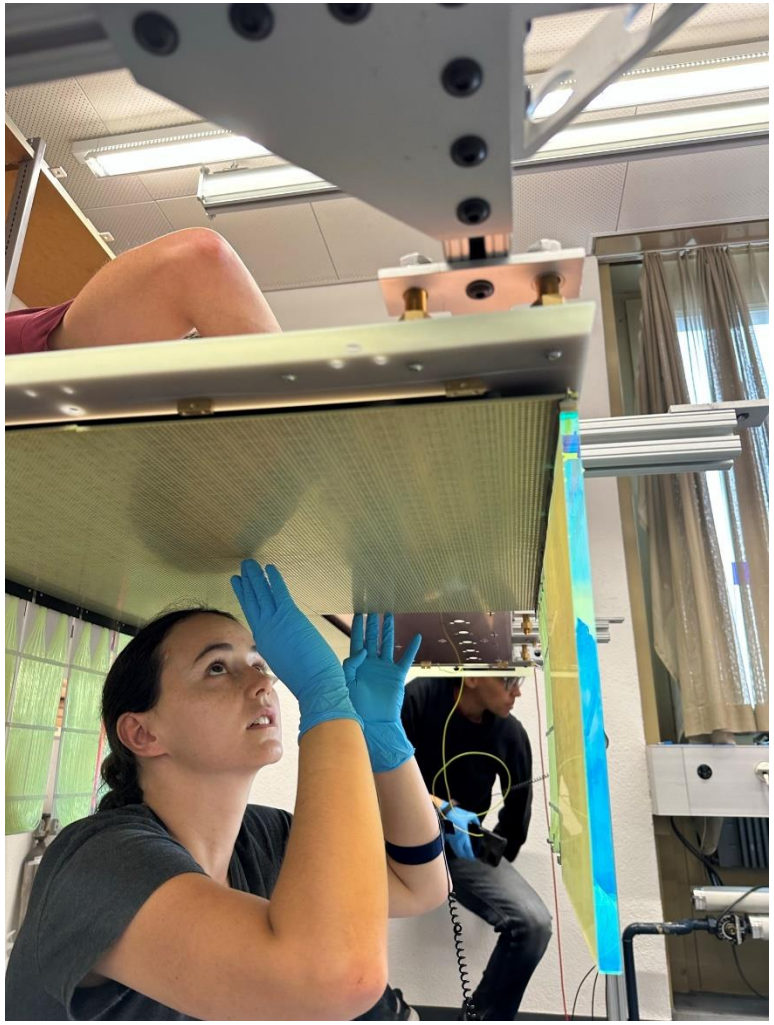


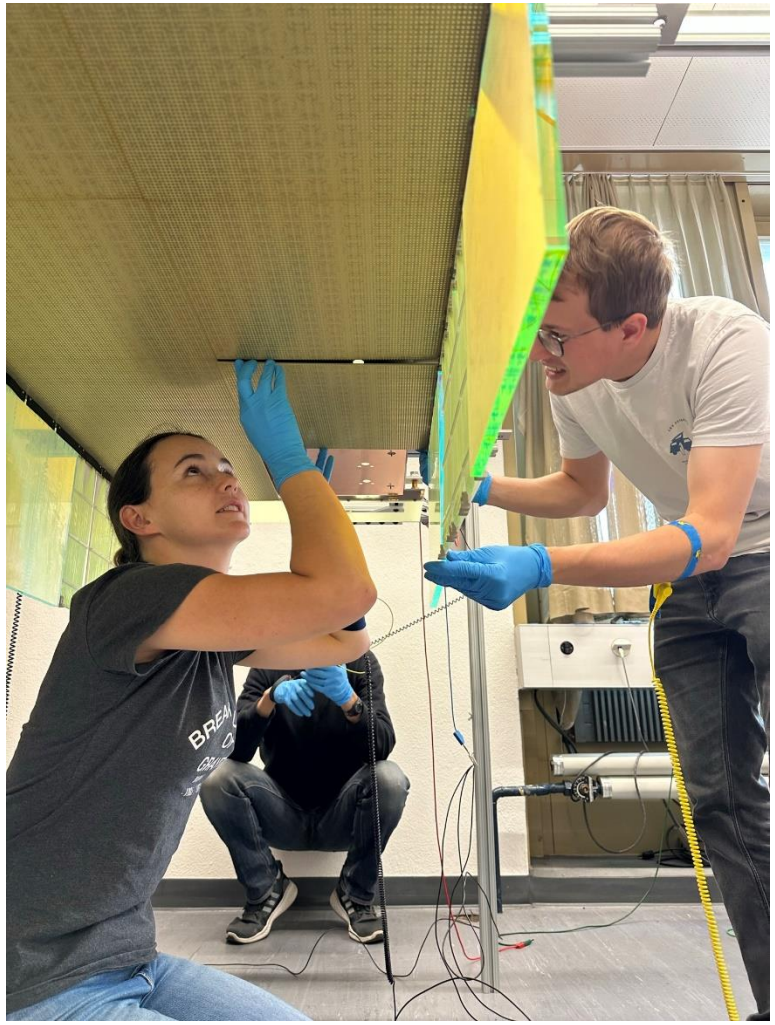
Tile assembly 2 and 3 installed to anode panel



