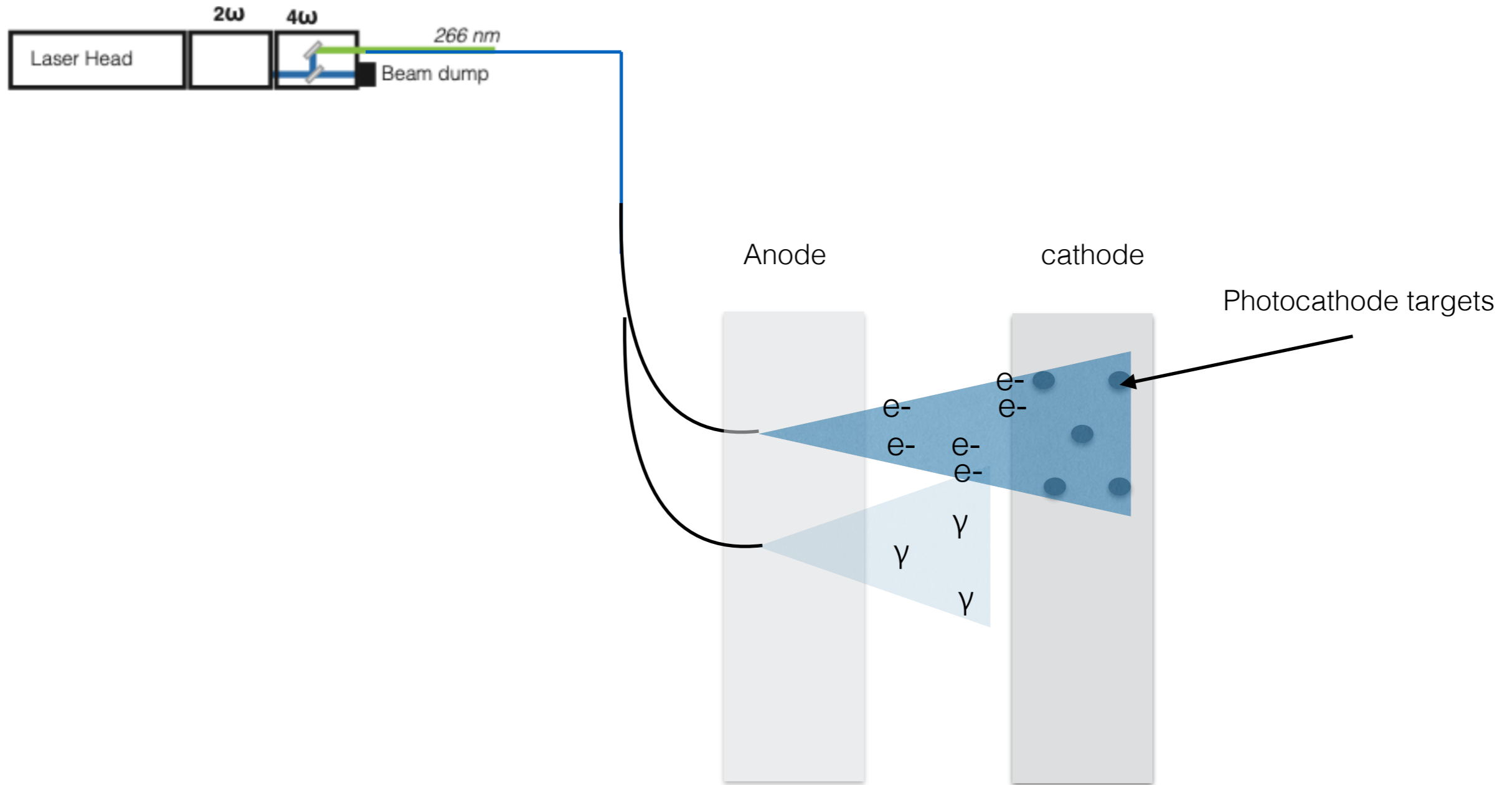


Introduction



PE Laser Calibration:

