Rotary Table and FCAL tungsten for Test Beam 2025 setup

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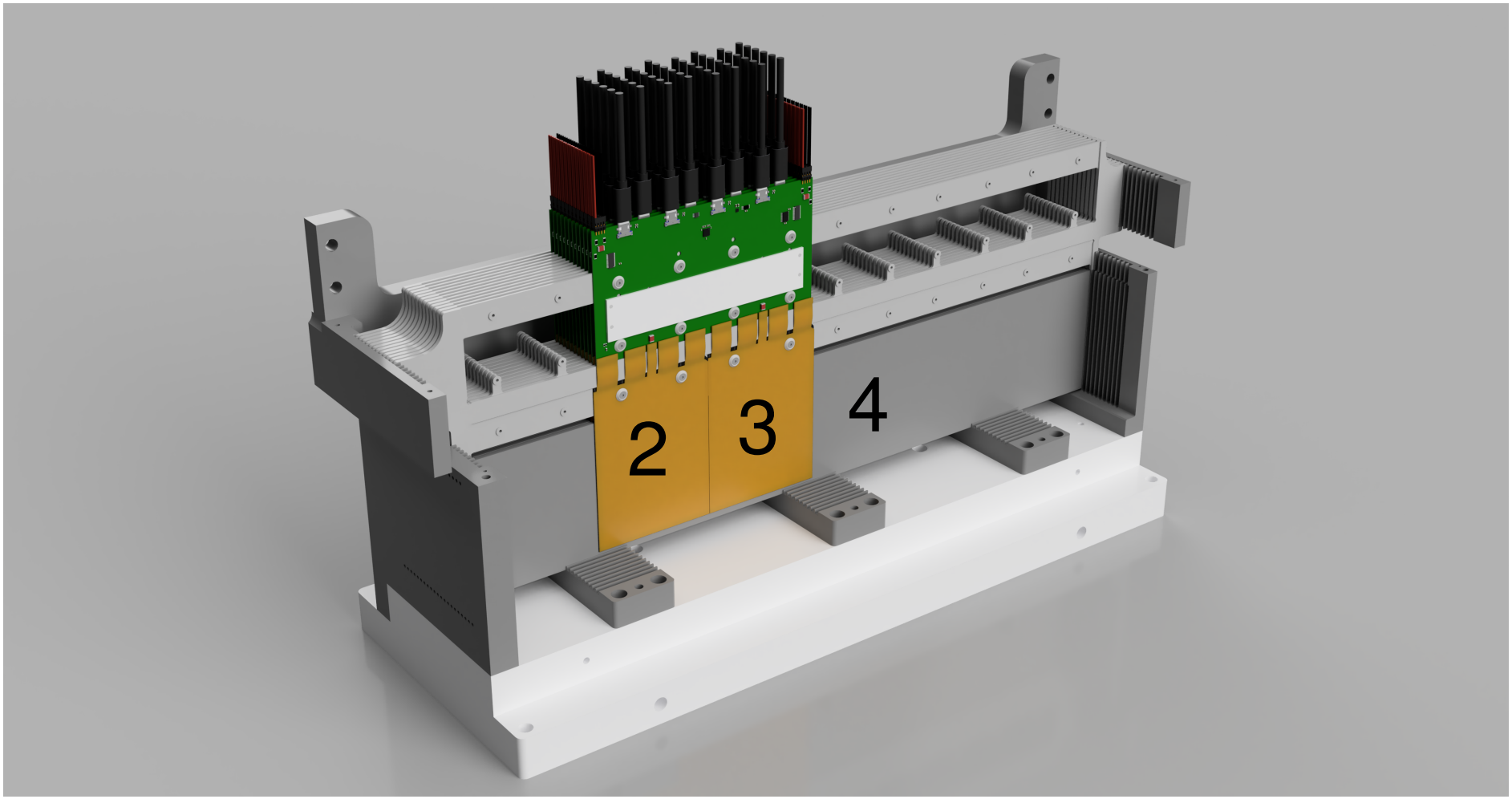
Rotary Table

- old but in good shape :), load $>$ 50 kg

Rotary Table

- resolution $\sim$ 0.5 [deg] (manual wrt the scale),
  can be better with laser pointer alignment wrt the mirror ?