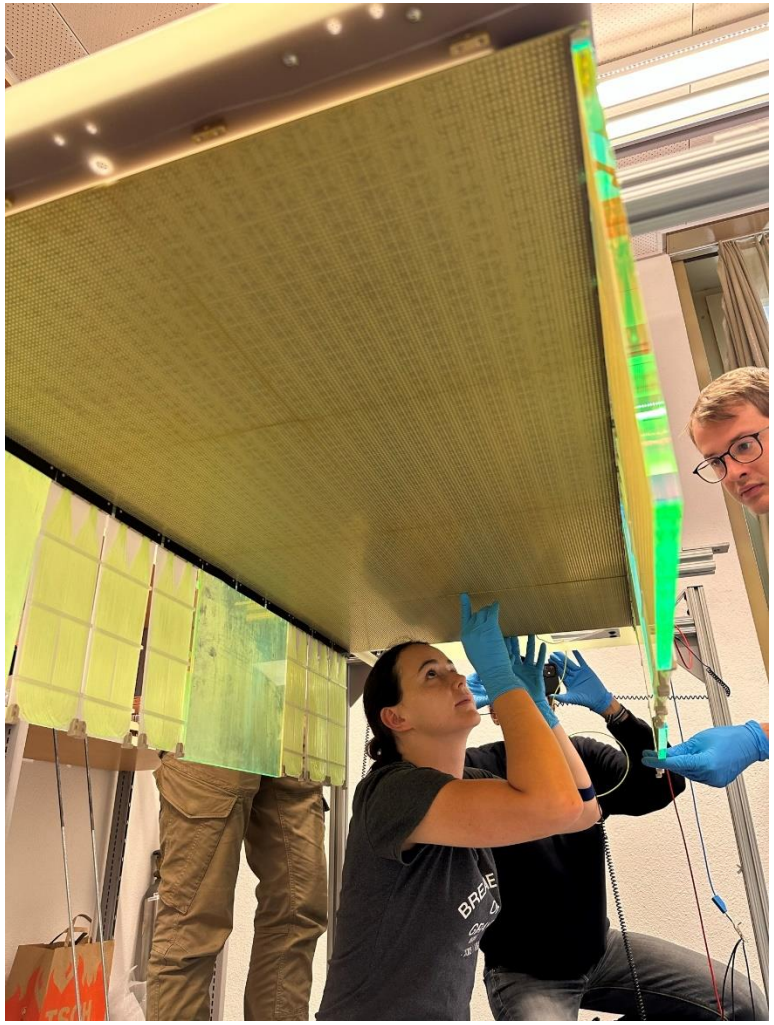
Tile assembly 4 and 5 installed to the anode