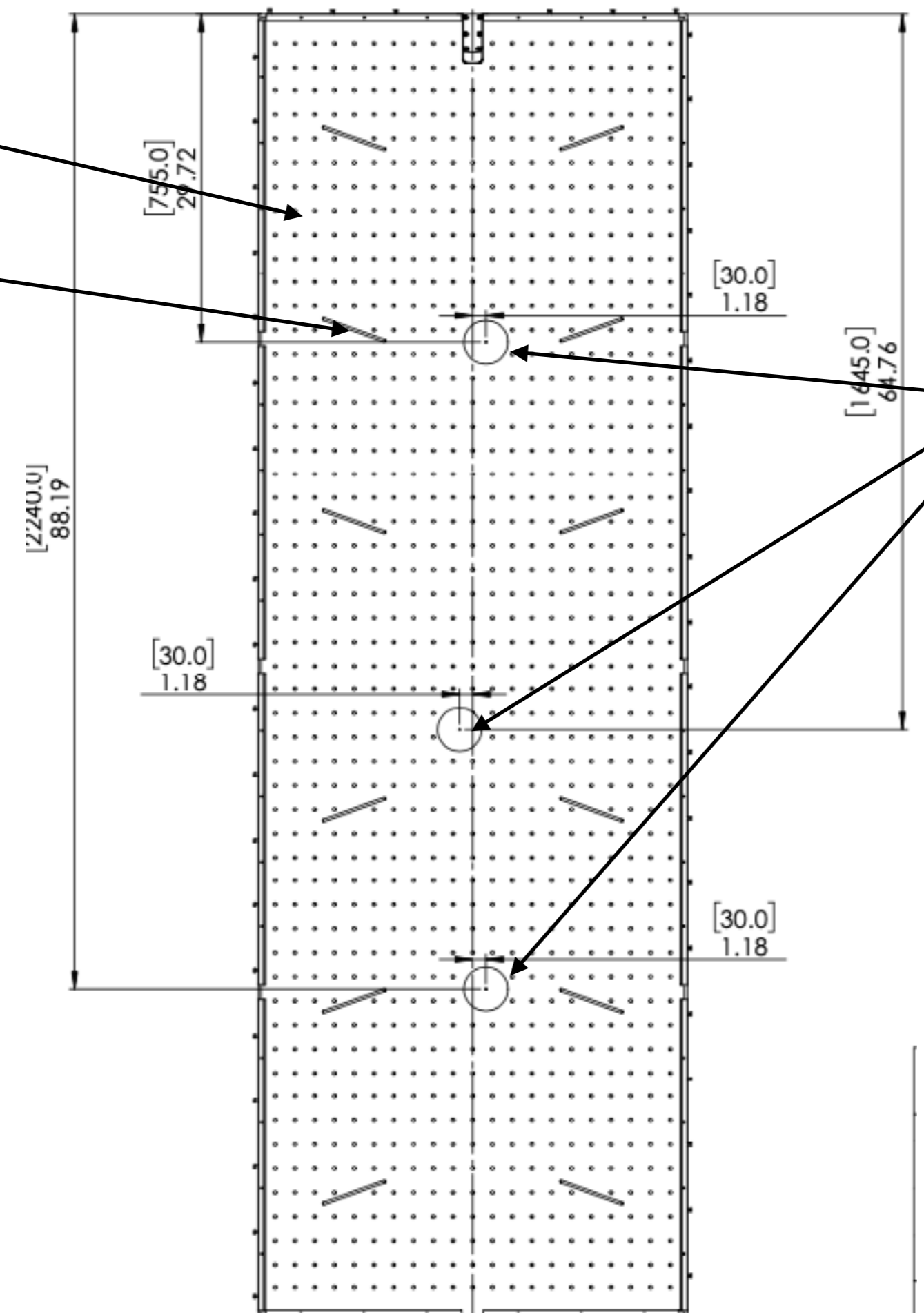
UV light via fibers, excite photoelectrons on cathode which drift to the anode.