Test Beam configuration as discussed at DESY in Feb'25

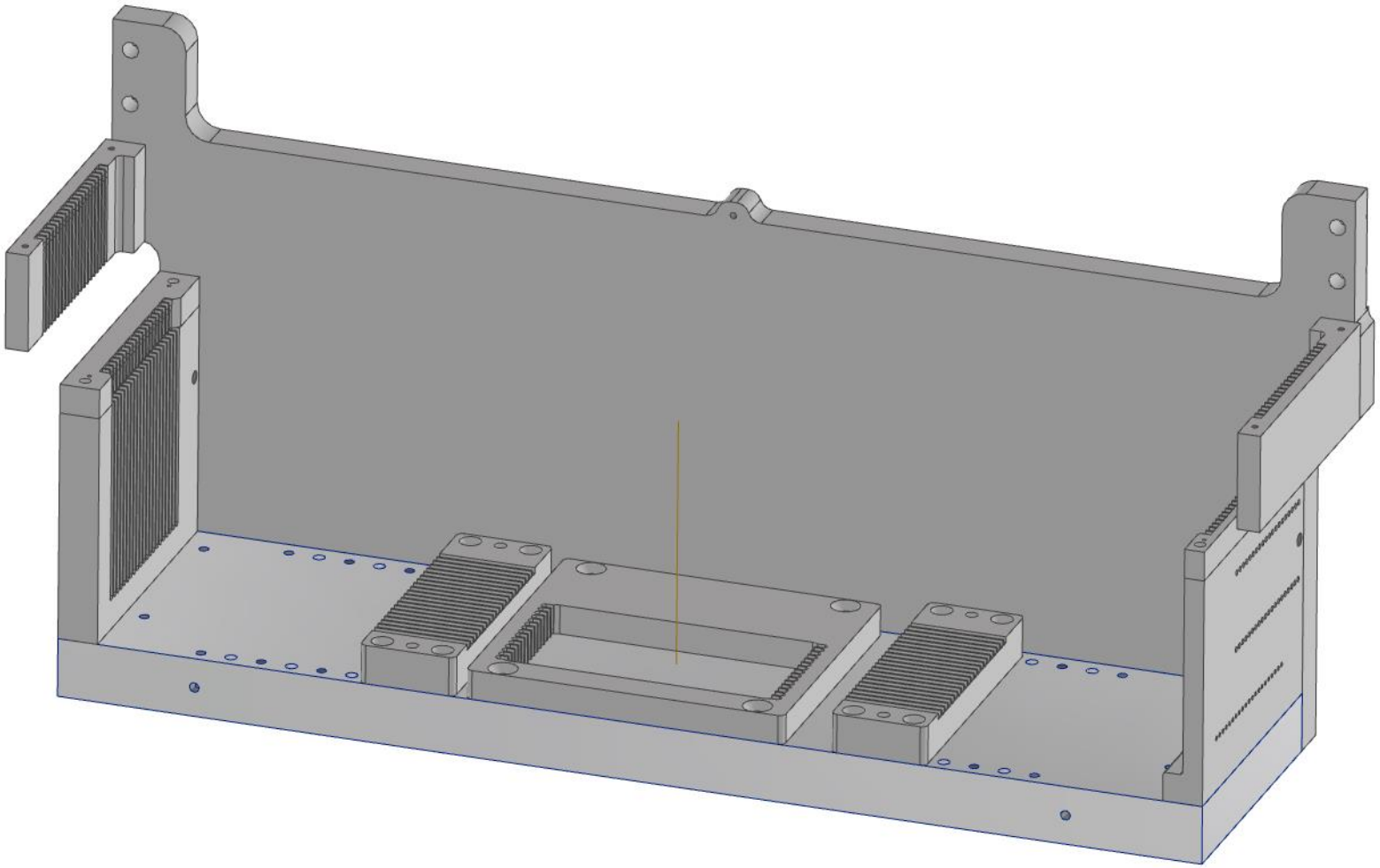


- Sensors at positions (2,3) to be shifted to (3,4) at the center on rotation axis (accepted by Jakub)

Old FCAL Tungsten Plates (14×14 cm^2)

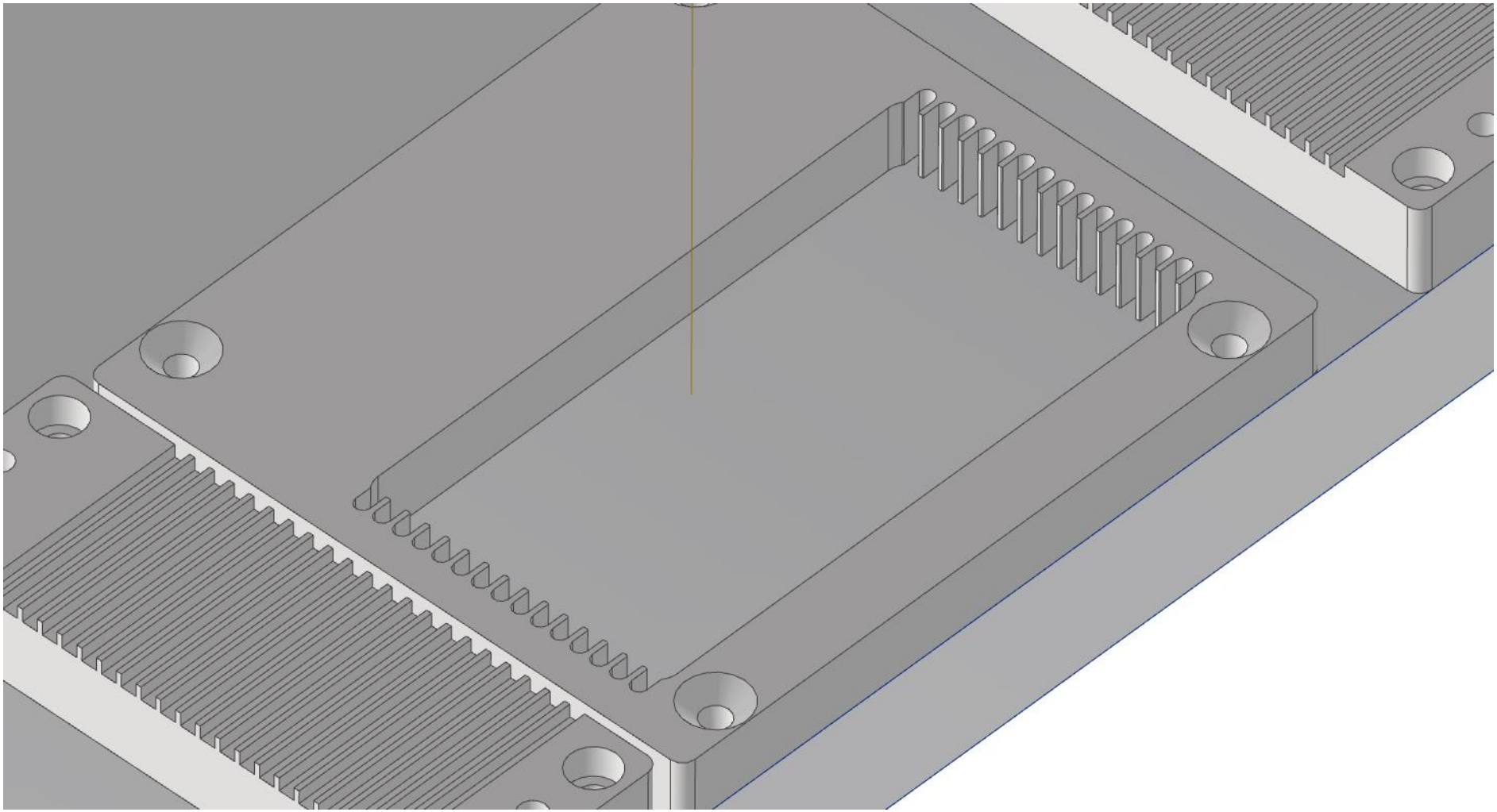
- 6 plates removed from permaglass frames and cleaned (Z=3.52 mm)
- still pending cutting test to 100 mm Y-height