Tile assembly 6 and 7 installed to anode panel

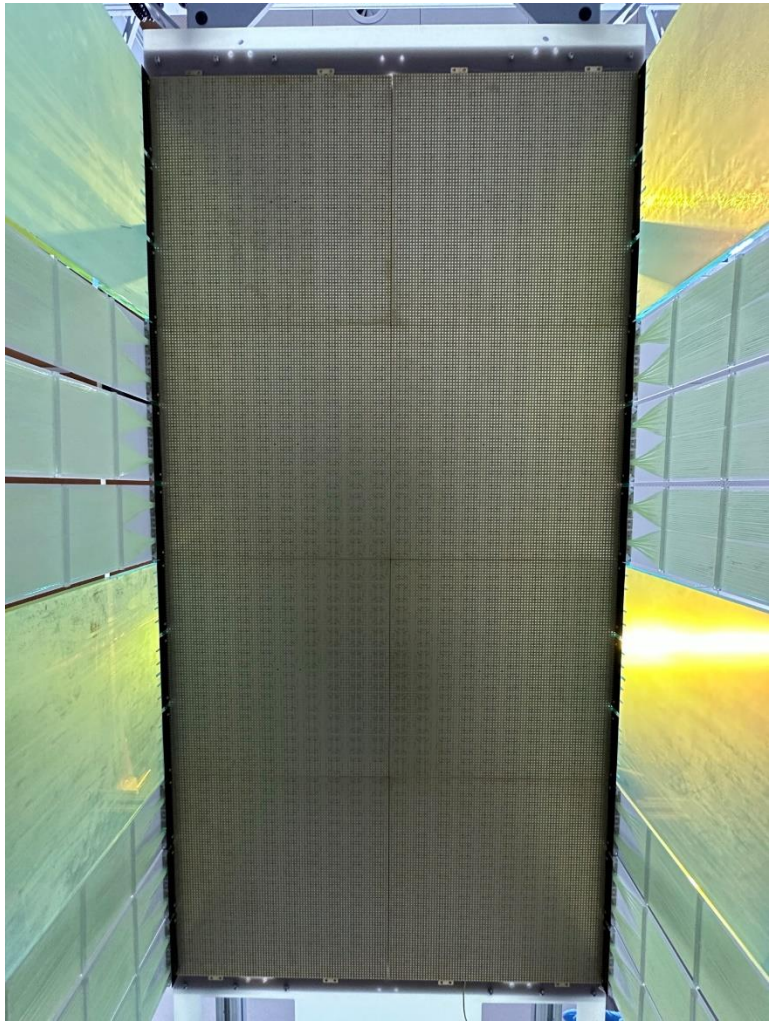


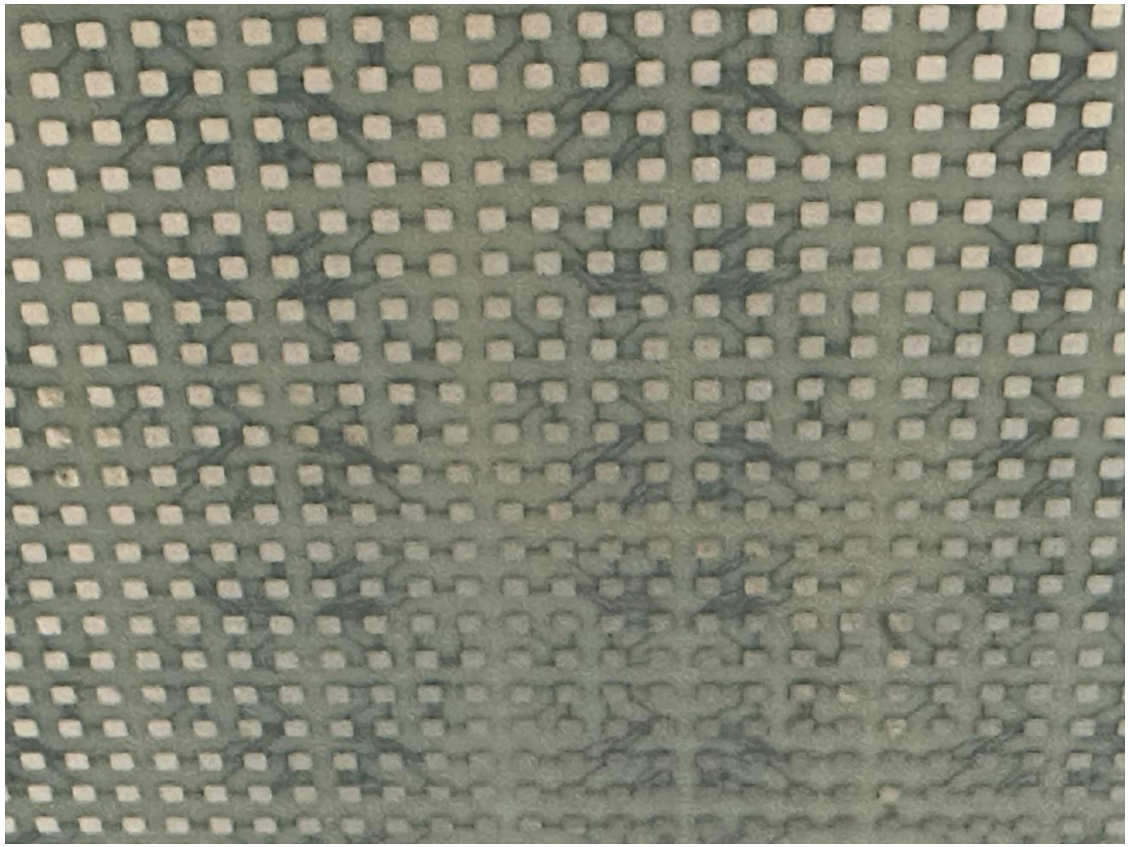


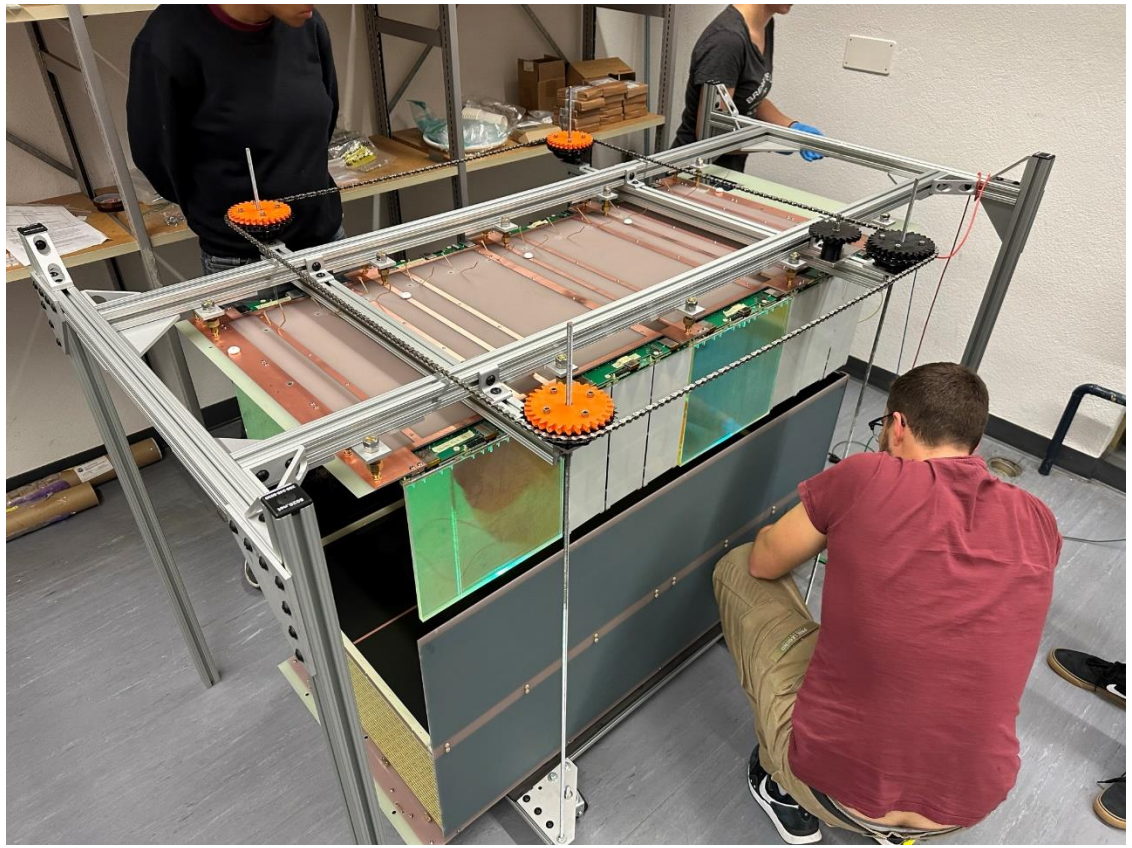
Tile assembly 8 installed, followed by alignment of tiles