Low light mode of laser can deliver photons for light system calibration

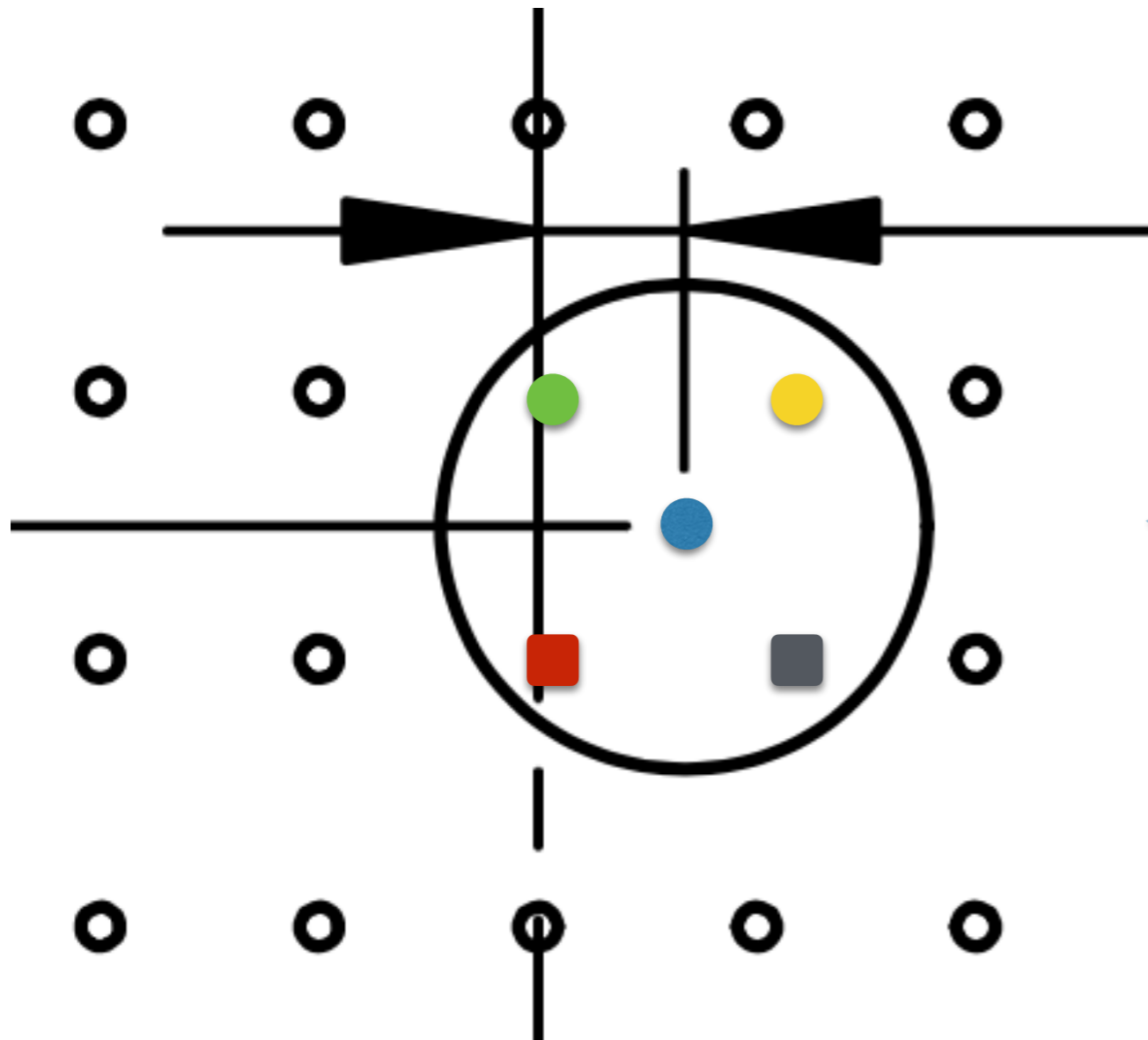
Zinc targets


Zinc strips

