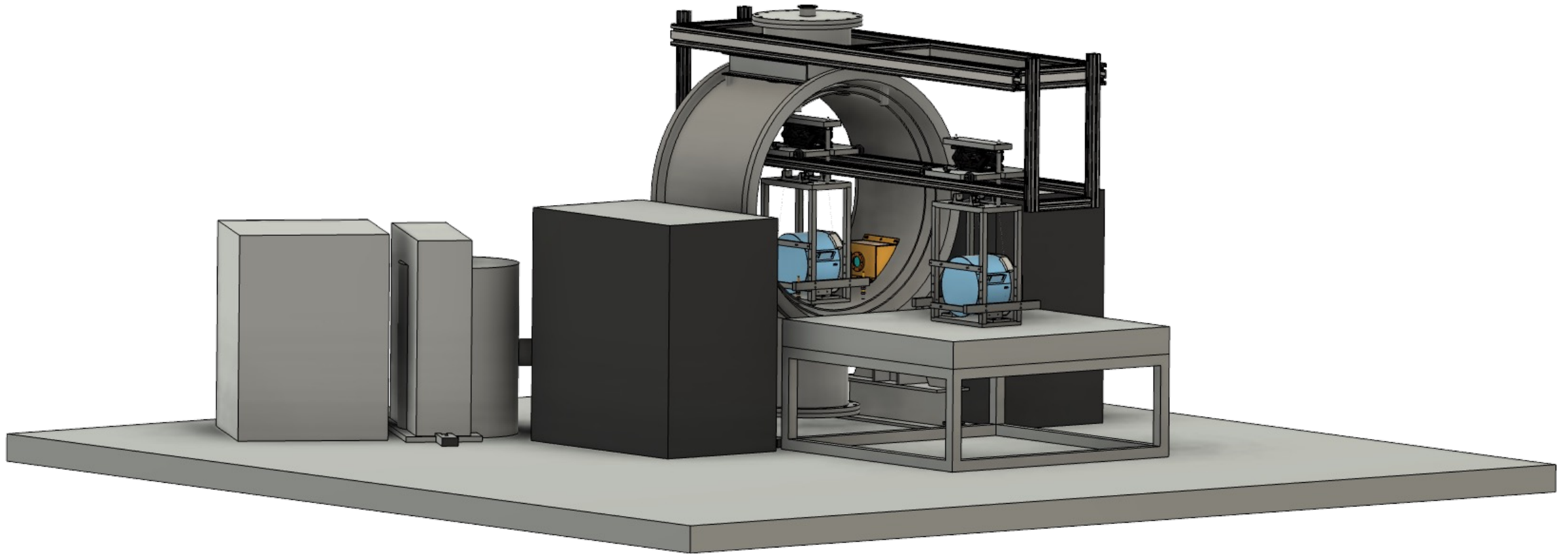


Q measurement for Sapphire mirror

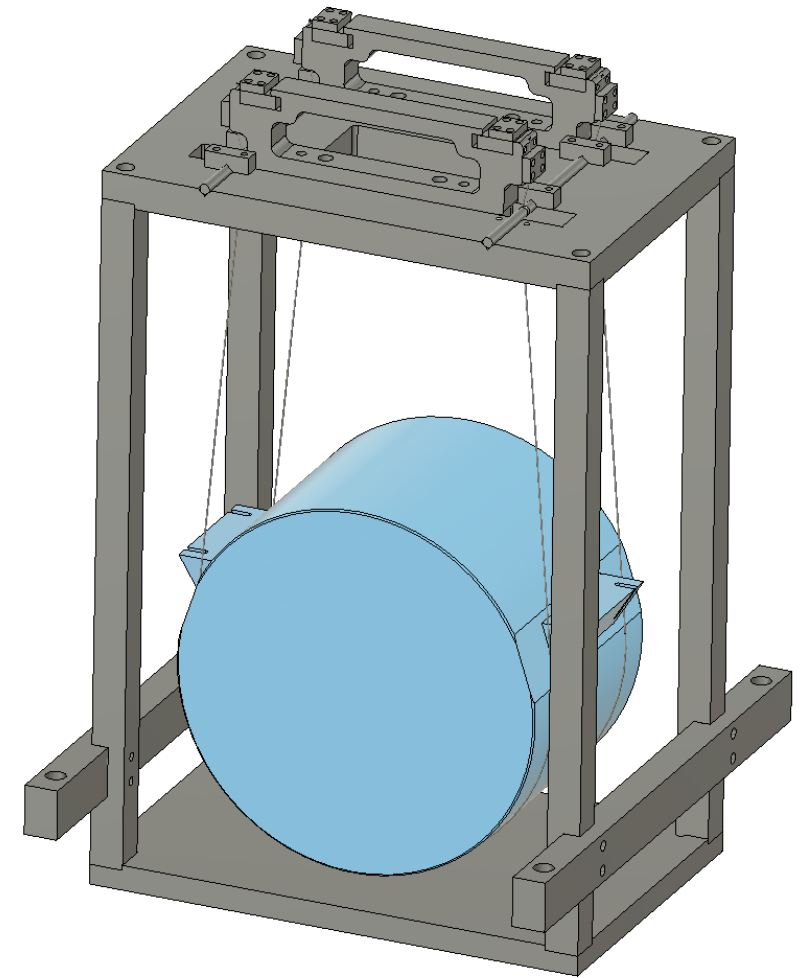