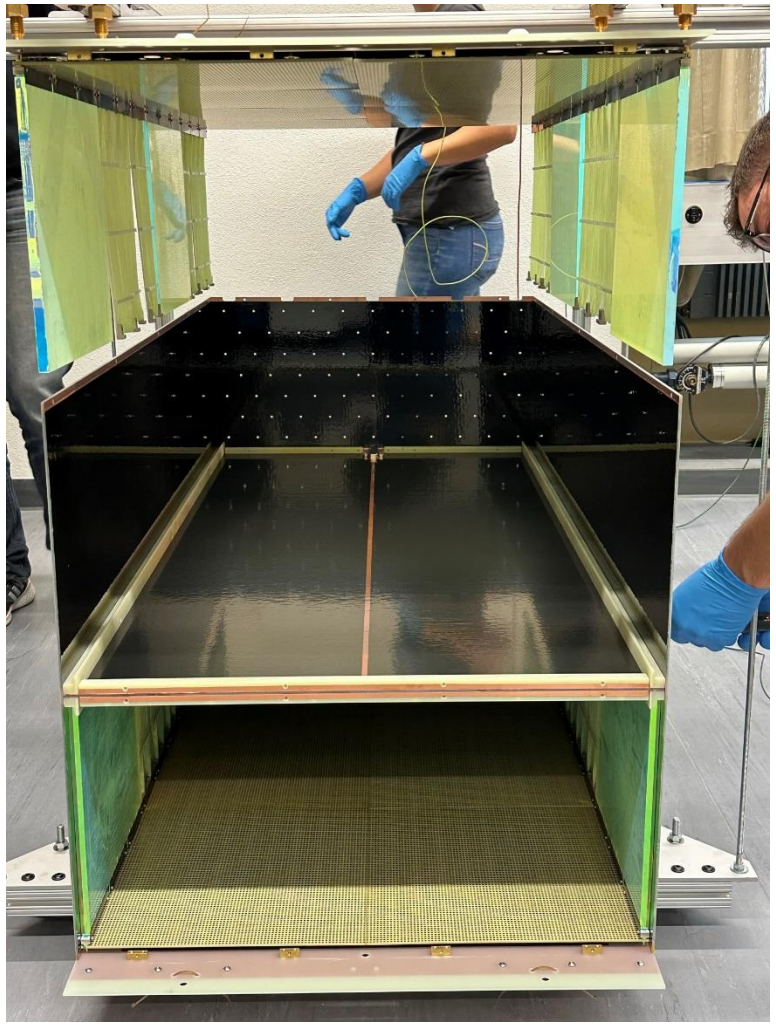


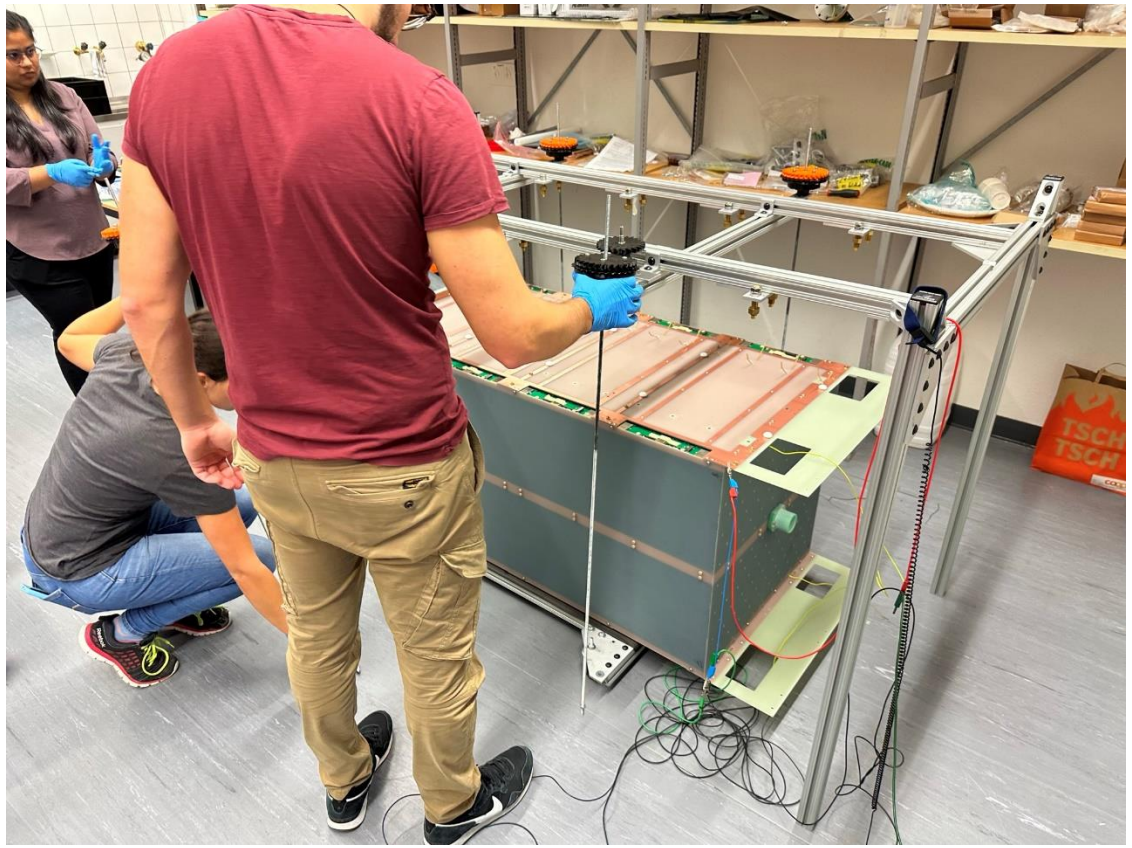
Anode assembly completed (left), close up of new pixel layout (right)