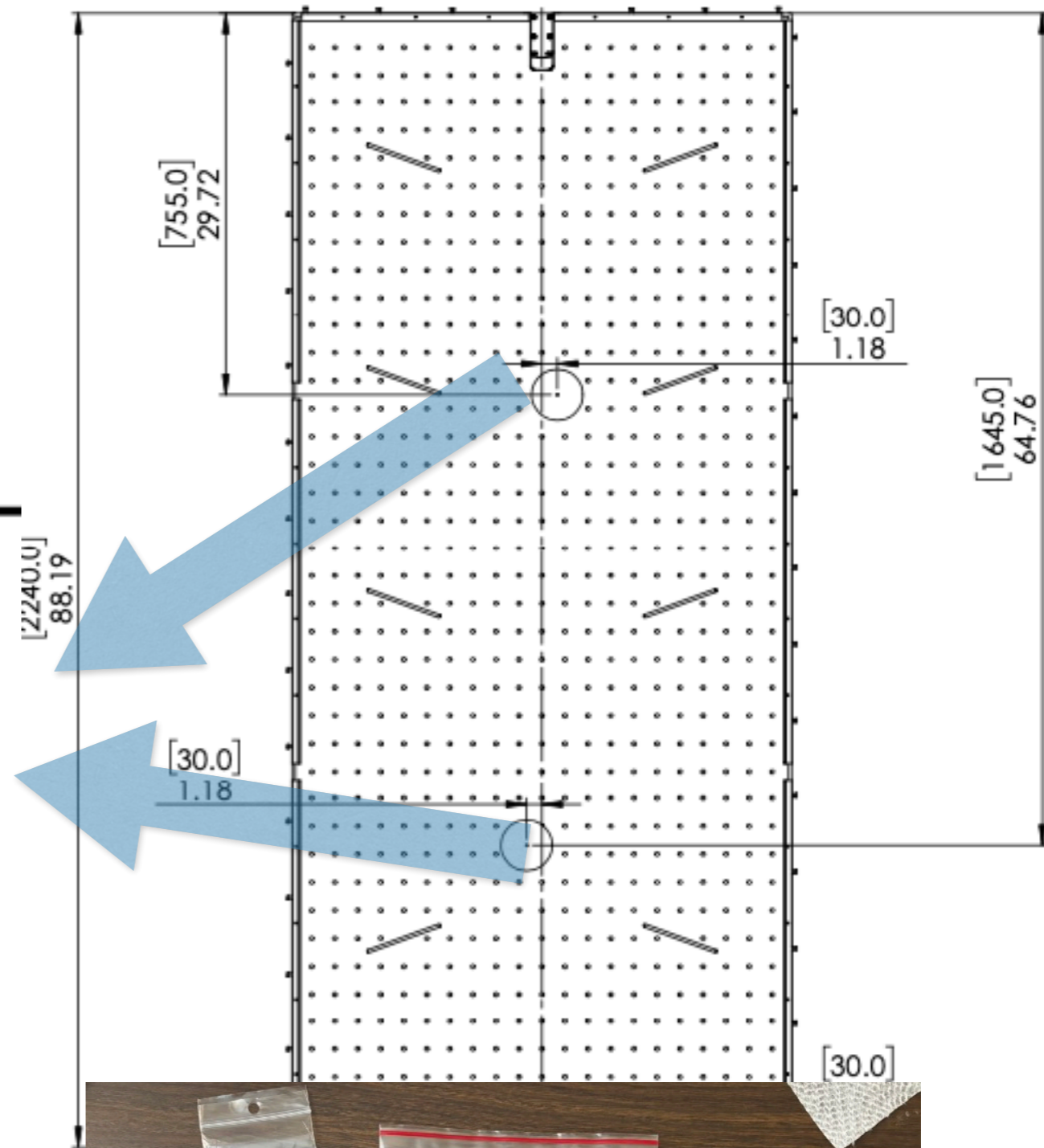
Light entry on anode



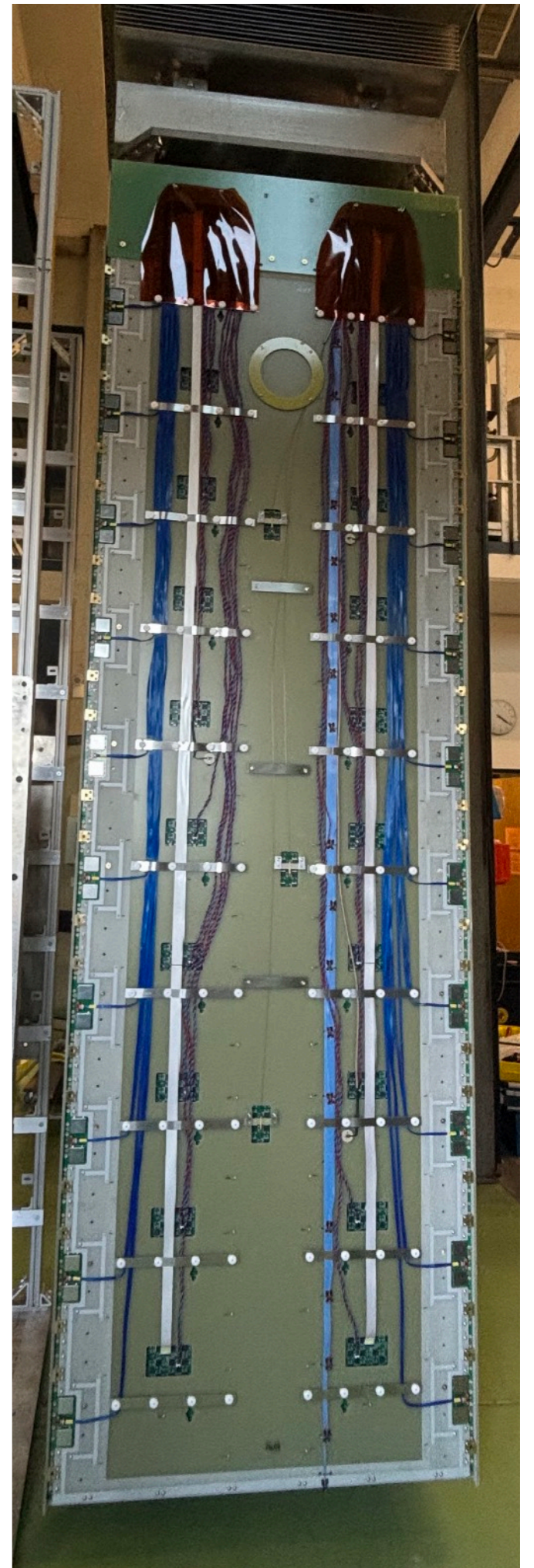
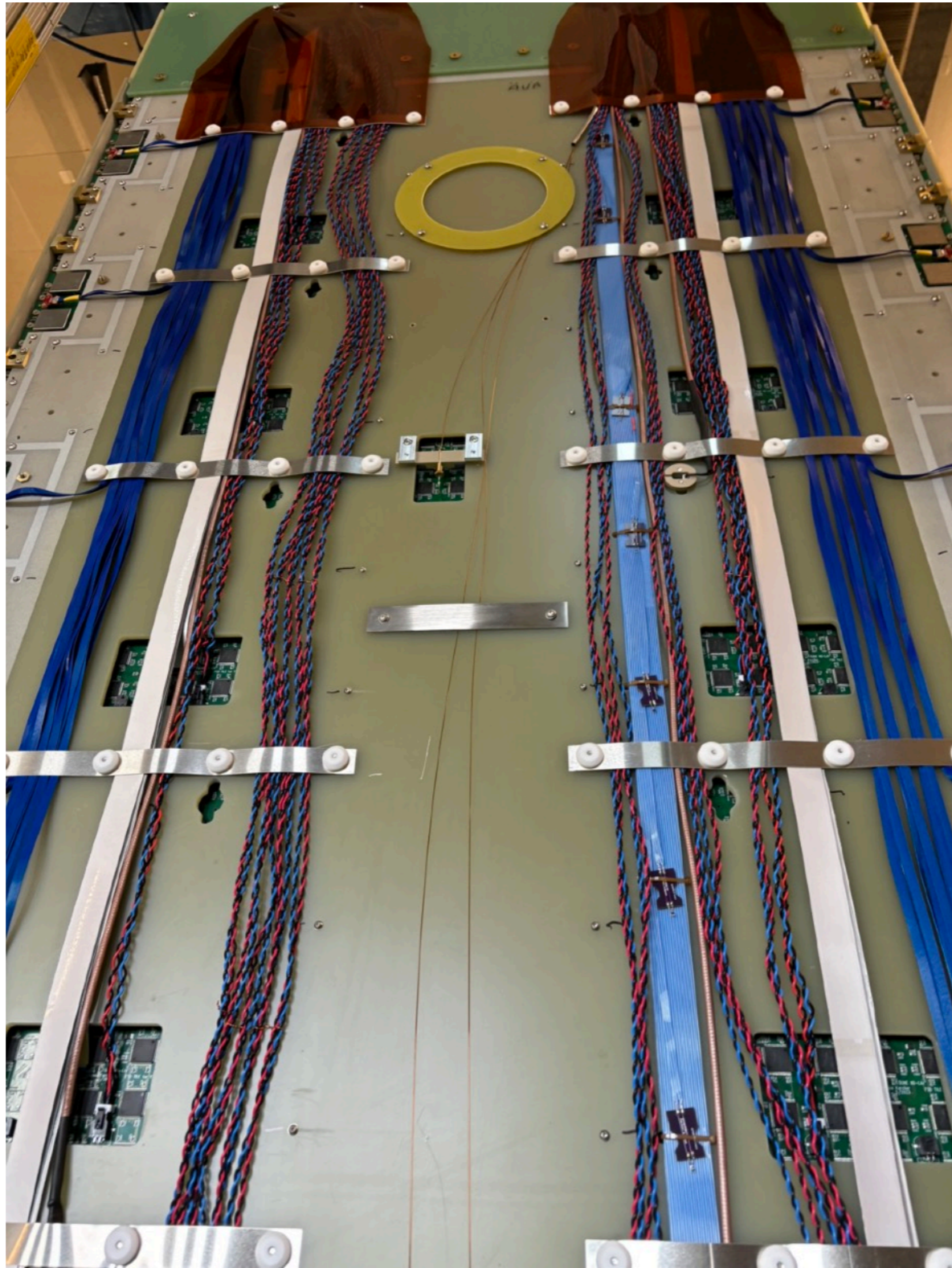
Side A has few additional targets