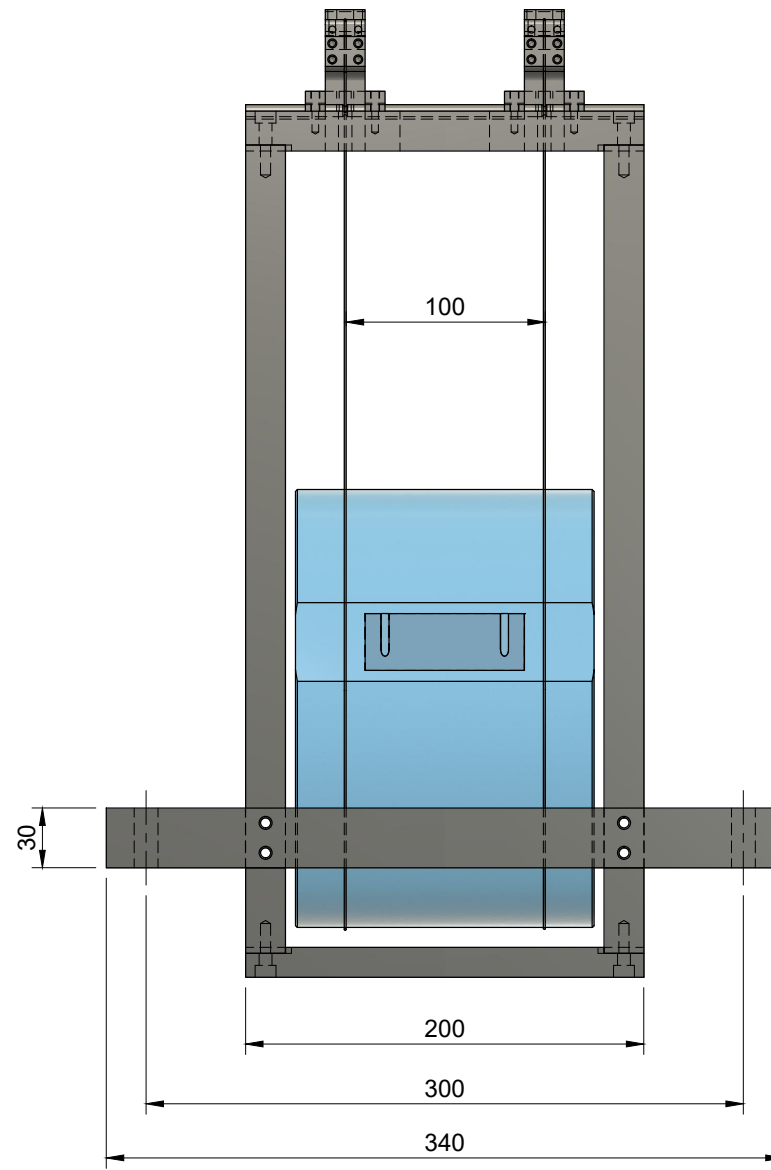
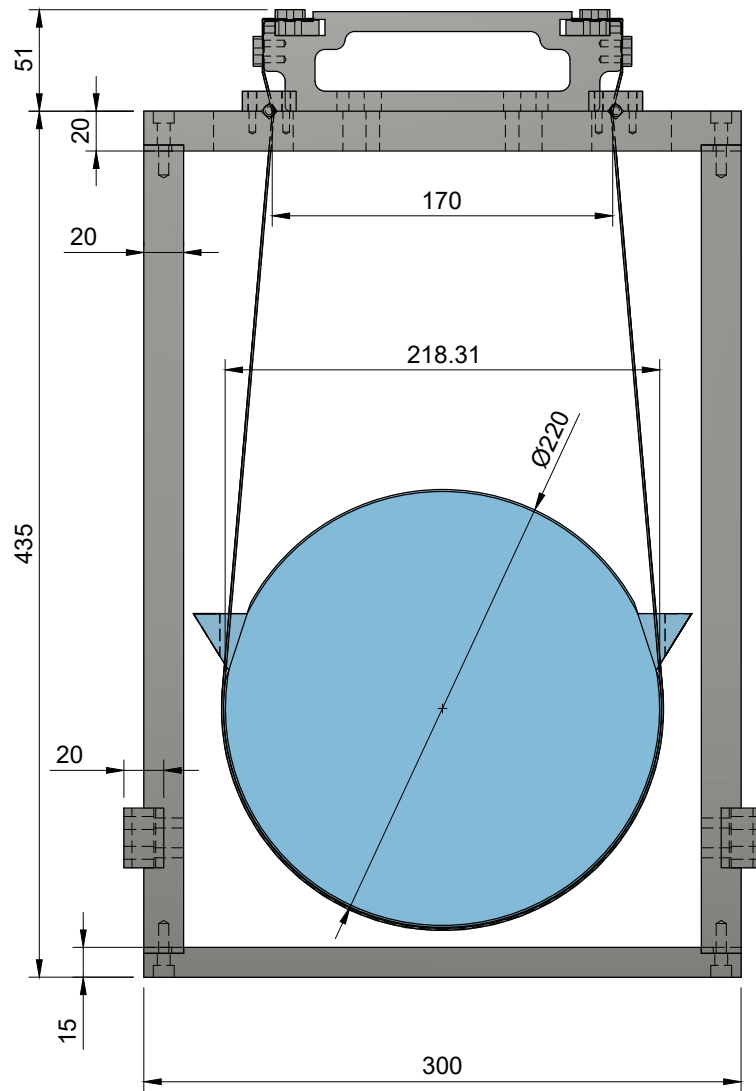
Tomohiro Yamada, Toshikazu Suzuki (KEK)

I need to finish by 2pm.