Old FCAL Tungsten Support



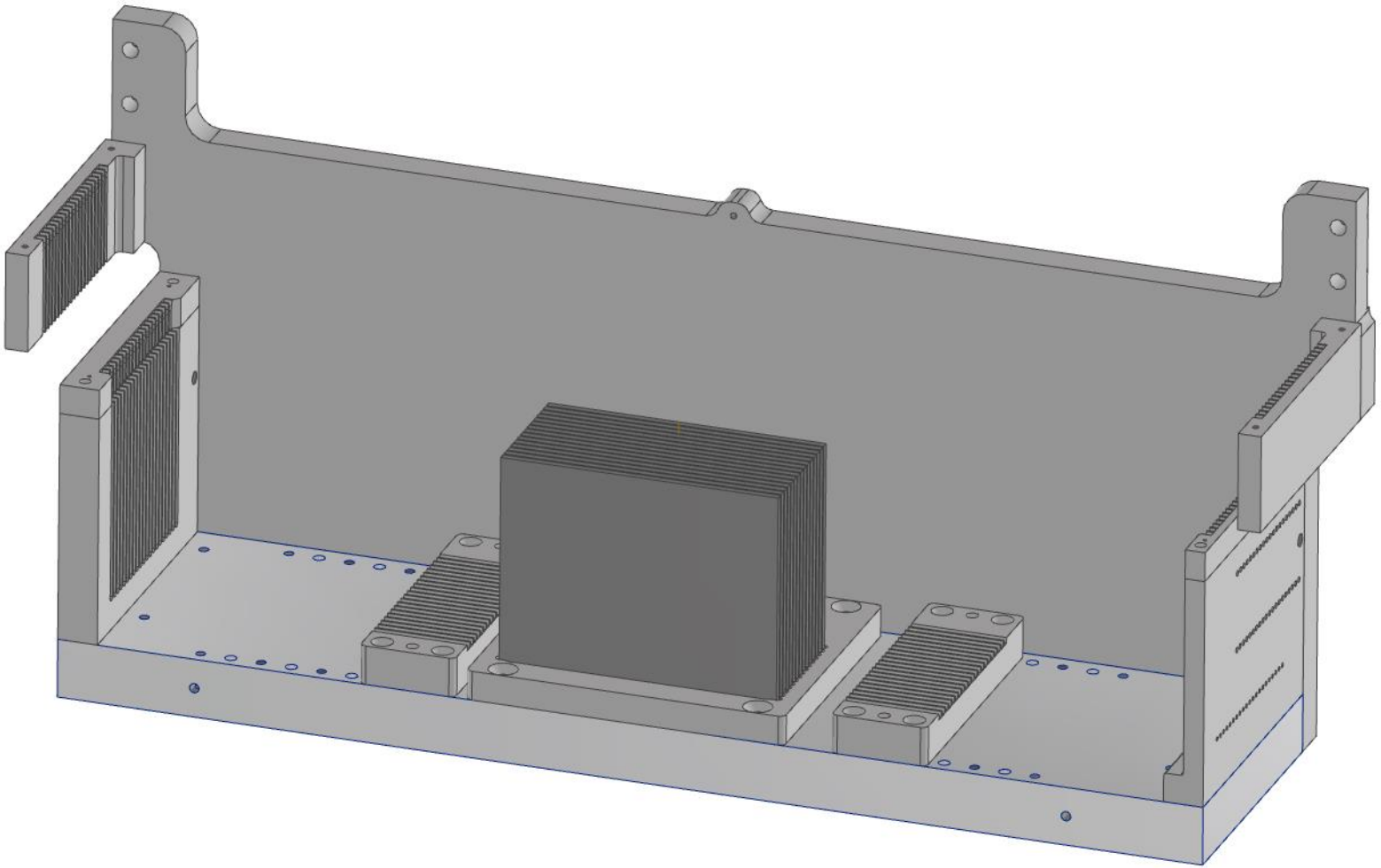
- for TB setup nominal combs shifted towards ECAL-P center
- new combs for OLD FCAL tungsten added in the middle

Old FCAL Tungsten Support (zoom)