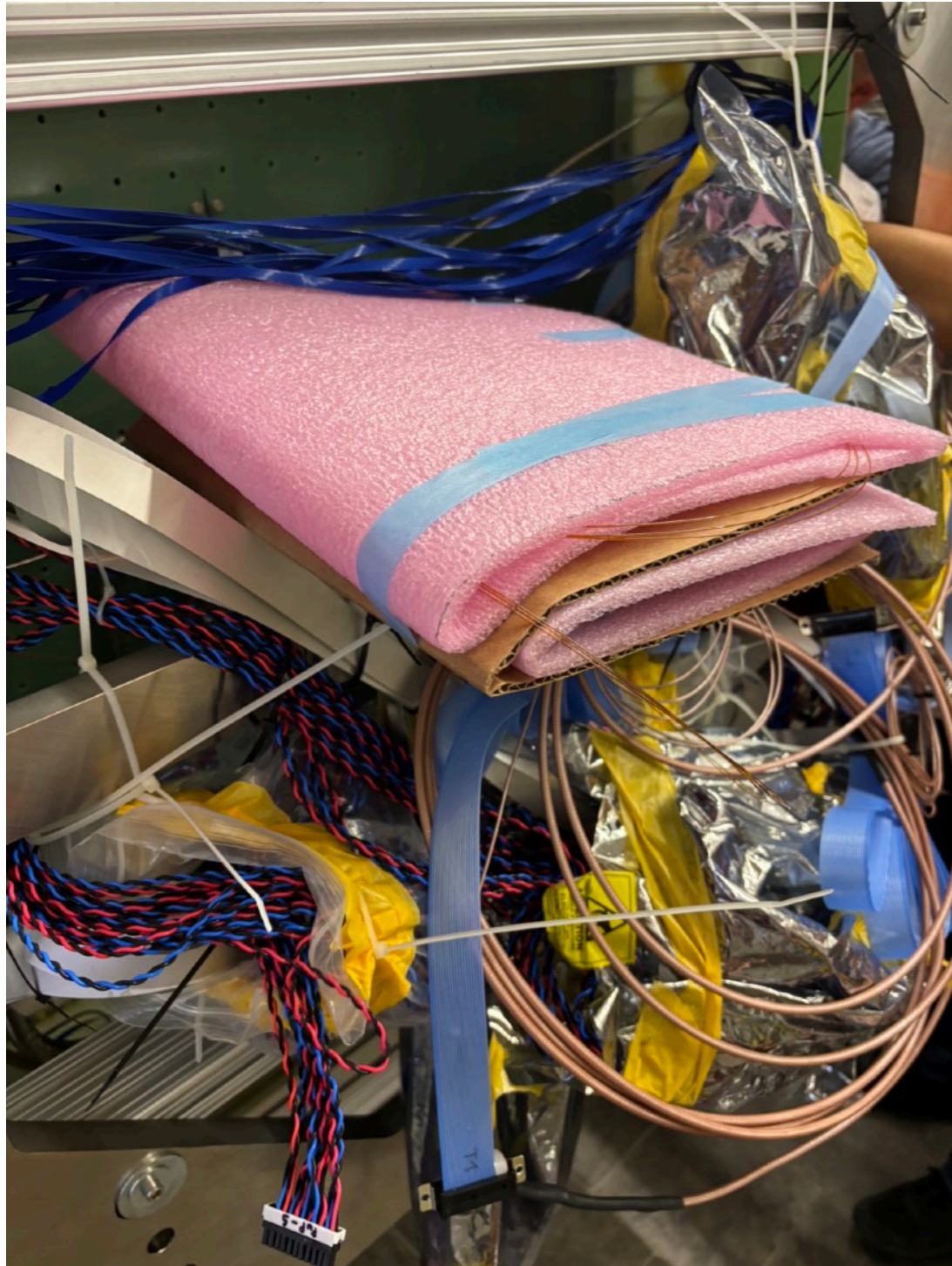
- | | | | |
|---|----------|--|----------|
|  | Yttrium |  | G10 Y2O3 |
|  | Zinc |  | G10 Al |
|  | Aluminum | | |