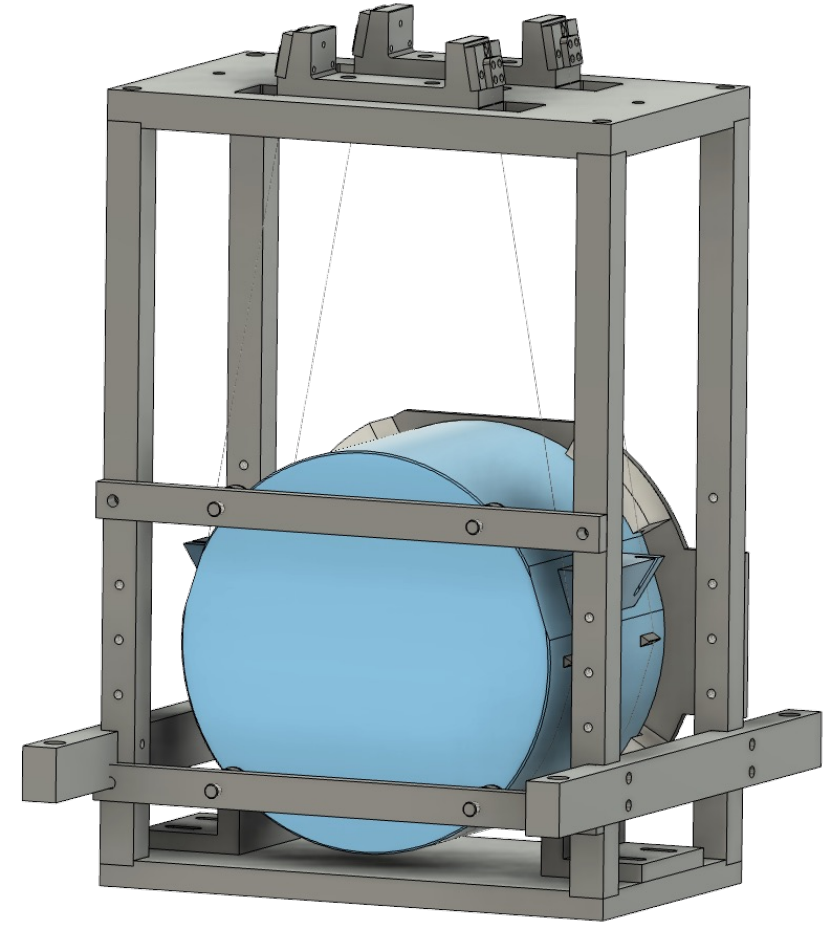
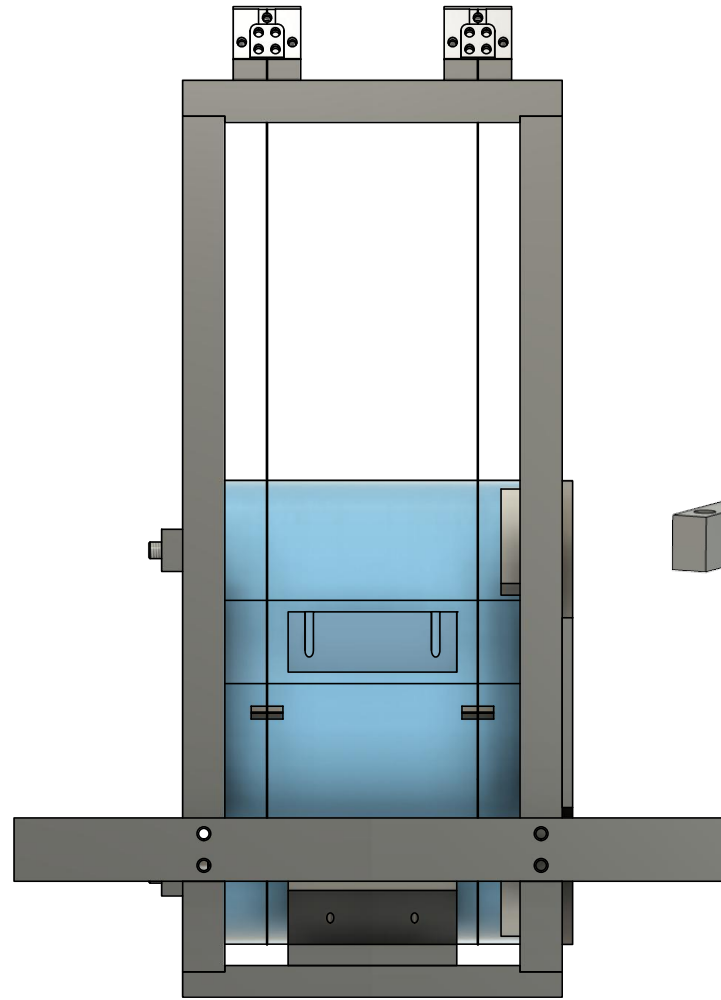
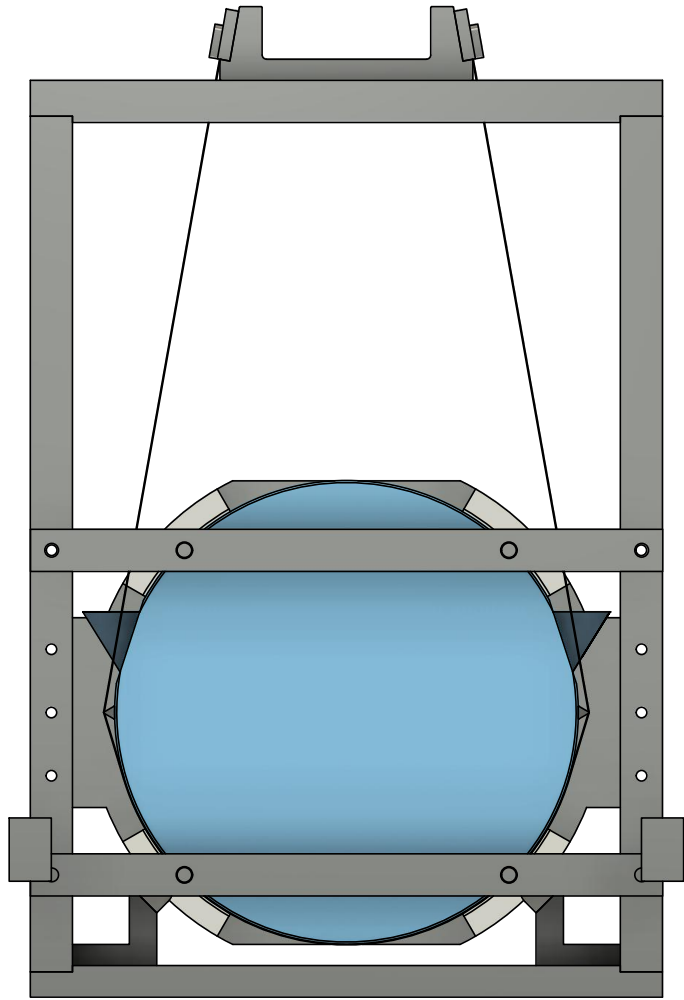
2023.08.24