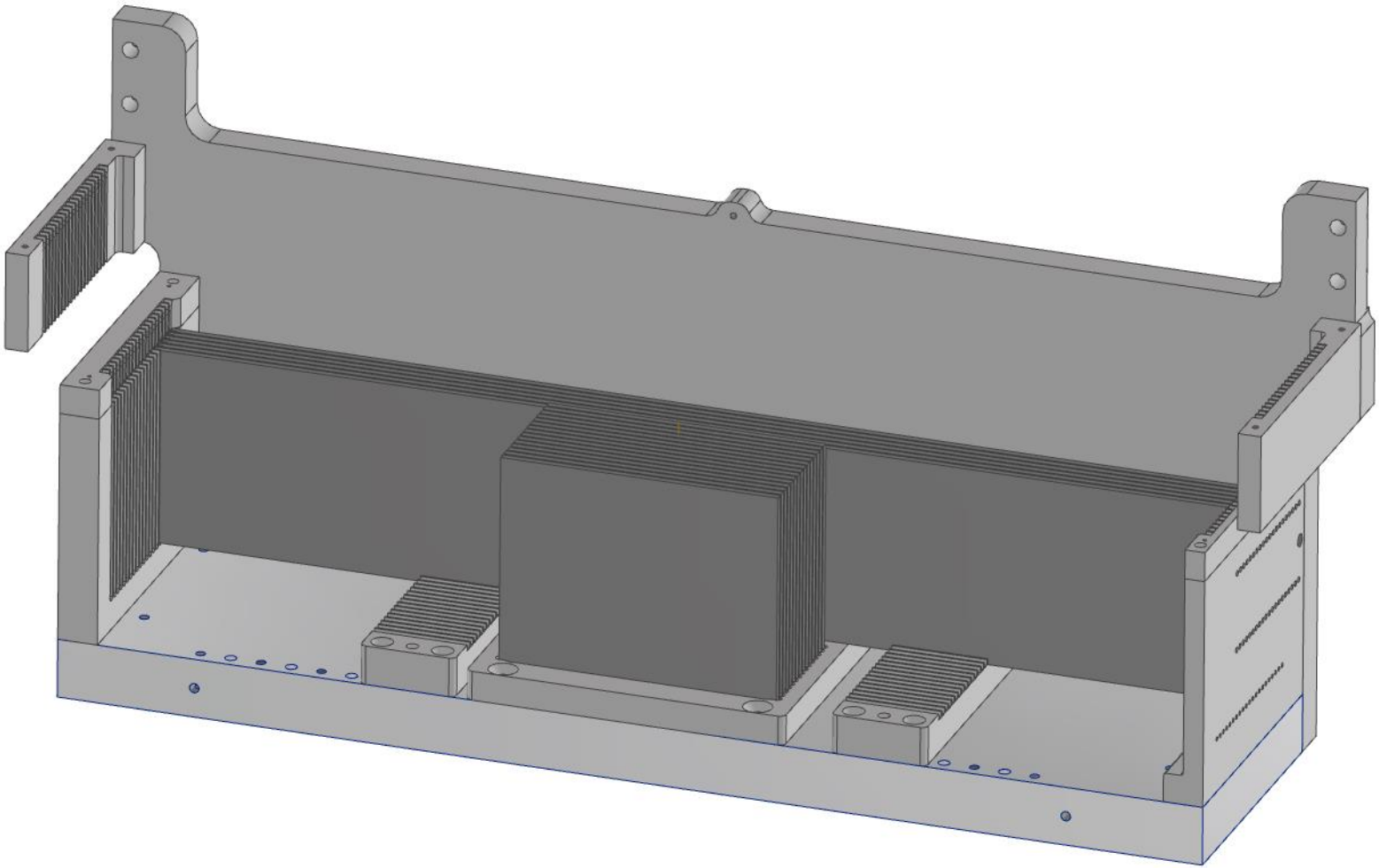
- for TB setup nominal combs shifted towards ECAL-P center
- new combs for OLD FCAL tungsten added in the middle
- longer ribs - no extra side support needed

Old FCAL Tungsten Support



- for TB setup nominal combs shifted towards ECAL-P center
- **OLD tungsten shifted by** 11 **mm left** $\rightarrow$ **Si sensor coverage**
- NOTE: on the drawing all old tungsten plates are cut to 100 mm height

Old FCAL Tungsten plus nominal plates (9 pieces)