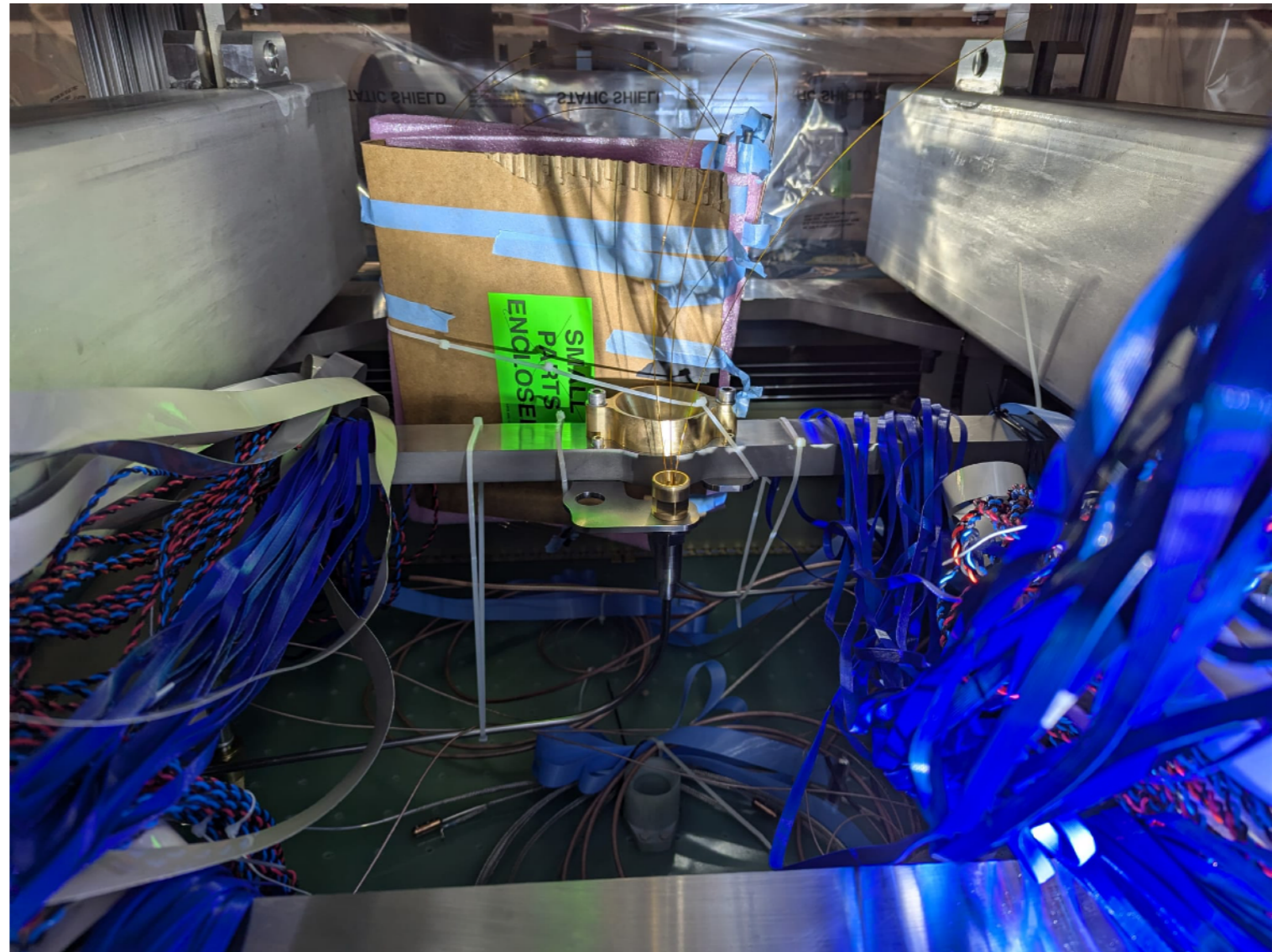
Assembly and installation



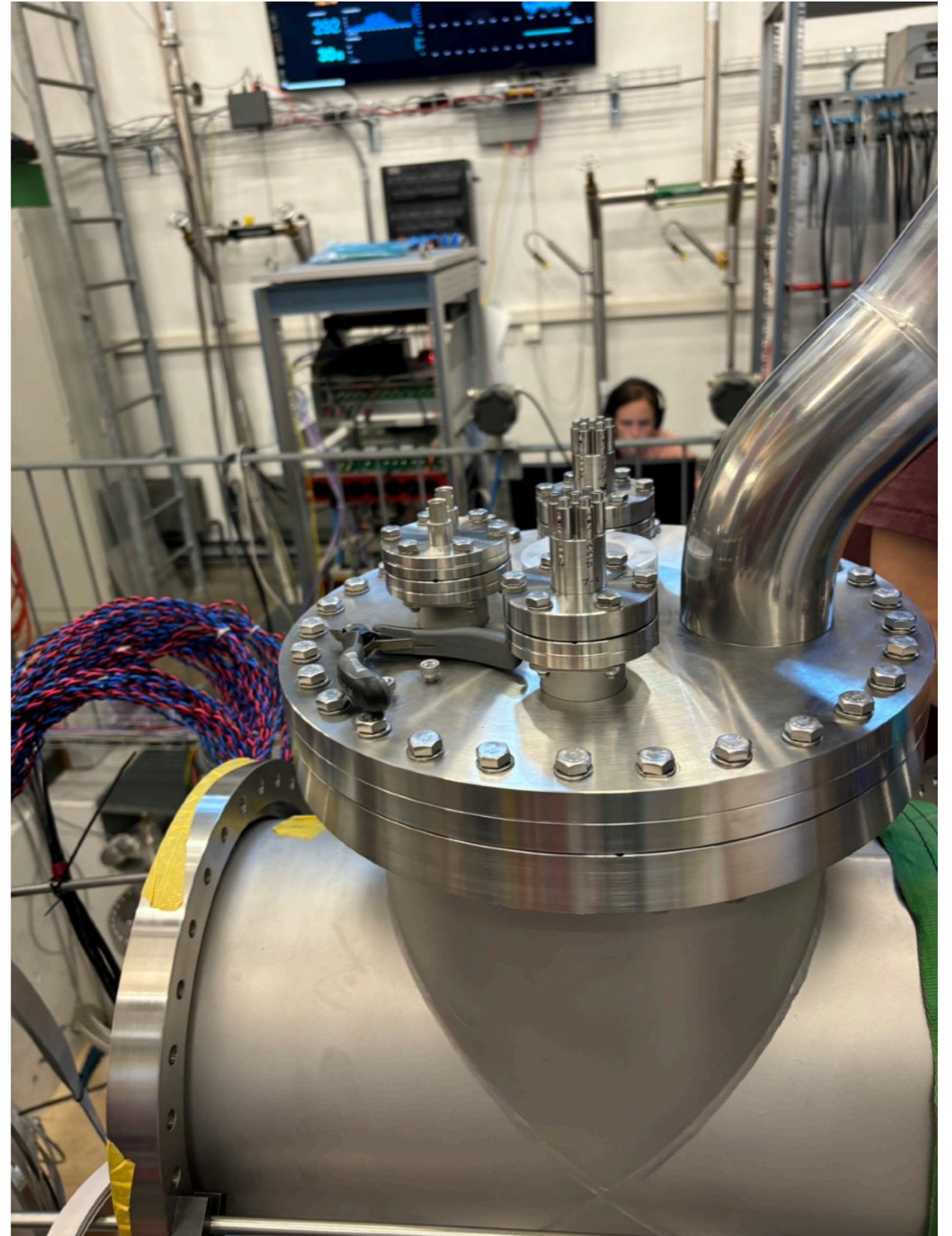
Assembly and installation



2 of the 6 fibers broke during cabling



Easier assembly when long tines installed



We decided to do a cali run, since a UV laser was available at Bern

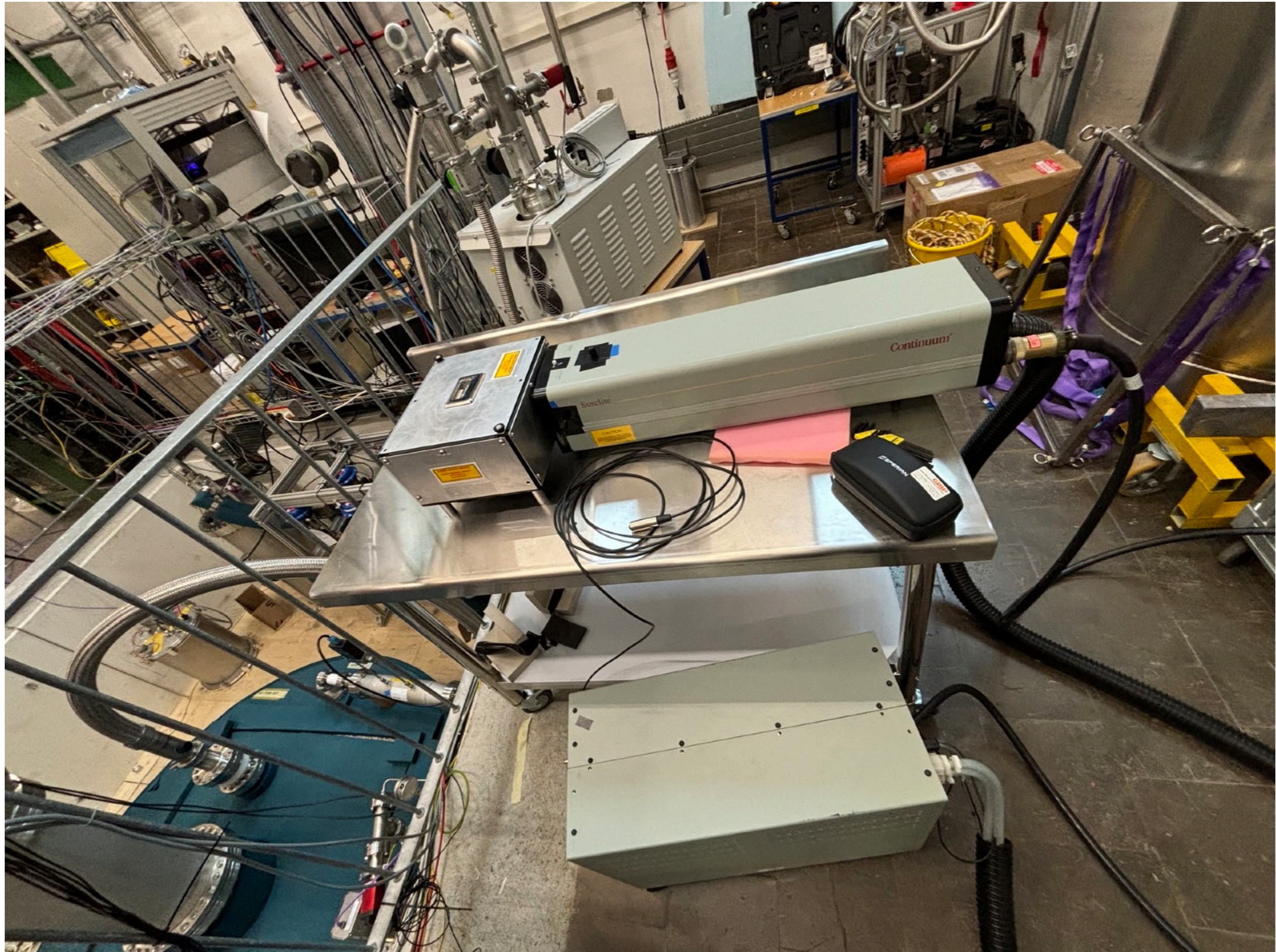
Returned with additional hardware from Hawaii. Shiva helped with Bern Laser



Inside the Laser-fiber coupler



Laser setup in Grosslabor



Data taking on Friday Nov 1st 2024 (Charge tile calibration)