Previous suspension design



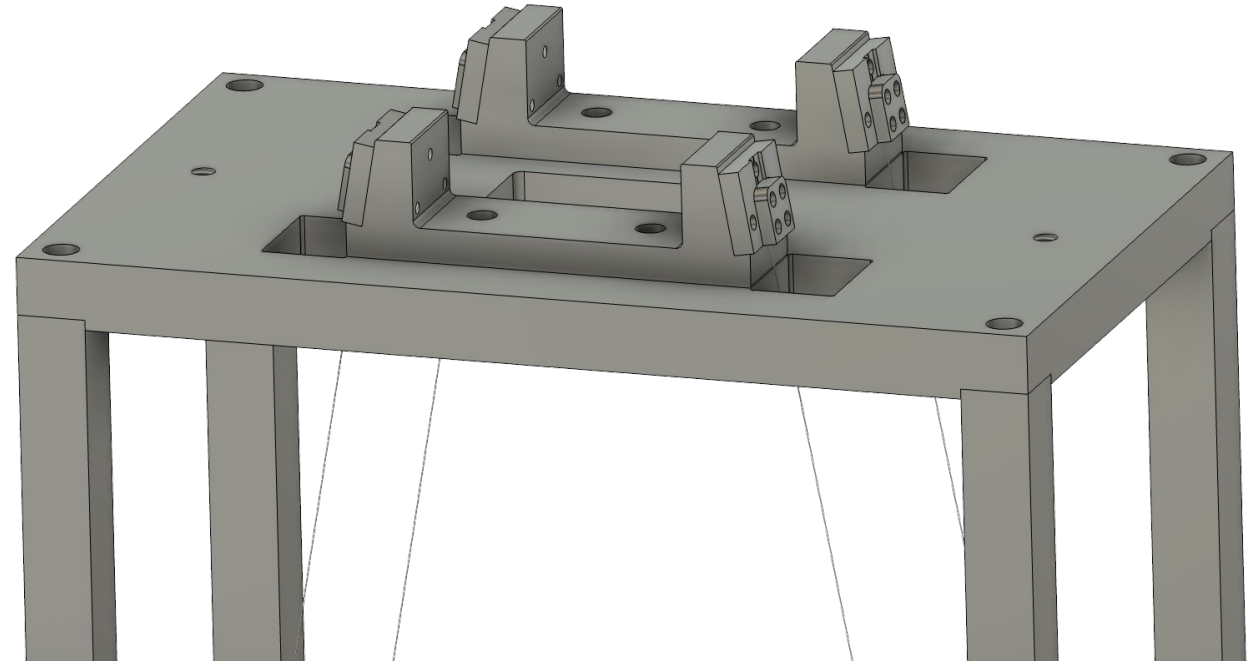
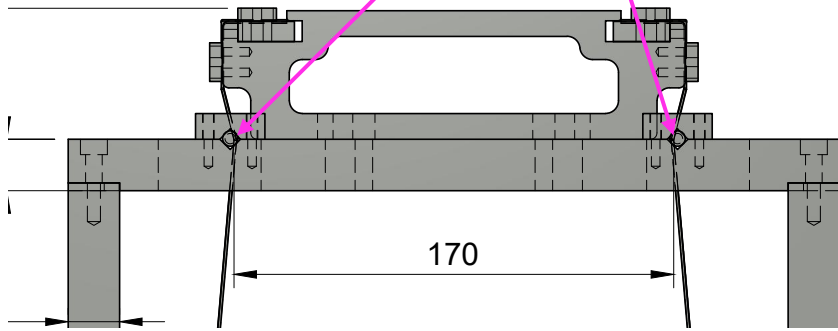
Wire: Tungsten
 ϕ 0.4 or 0.5mm

Updated suspension design



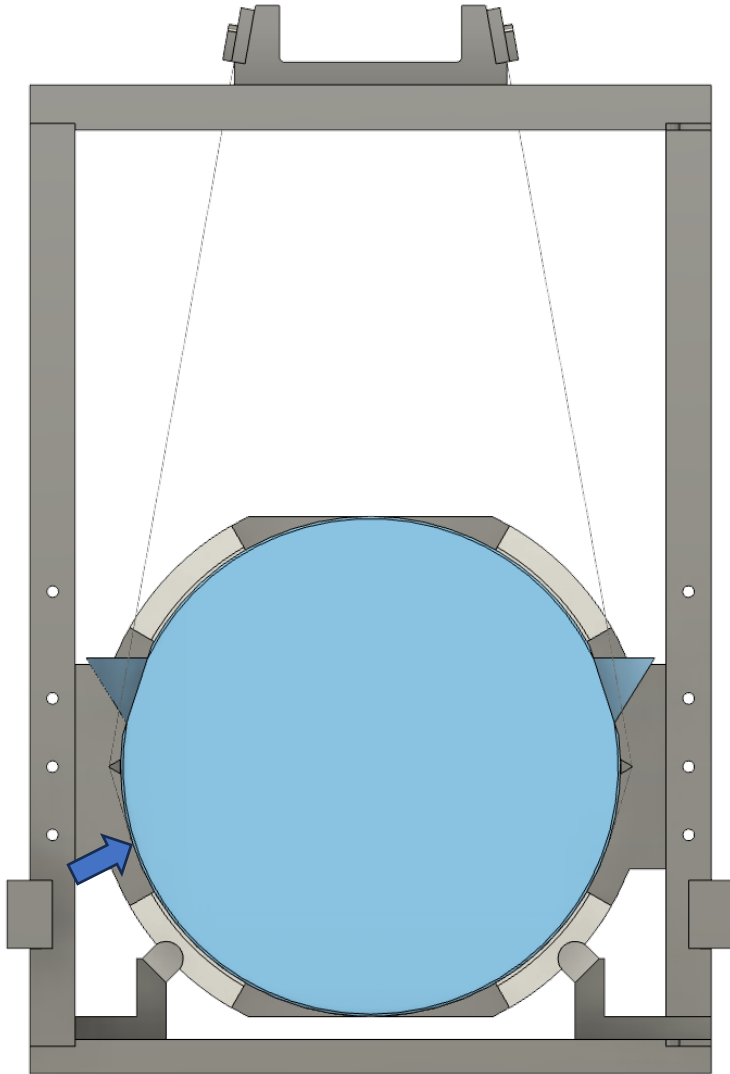
Updated point1: Clamping point

- Suspension point rods were removed.
- No wire tension adjustment system was chosen.

