Simulation & Analysis

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Intro

- Reminder - the task list is here: https://docs.google.com/spreadsheets/d/1AF-xwGeFp82kyoWOxKFTG2BKsnVtU2vJ5BAcjEvJzIk/edit?usp=sharing

- Suggest to dedicate the next ~4-6 meetings to discuss 2 burning topics:
  1. **Decision on the vacuum chamber of the IP detectors: yes/no/how?**
     - see next slides or the meeting from 22/10/2020
     - all relevant subsystems should think if it is possible or completely not and come up with an educated recommendation for this discussion
  2. **General engineering review of all elements:**
     - I can have Benny & Oz to do that with us (can we have someone from DESY?)
     - probably should be split into 2 sessions
  3. **Collective definition of the EDM and GEANT4 output format**
  4. **ICS looks very promising (see fig 5.8 in the CDR):**
     - need another technical discussion (simulation and technical implementation)

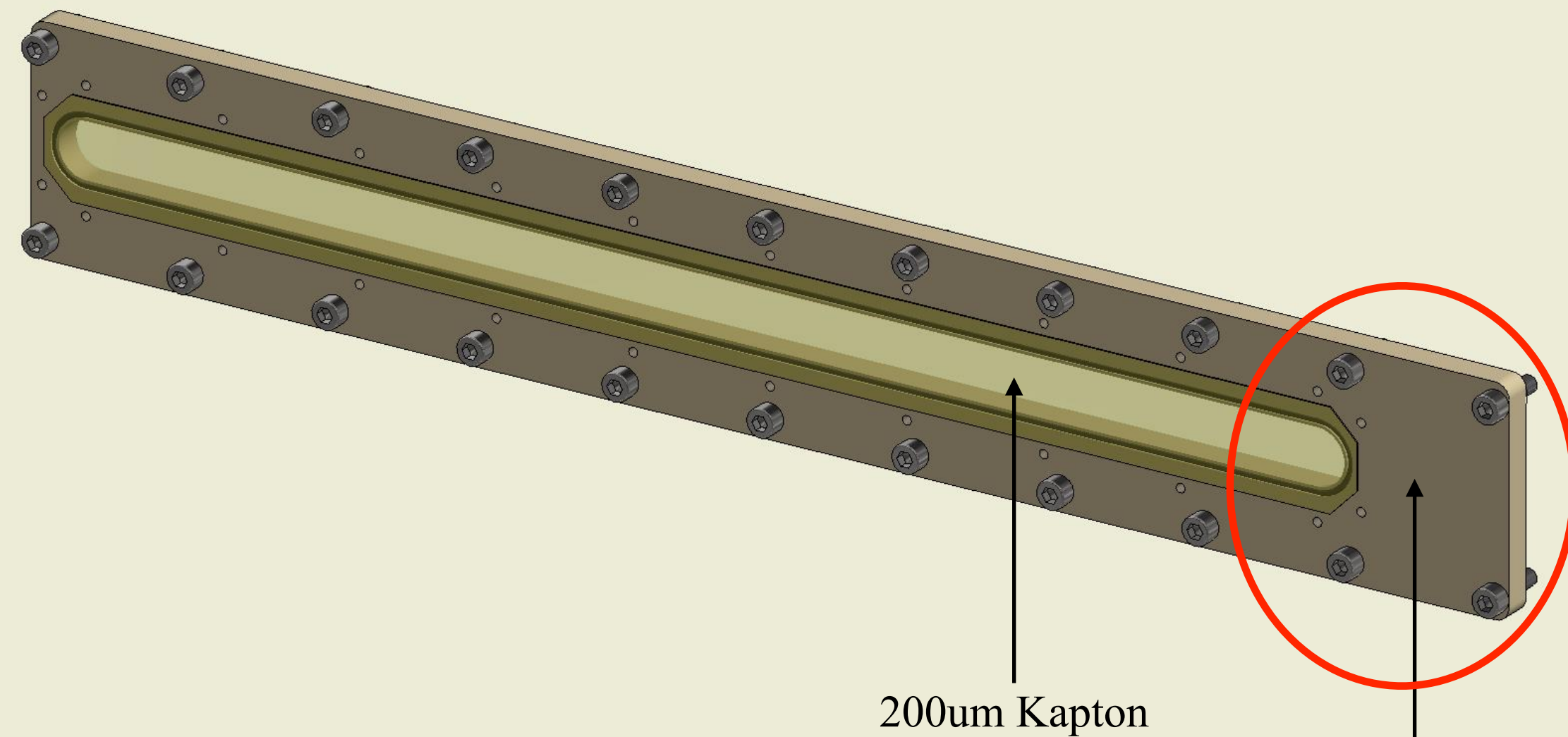- People from all subsystems should be present in all these discussions