- for TB setup nominal combs shifted towards ECAL-P center
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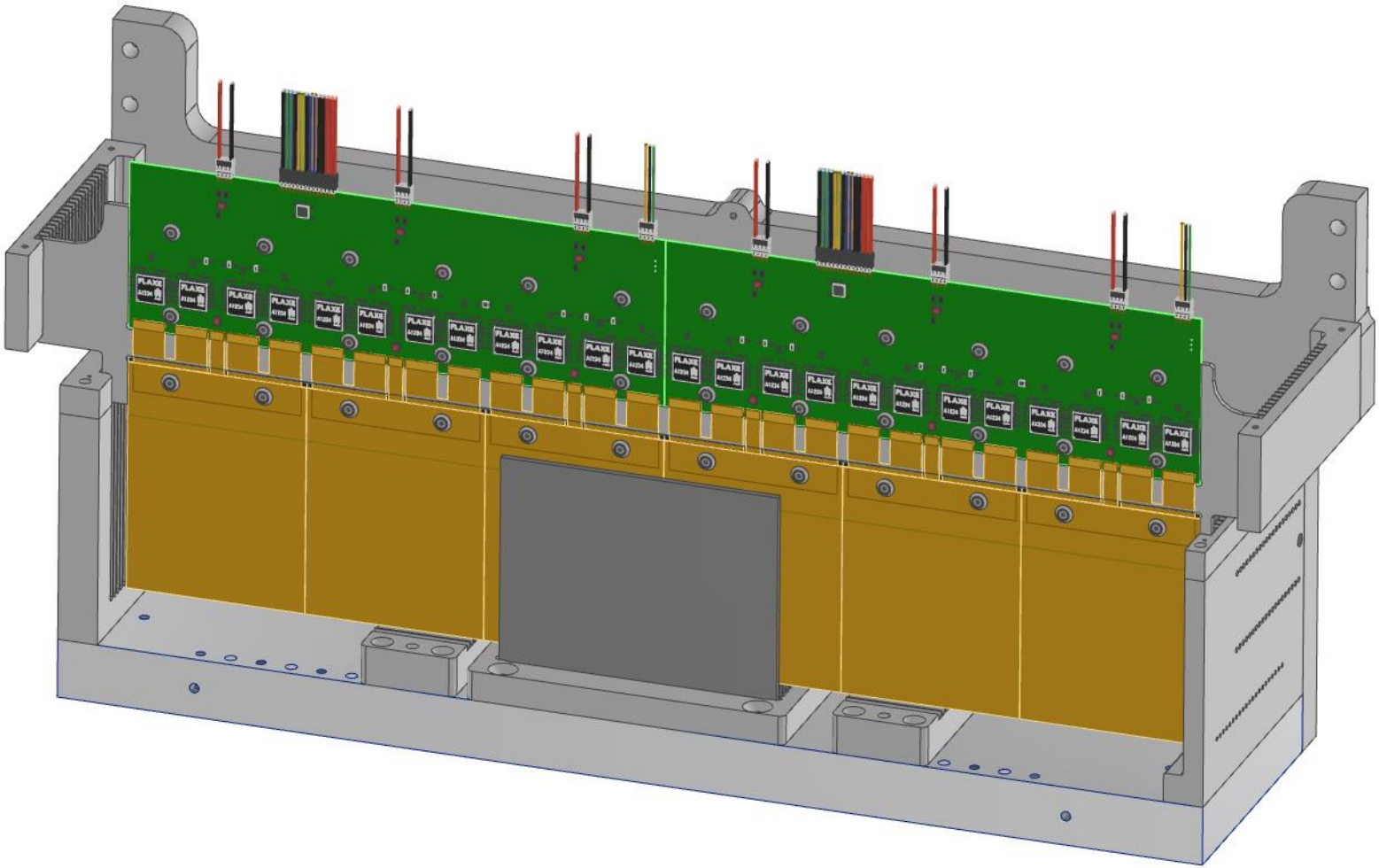
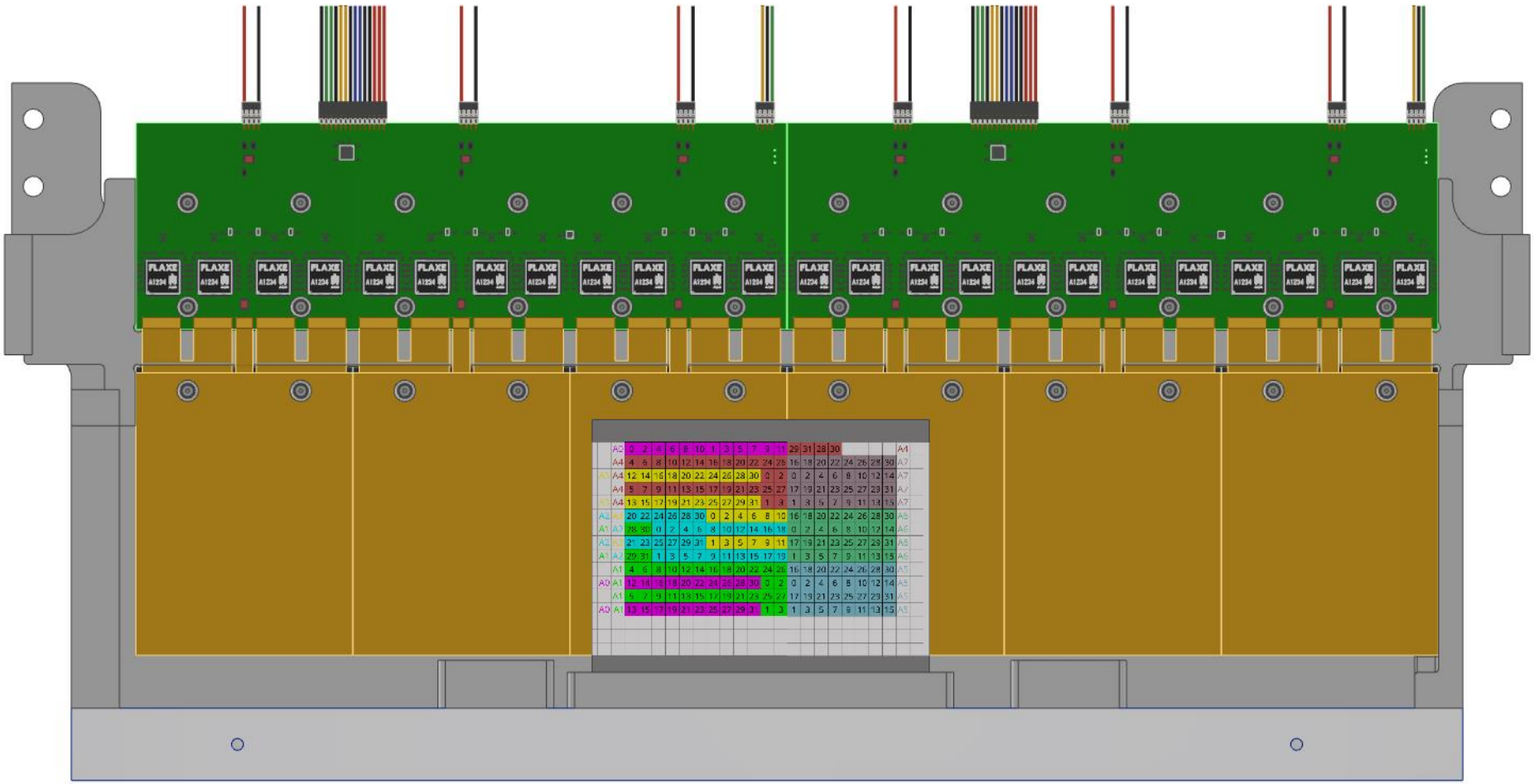
- NOTE: on the drawing all old tungsten plates are cut to 100 mm height