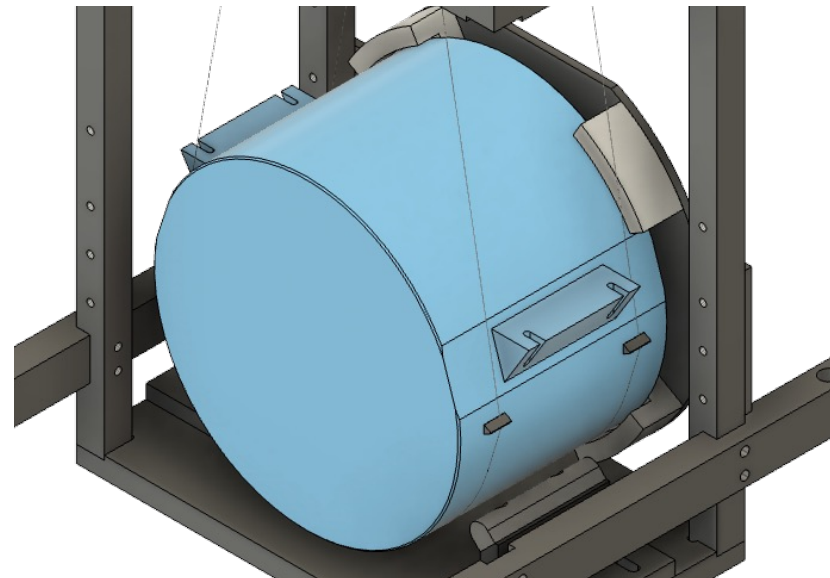


Each fixing point has 10deg inclination.

Updated point2: Wire breaker

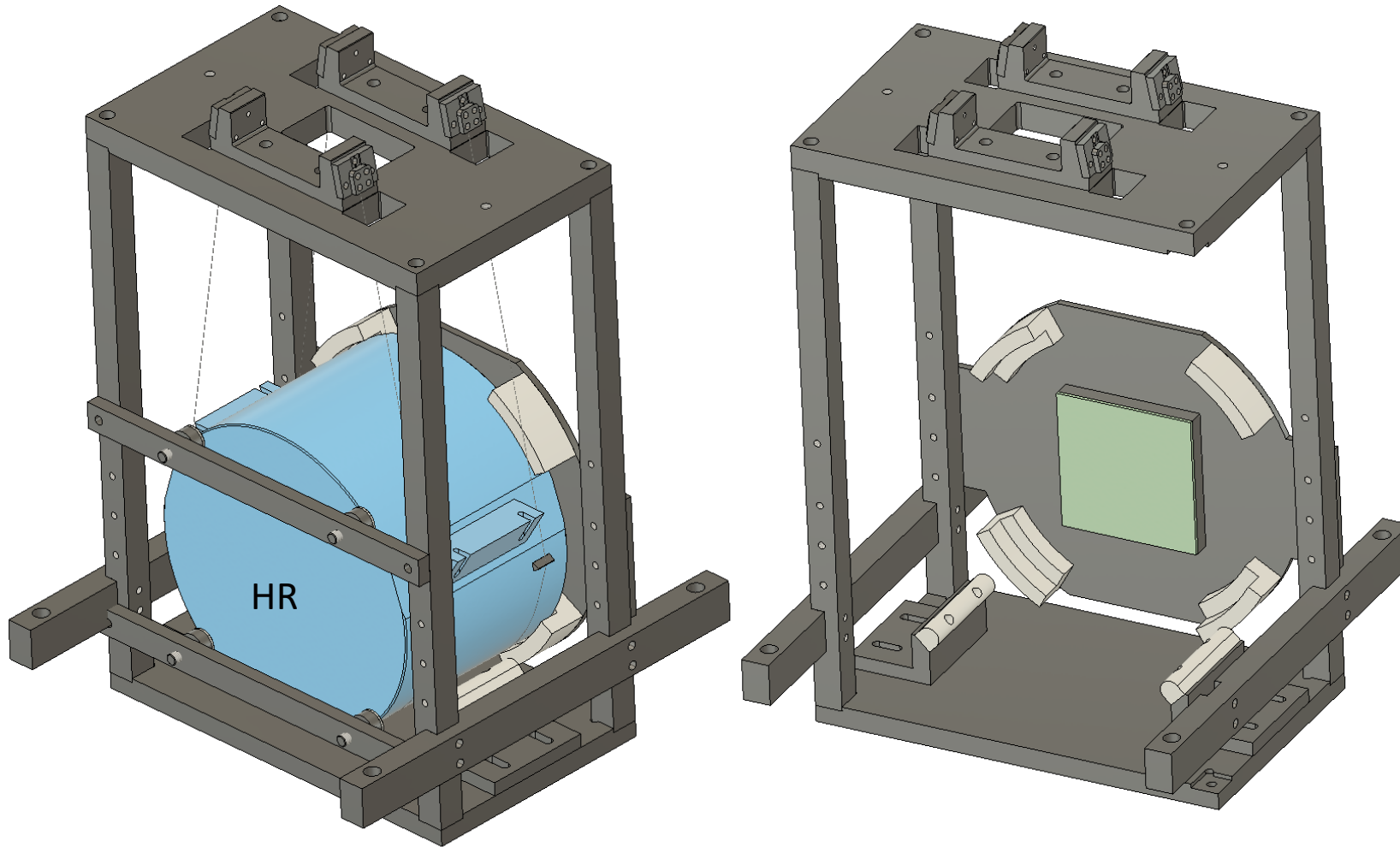


- Following BS system, wire breakers were put on vertical center.
Q: Can we put more breakers? It will be helpful to determine wire position.
- A wire breaker on one side was split into two parts since it would be thin and long.
Q: Do you have any opinion? A fixing (glueing) system is under consideration. BTW, what kind glue should we use? Wire breakers must be removed cleanly after this experiment.