Vacuum chamber & exit
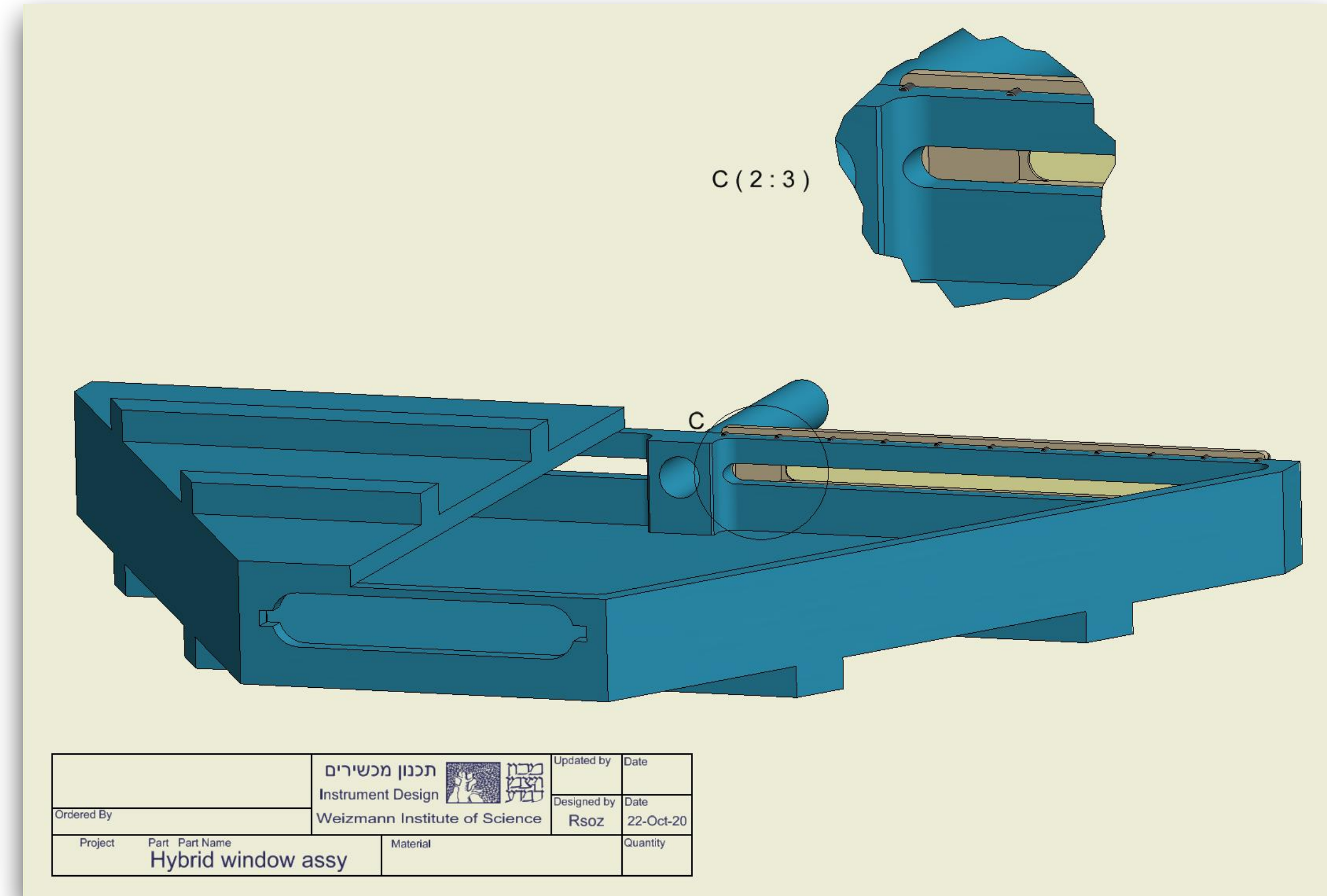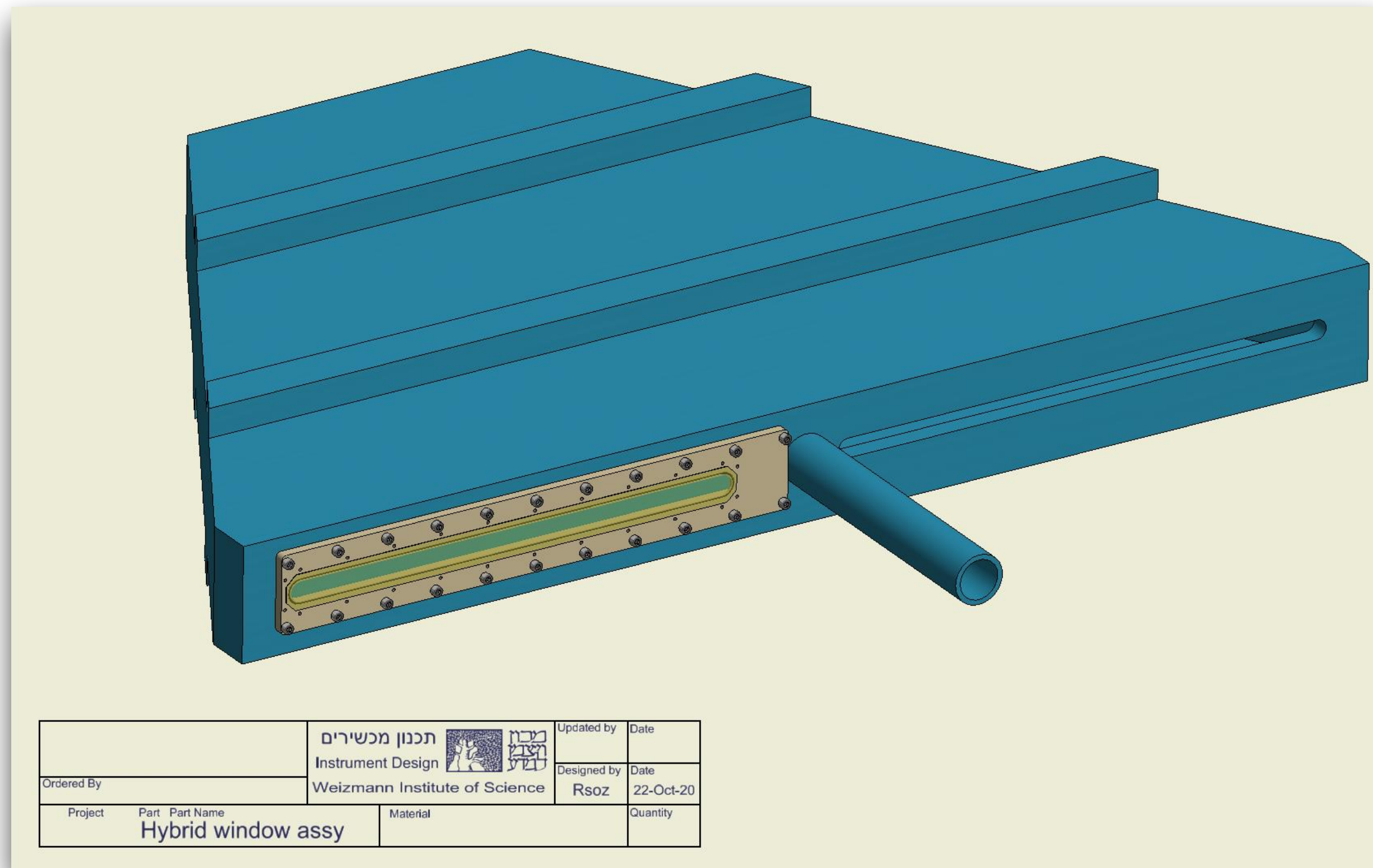
- Aluminium "window bar" attached to the vacuum chamber at its exit