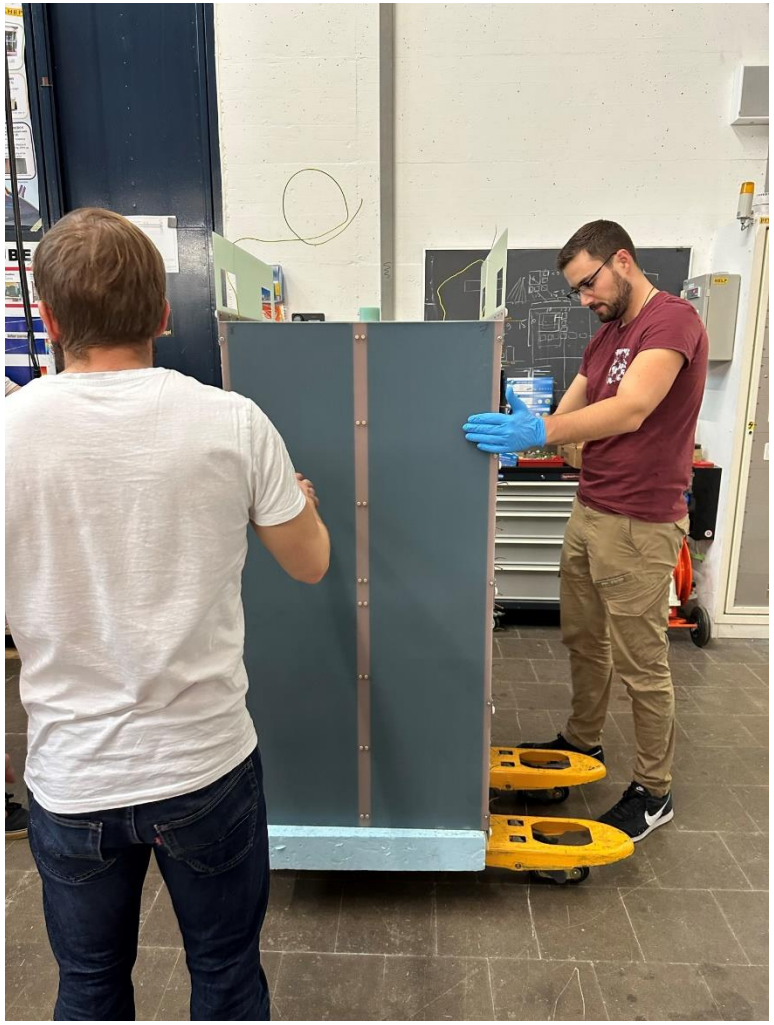


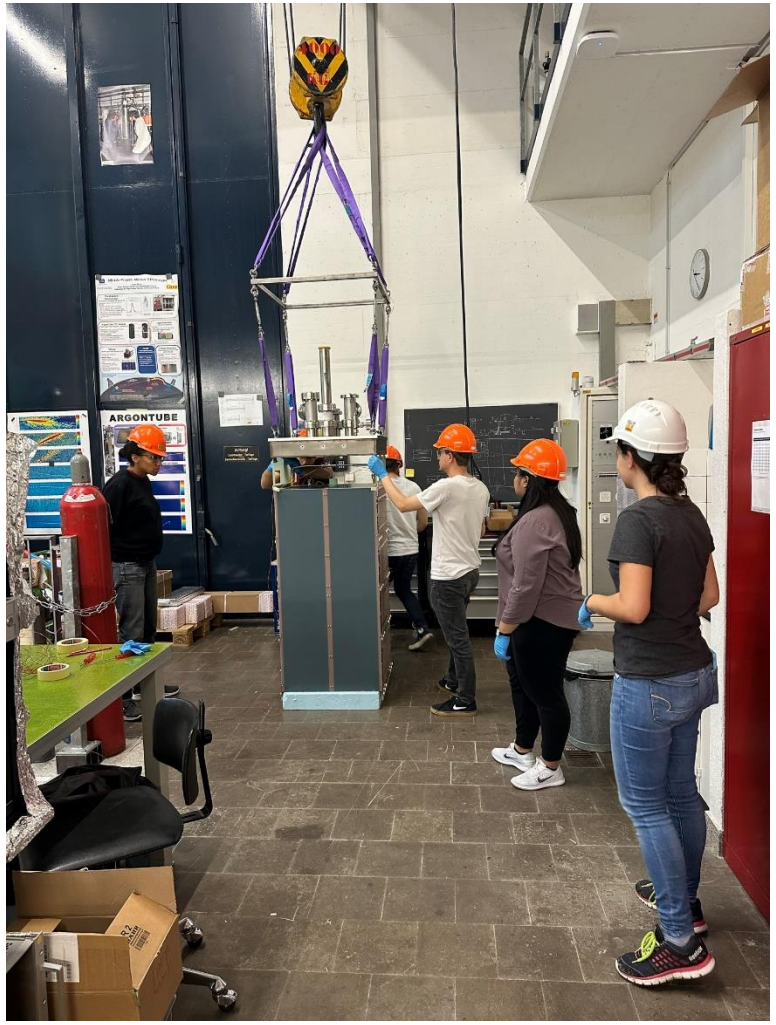


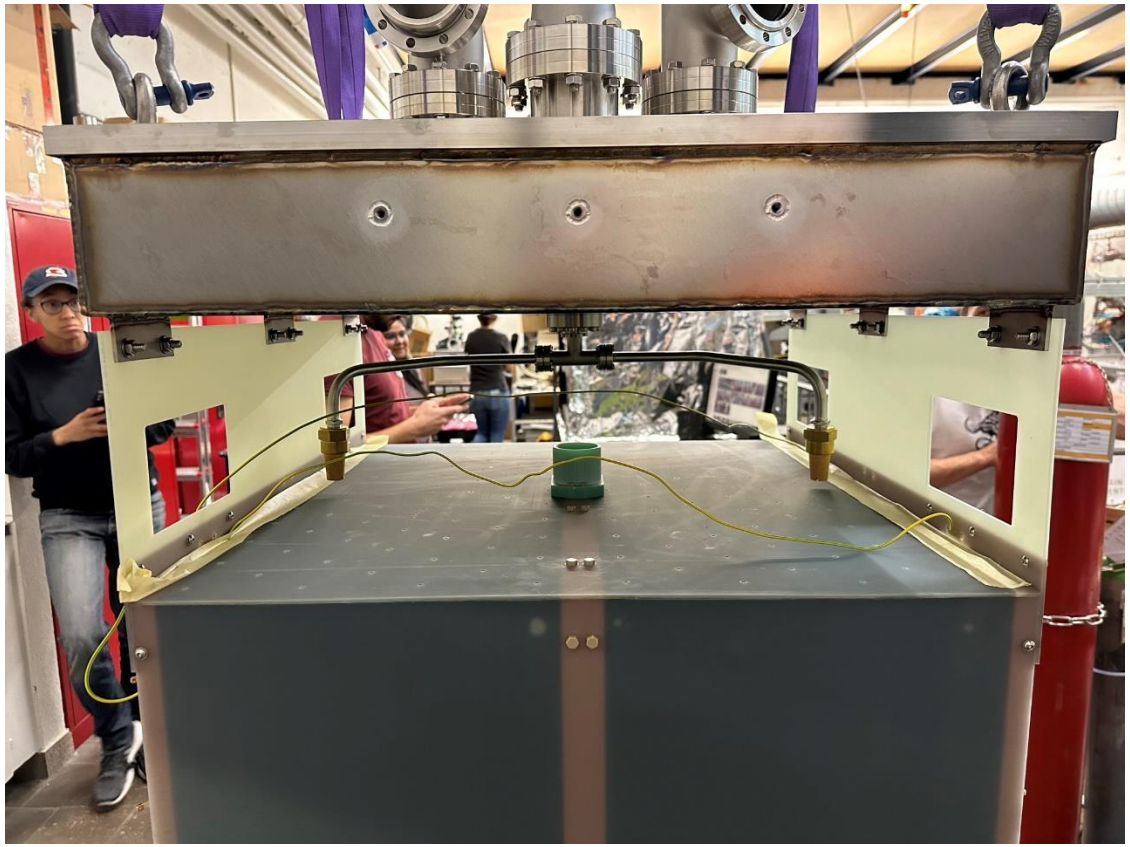









ARGONTUBE



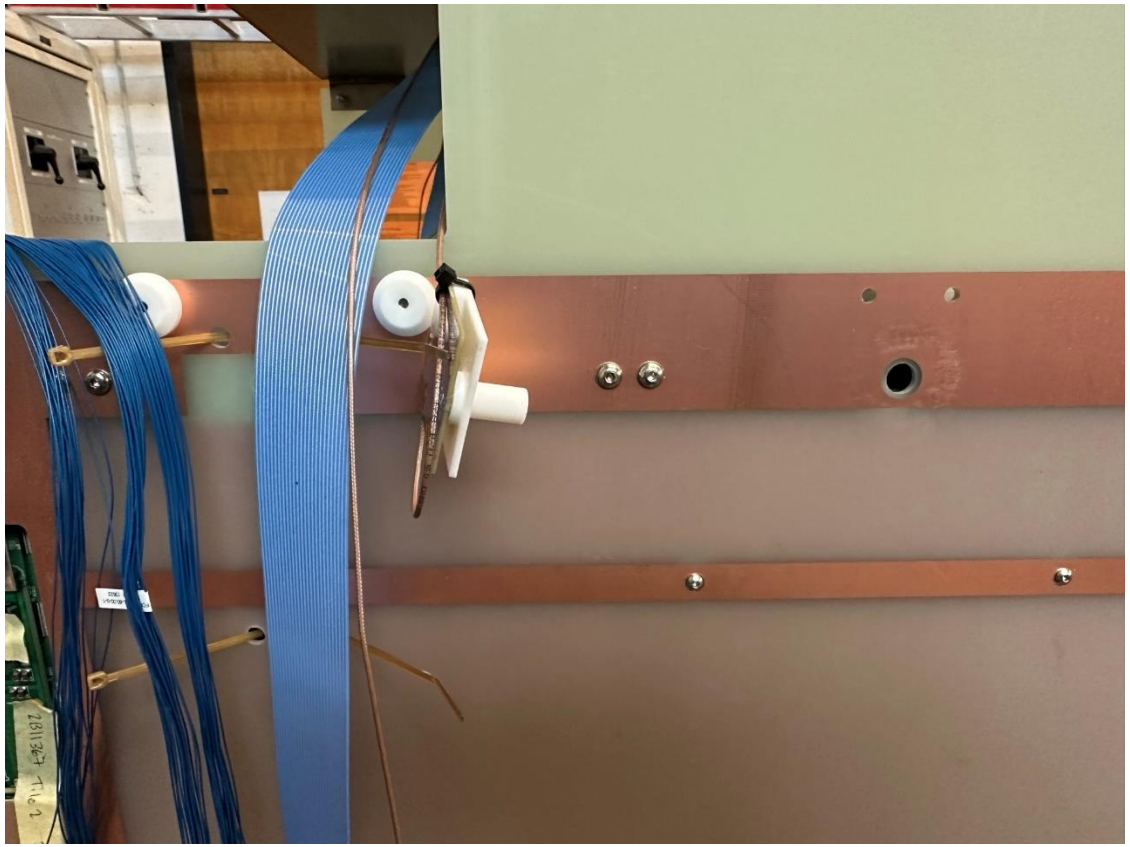
11/3/2022 Summary