Safety: Only laser operators in Grosslabor, everyone outside and doors closed. Signs posted

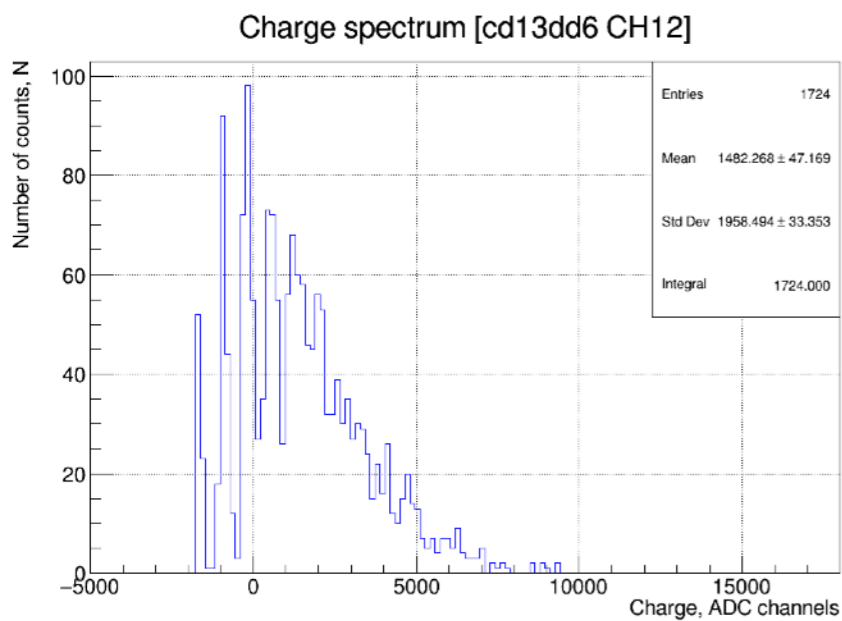
1. Trigger: 10 Hz from Laser 100 ns before lasing.
2. Fiber verification: Sent low level UV light via II four fibers. One SiPM ON in each region and looked for signals. Three of the four remaining fibers survived and see light.
3. Data: Sent ~60 μJ of 266 nm (mostly) UV light to three fibers for 10 min runs
4. ~120 μJ of light through fiber 1 again at the end for 10 mins.