SUS316L

Updated point3: Earth quake stopper

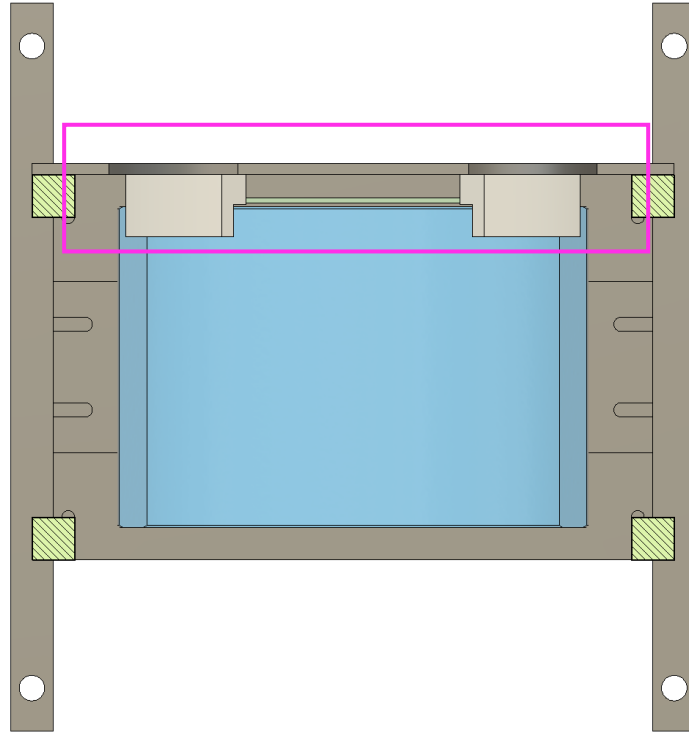
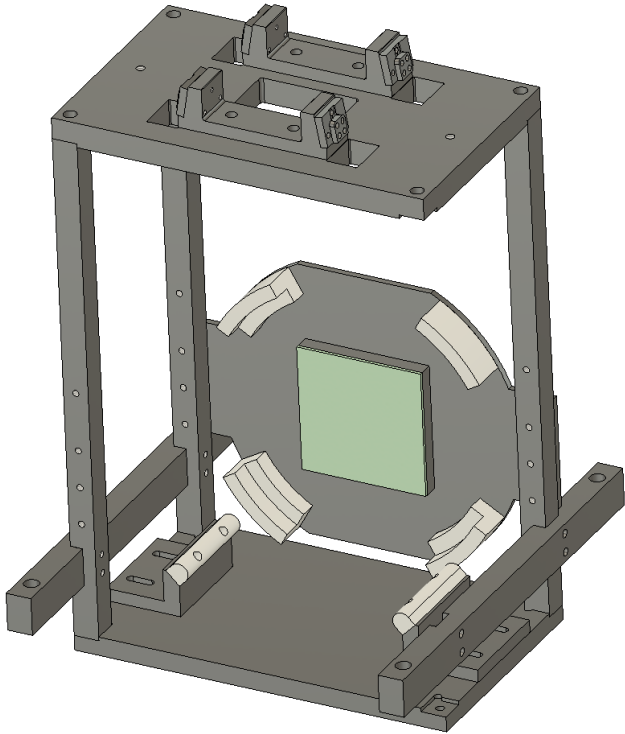


- Following HCB BOX design, the mirror is pushed to back plate. The mirror moves 1mm or so due to pushing, I think it should be acceptable.

Q: In the HCB BOX, screw pusher pushes AR side, but HR side is pushed in this case. Is it OK? Or should "chamfer" be pushed with inclined screw pusher?

*White color represent Teflon but it will be changed to PEEK.