- TPC 2 installed to Module 2: 50,000+ channels!!!! (10k more than previous 2x2 anodes)
- Completed cryostat lid integration
- Cabling to be done on Friday

Friday, November 4th

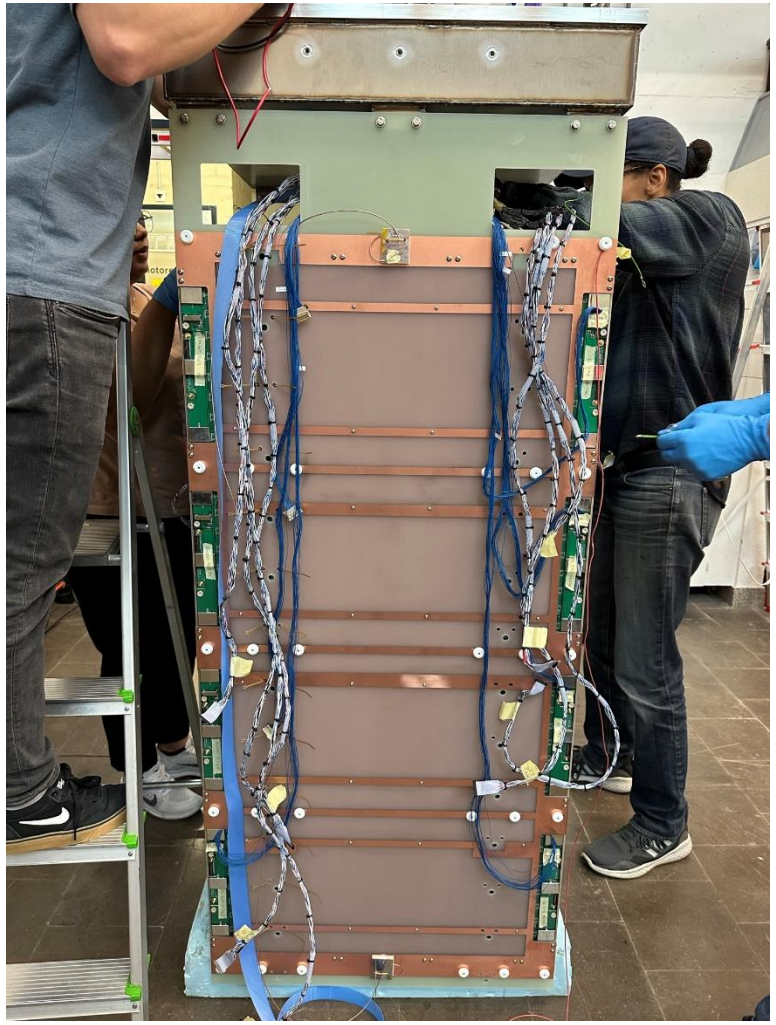
- Routed light and charge readout cabling
- Installed slow control cabling
- Installed light system calibration source
- Completed feedthrough assembly for one TPC
- Pictures follow