BACKUP Solution



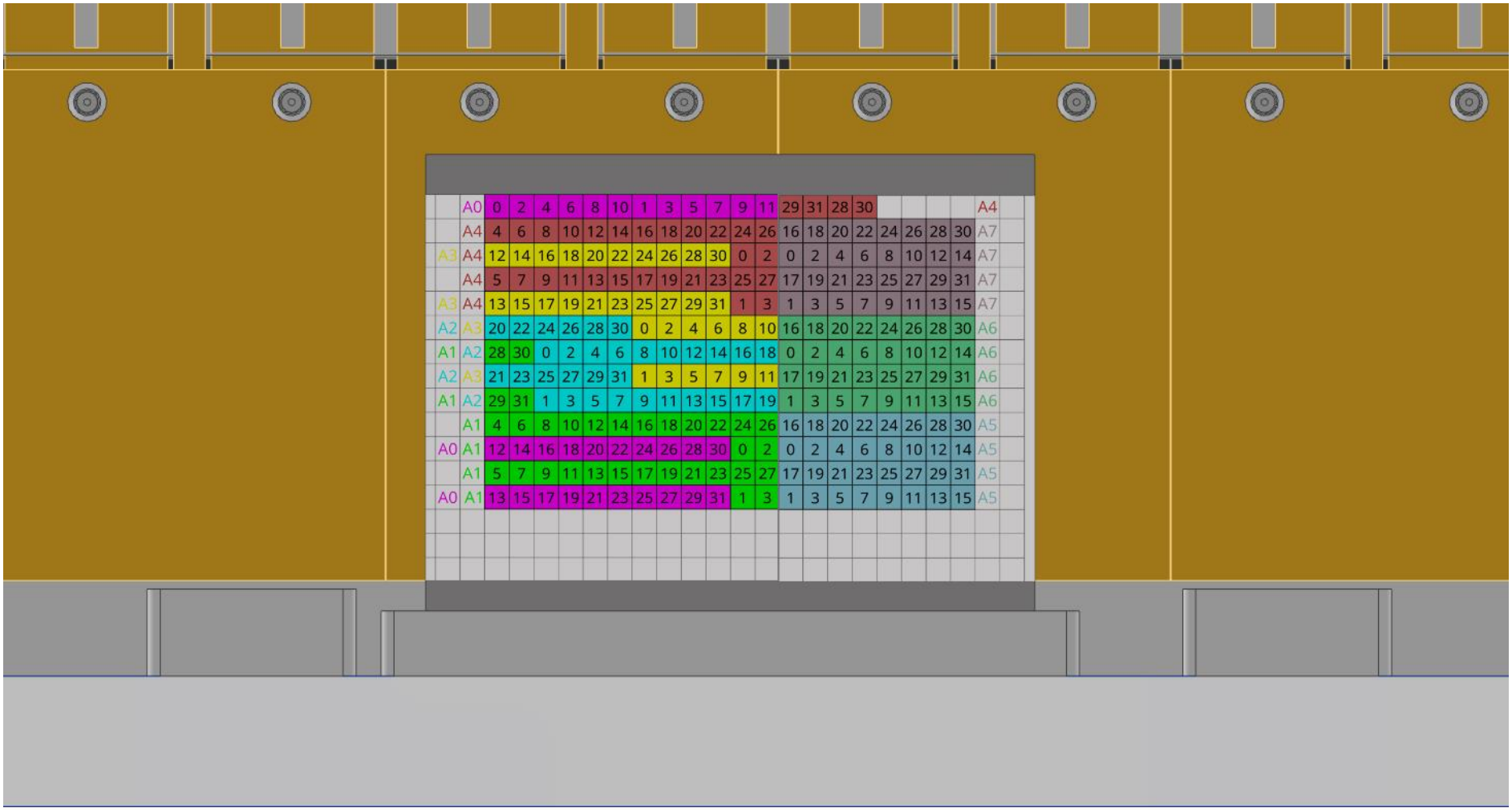
- BACKUP Solution: instrumented planes with old tungsten
- requires cutting more old tungsten plates to 100 mm Y-height

Position of Silicon Sensors



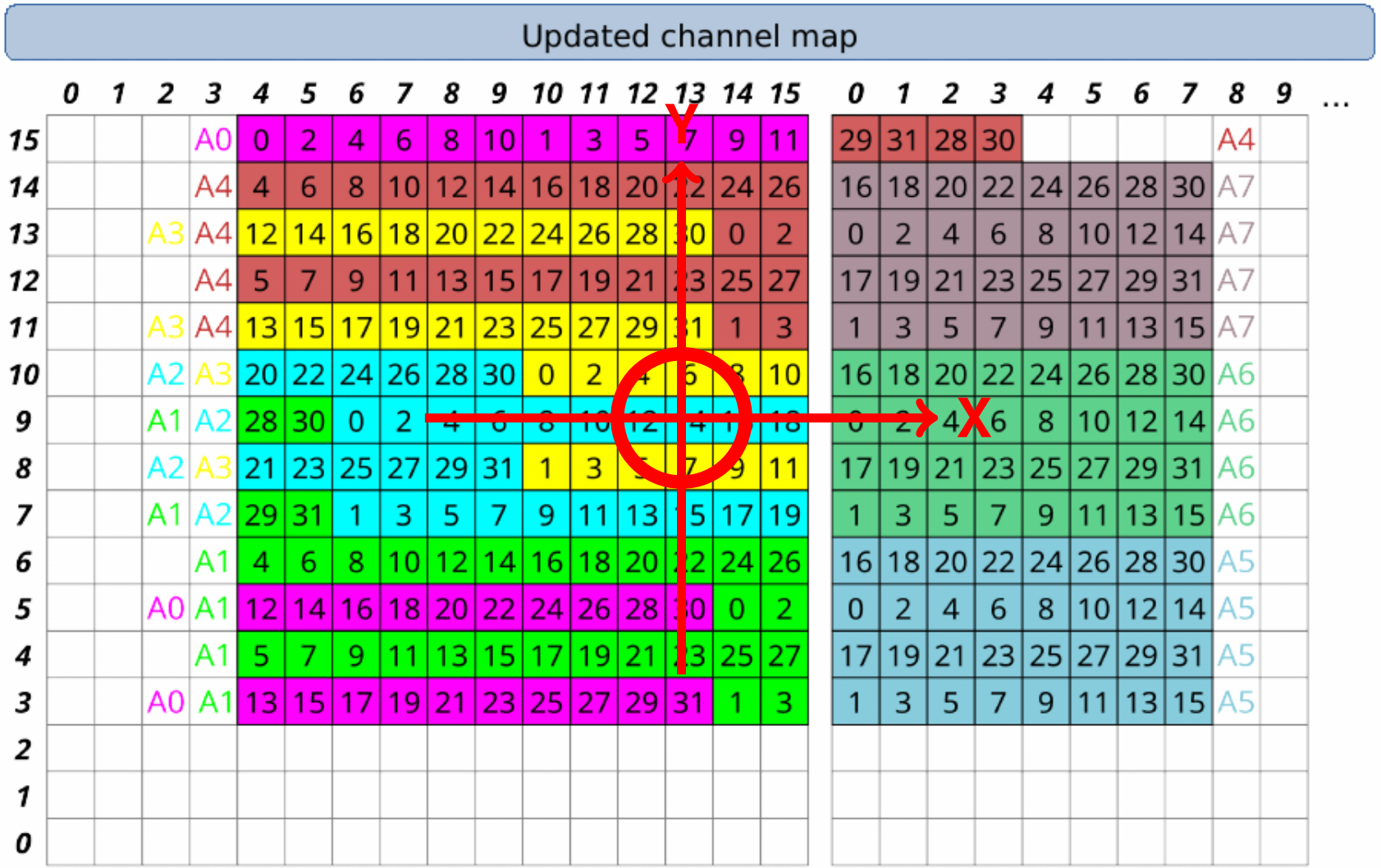
- instrumented part of the TB setup
- **OLD tungsten shifted by** 11 **mm left** $\rightarrow$ **Si sensor coverage**