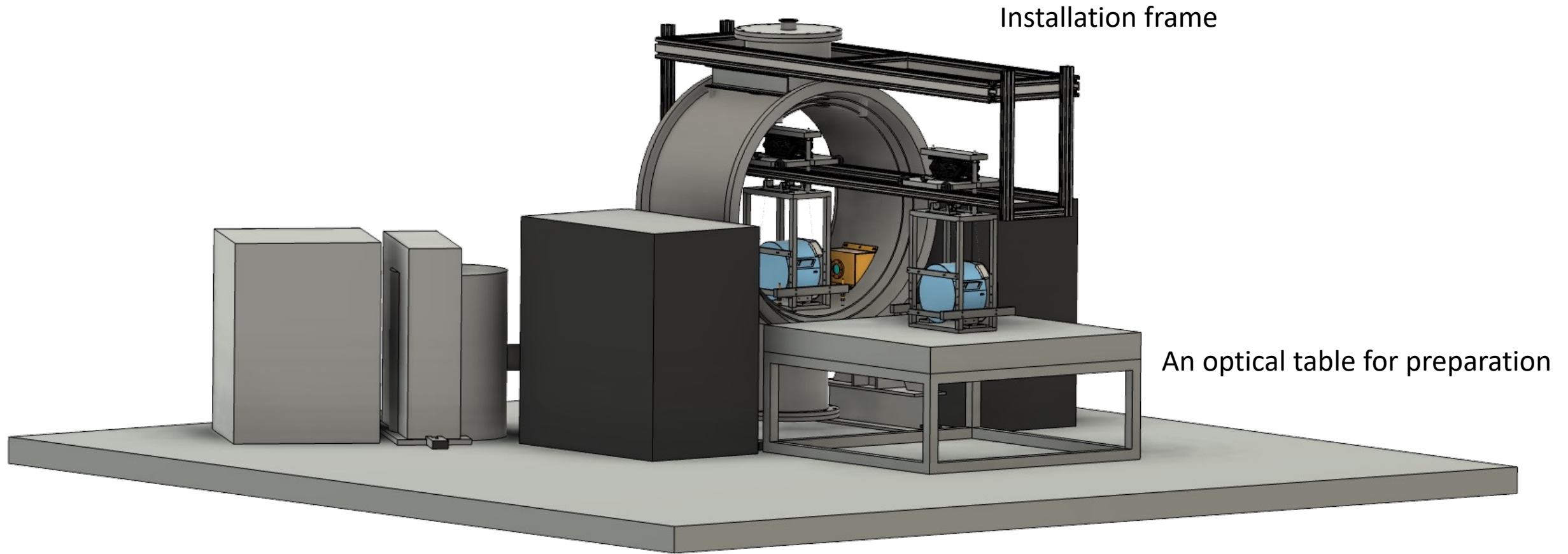
Updated point4: Actuator



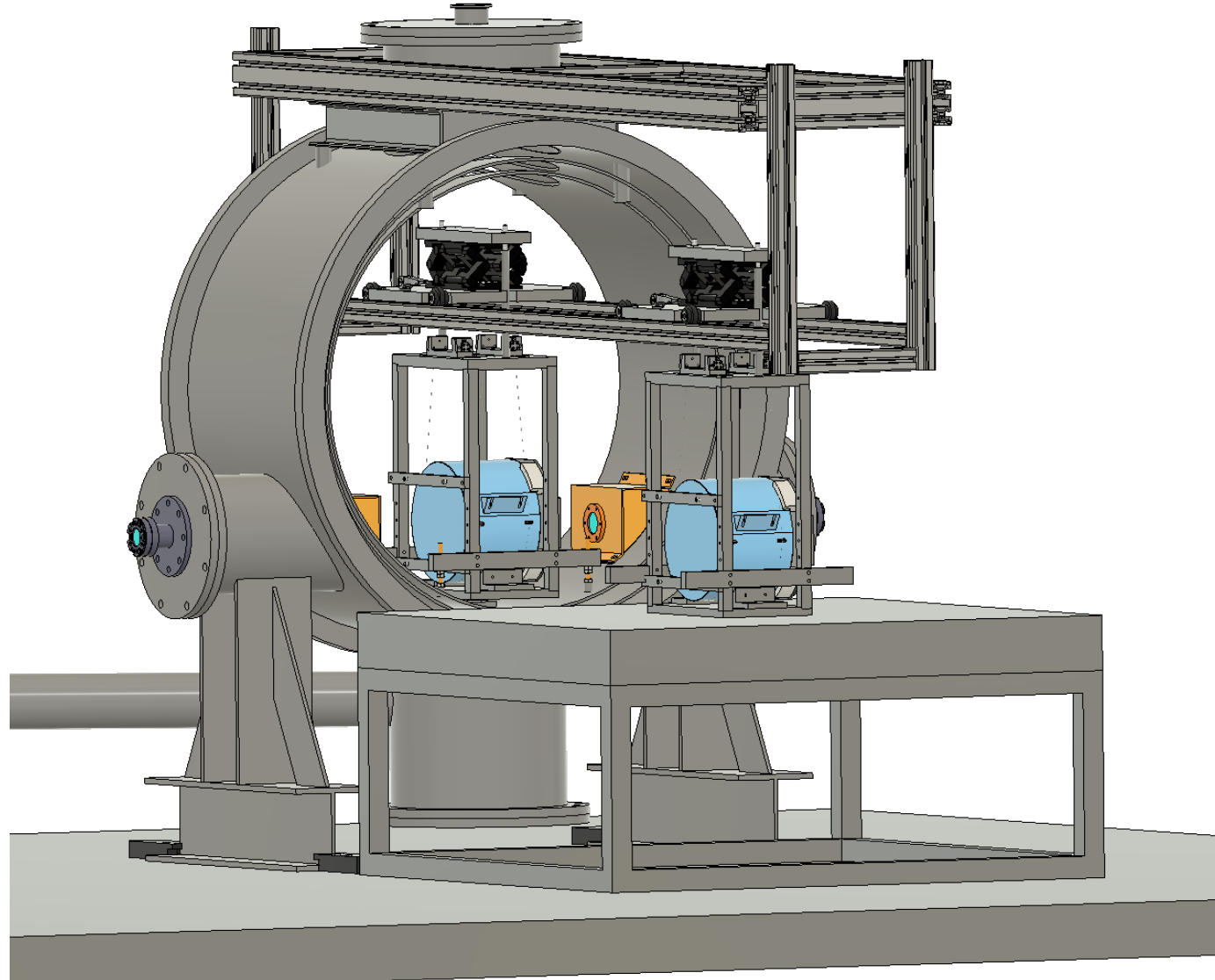
- An electrode is considered for the actuator.
- In order not to scratch AR surface, earth quake stoppers must be placed between the electrode and the AR surface.
- Since distance between the mirror and the electrode is approx. 1mm, earth quake stoppers are designed to be placed 0.5mm apart from the AR surface.