Light readout cables installed to e-boards (left), slow control and light readout calibration (right)



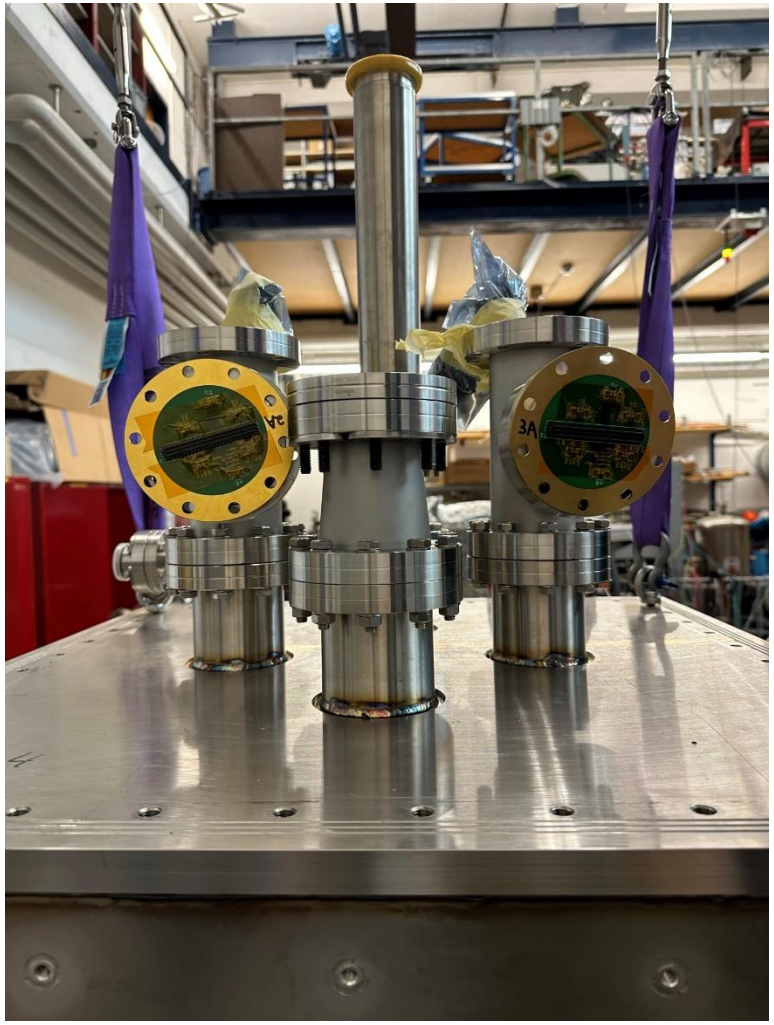
Slow control and light system calibration wire routed (left), light system calibration source (right)

Charge cable routing (left & right)



Charge readout feedthrough (left), top flange preparation (right)

Charge readout feedthroughs (left), charge readout + light readout + slow control feedthroughs (right)



Assembly team photo

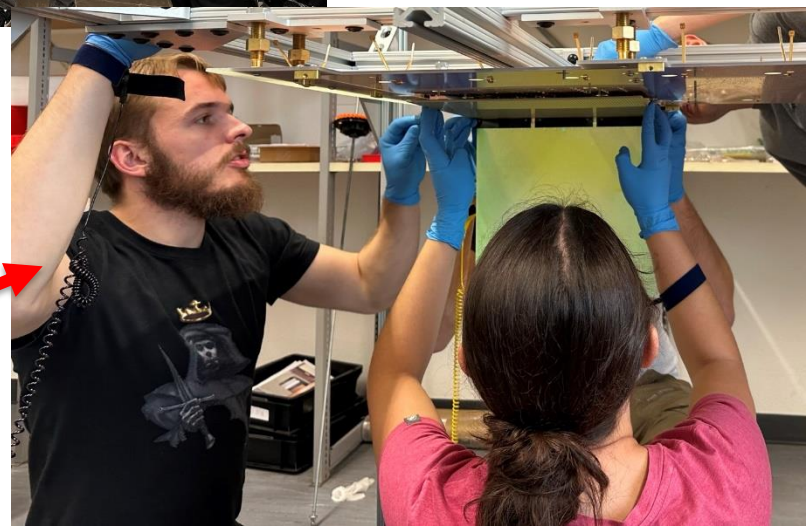
Anja Jan Brooke

Livio

Faiza

Nikolay

Jonas



11/4/2022 Summary

- Routed all cables (light readout, charge readout, slow control, light calibration, partial grounding)
- Completed feedthrough assembly for one of the TPCs
- Ready to start on feedthrough assembly for other TPC
- Once all cables and feedthroughs are secured -> warm testing in low-noise cryostat environment (without sleeve)

- Many thanks for all the hard work and effort put forth by the assembly team