Position of Silicon Sensors (zoom)



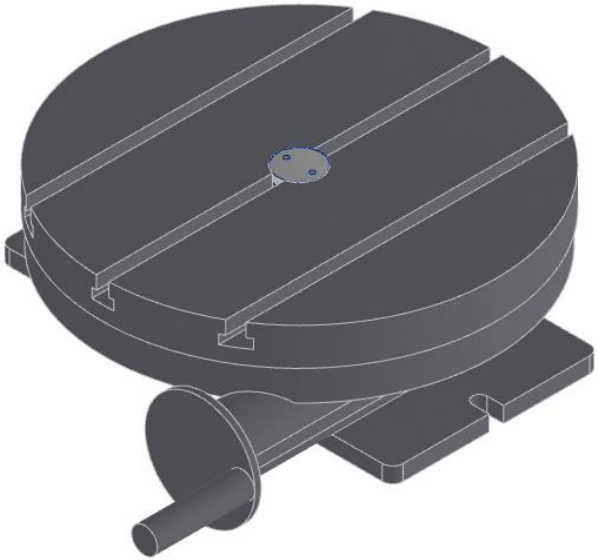
- instrumented part of the TB setup
- **OLD tungsten shifted by** 11 **mm left** $\rightarrow$ **Si sensor coverage**

Channel map for TB 2025: beam aperture



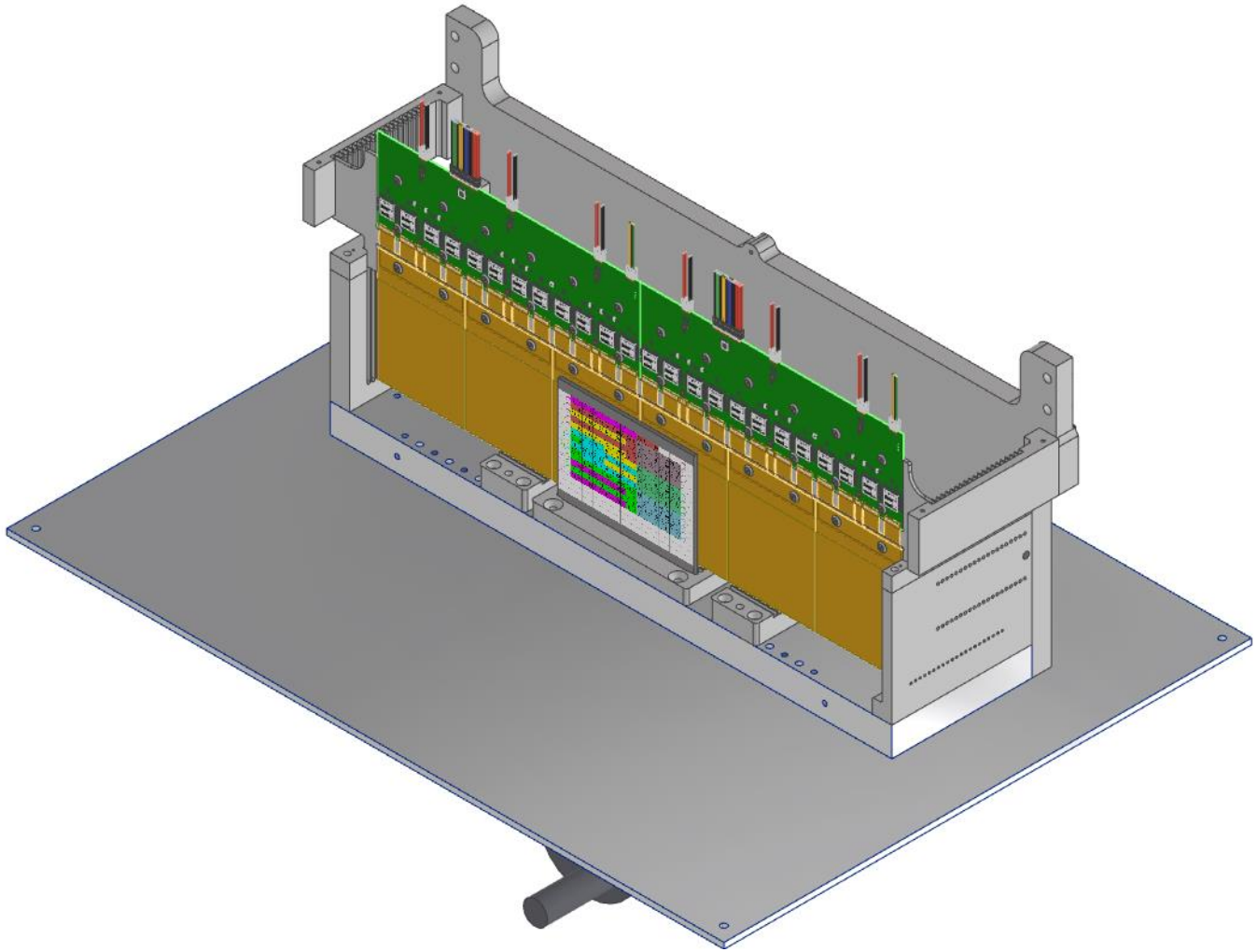
- rotation axis close to geometrical center (decoupling of rotation and translation)
- **rotation axis (||) at first instrumented tungsten plate**