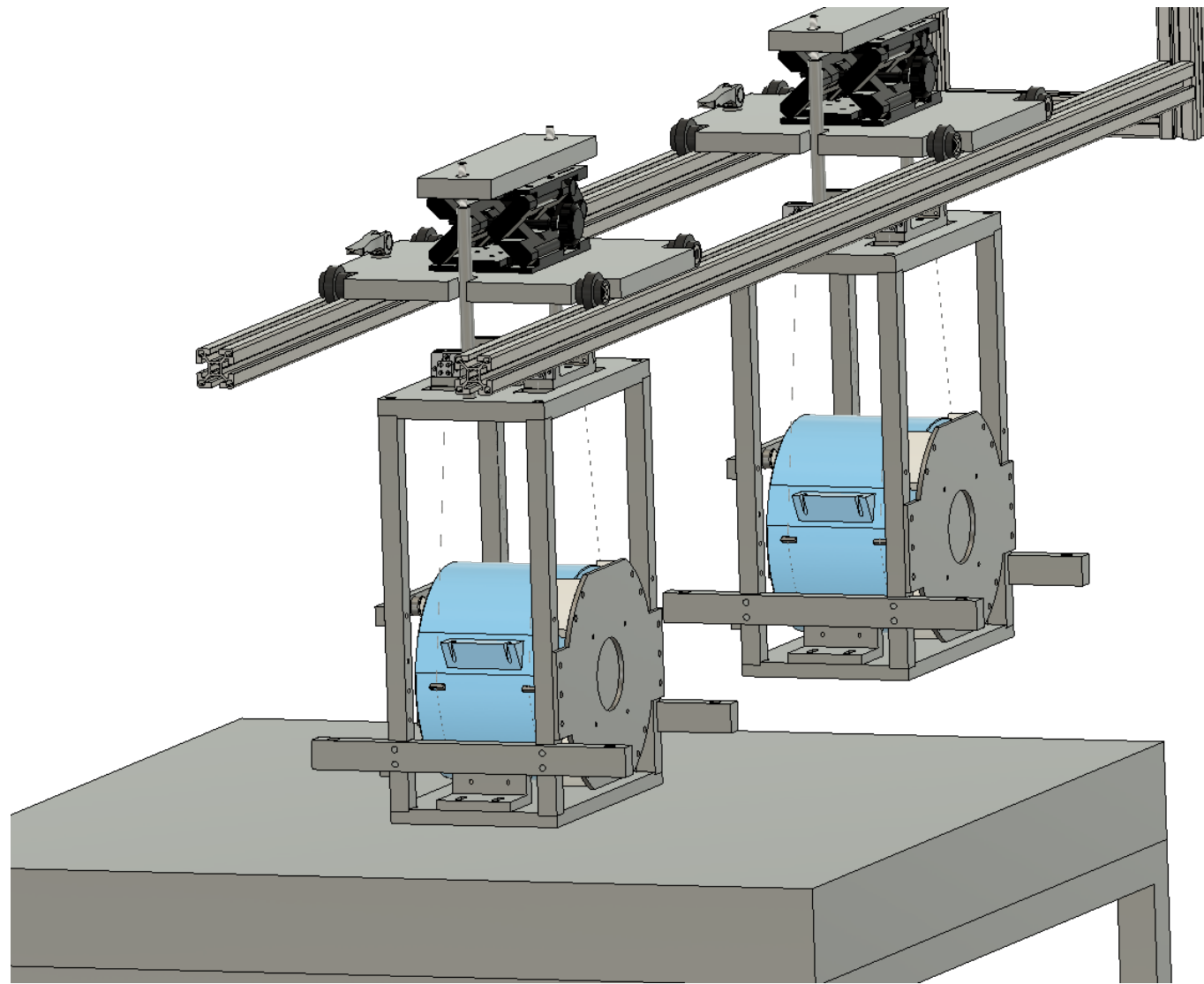
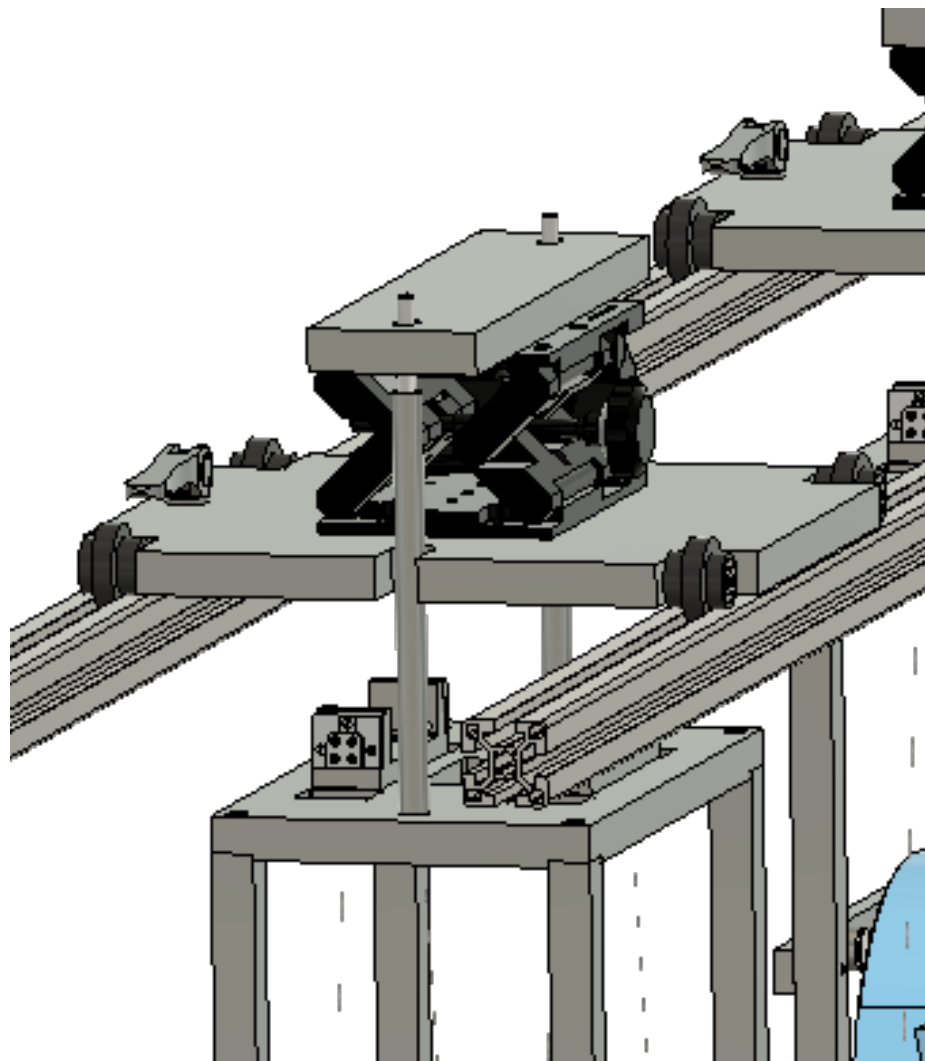
Updated point5: Installation (Whole view)



Updated point5: Installation (Frame)



Updated point5: Installation (Cart)



Further works

- Improvement of EQS
- Electrode design
- Glueing system

- Budget