Kevin Wood, Liz Triller helped look at signals on the charge tiles. We see no discernible signal. Did some offline analysis. Looked at NDFlow hits cuts for instance. Still no luck. Will continue looking into the data.

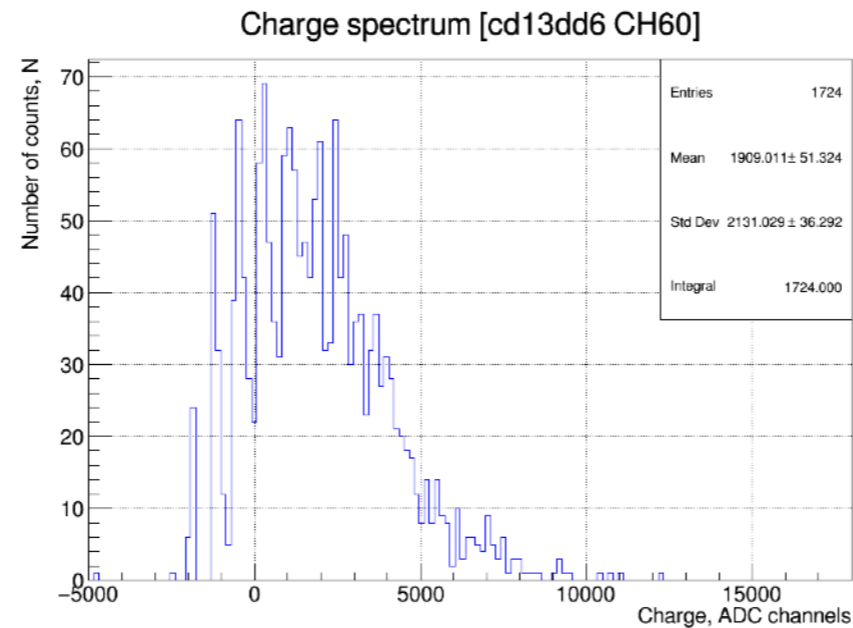
Possibly another run with different charge tile setting. Laser on standby.

Data taking on Sunday Nov 3rd 2024 (LRS calibration)

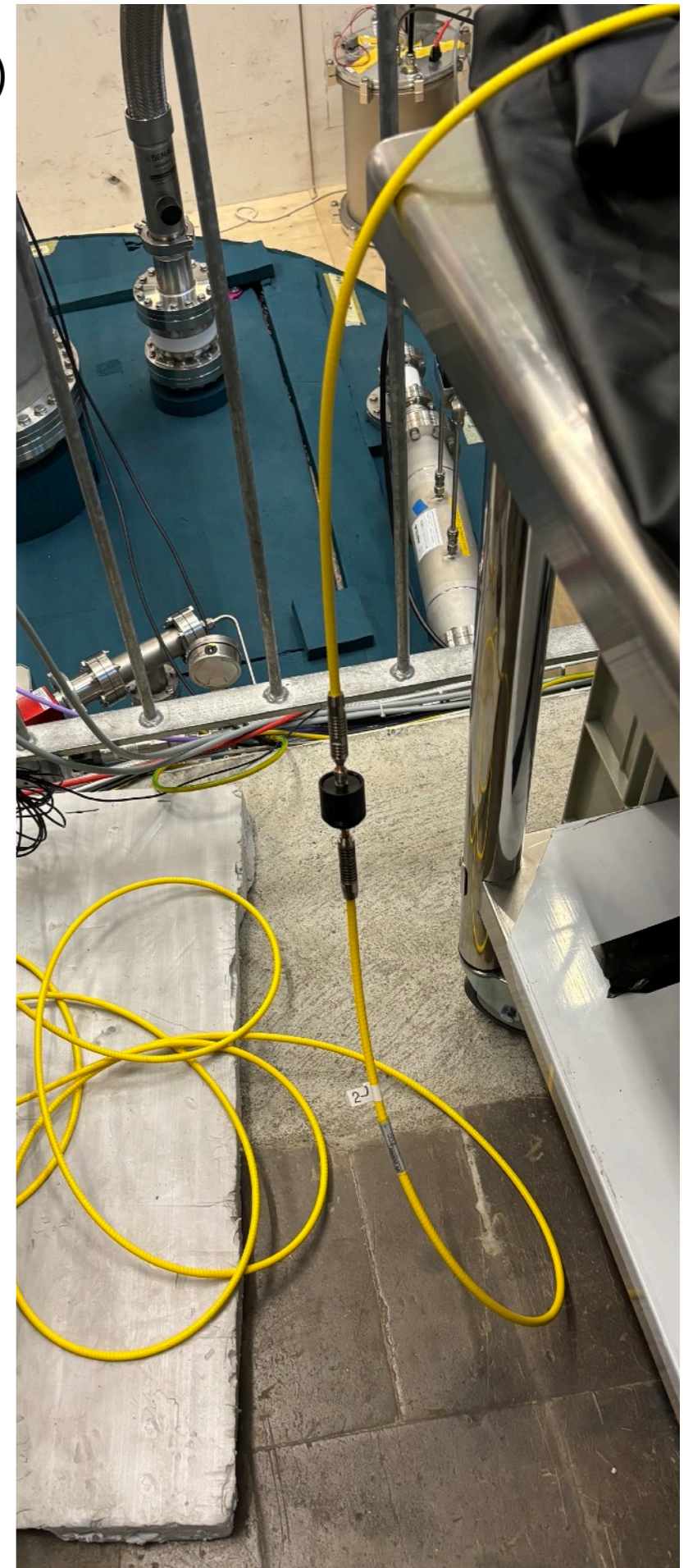
1. Added neutral density filters to reduce the light levels going in.
2. Using combination of ND filters collected data using 3 live fibers. Three different energy levels: 6 pJ, 20 pJ and 77 pJ
3. Jan saw signals in all modes. Analysis on going.



LCM



ACL



Current status



Thanks to Bern team/techs and also others who helped with installation and run