Support plate



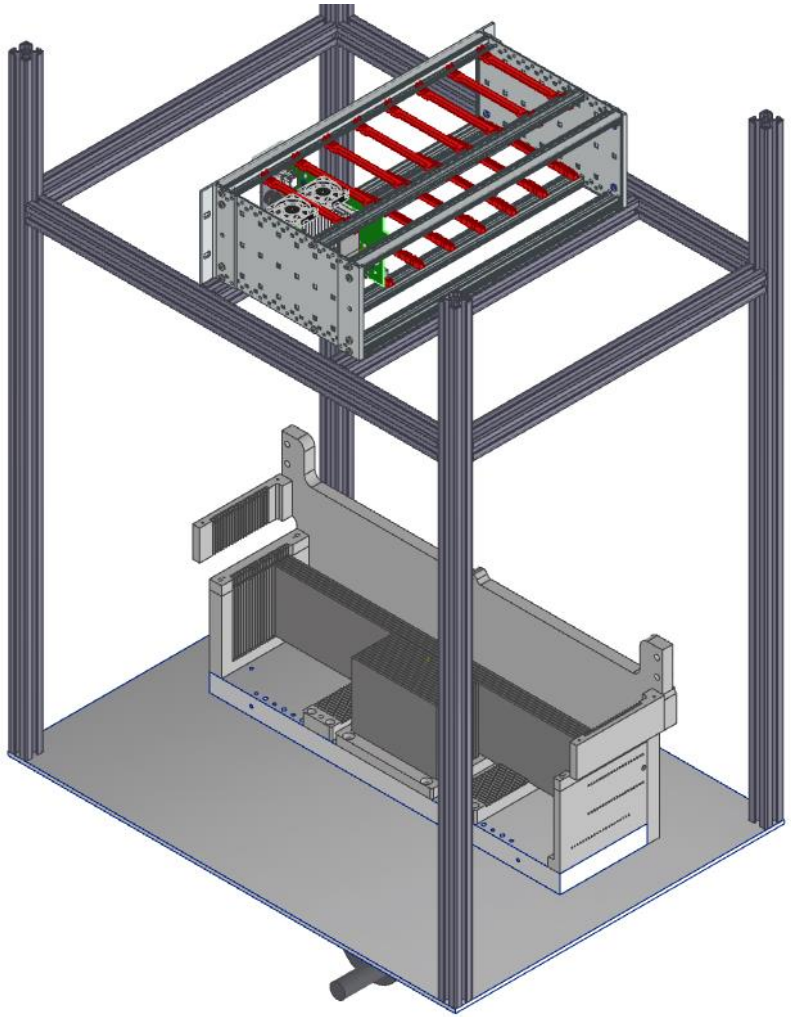
- Additional plate to host ECAL-P on rotary table

Support plate



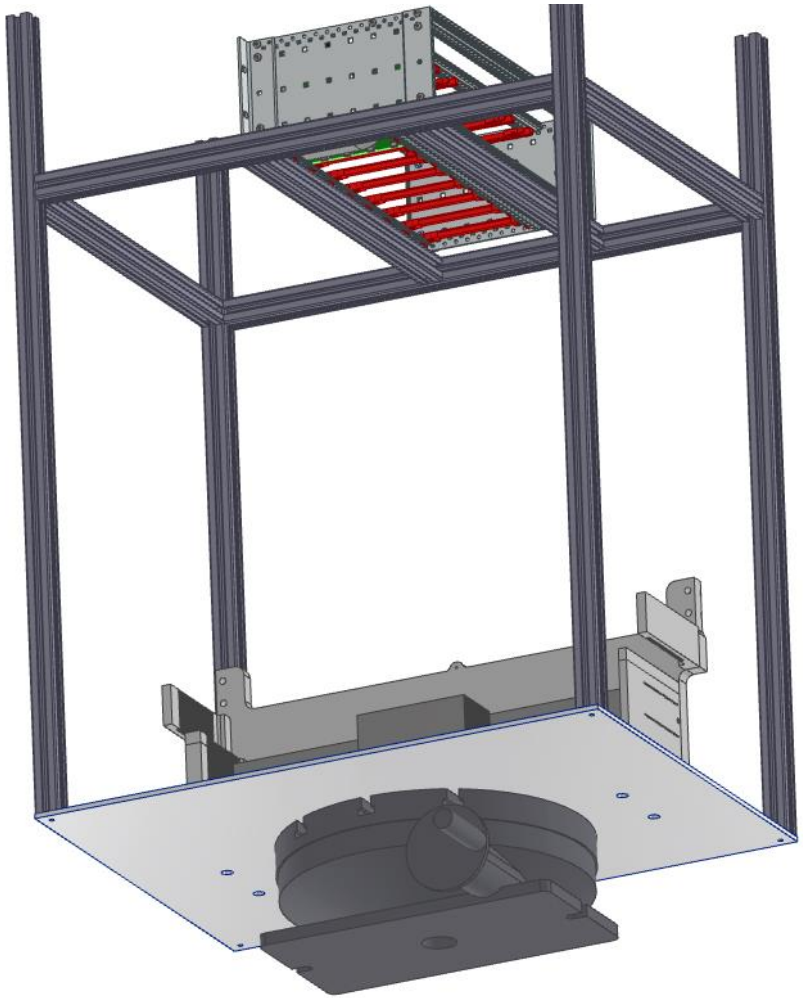
- Support plate with ECAL-P on rotary table
- NOTE: instrumented planes will start from the back plane
- rotation axis at first instrumented plate (close to gravity center of the system)

Support plate + racks scaffolding



- Support plate with ECAL-P and racks scaffolding
- XY dimensions and height to be adjusted
- **TBD: Faraday Cage and cables routing (light tight throughput) + beam window**

Support plate + racks scaffolding



- Support plate with ECAL-P and racks scaffolding
- **additional insulating plane at the bottom is also needed**