- The window is machined (milled) to 0.5 mm at the part close to the beampipe
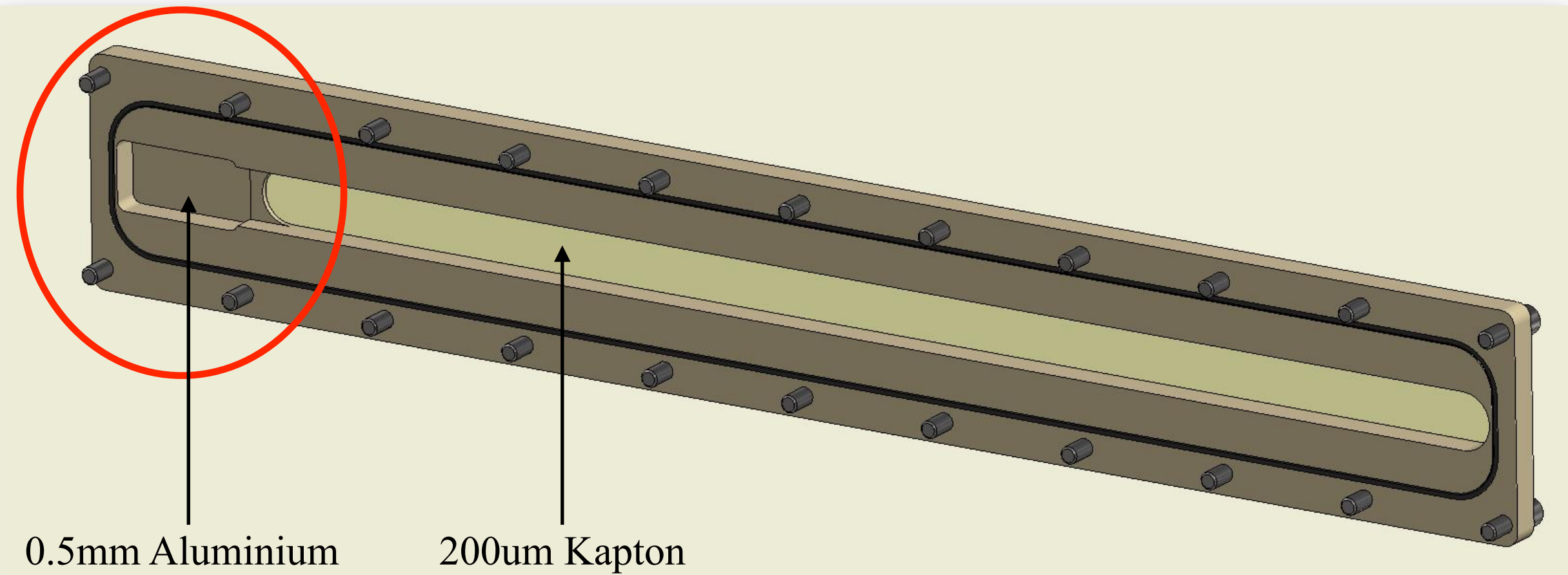- The rest is continued 200um Kapton

The window bar

front view

back view

200um Kapton

0.5mm Aluminium

0.5mm Aluminium

200um Kapton

Hybrid window assy

Hybrid window assy

- Not shown here is the part which attaches the Kapton to the Aluminium (but you can see the threads for that)
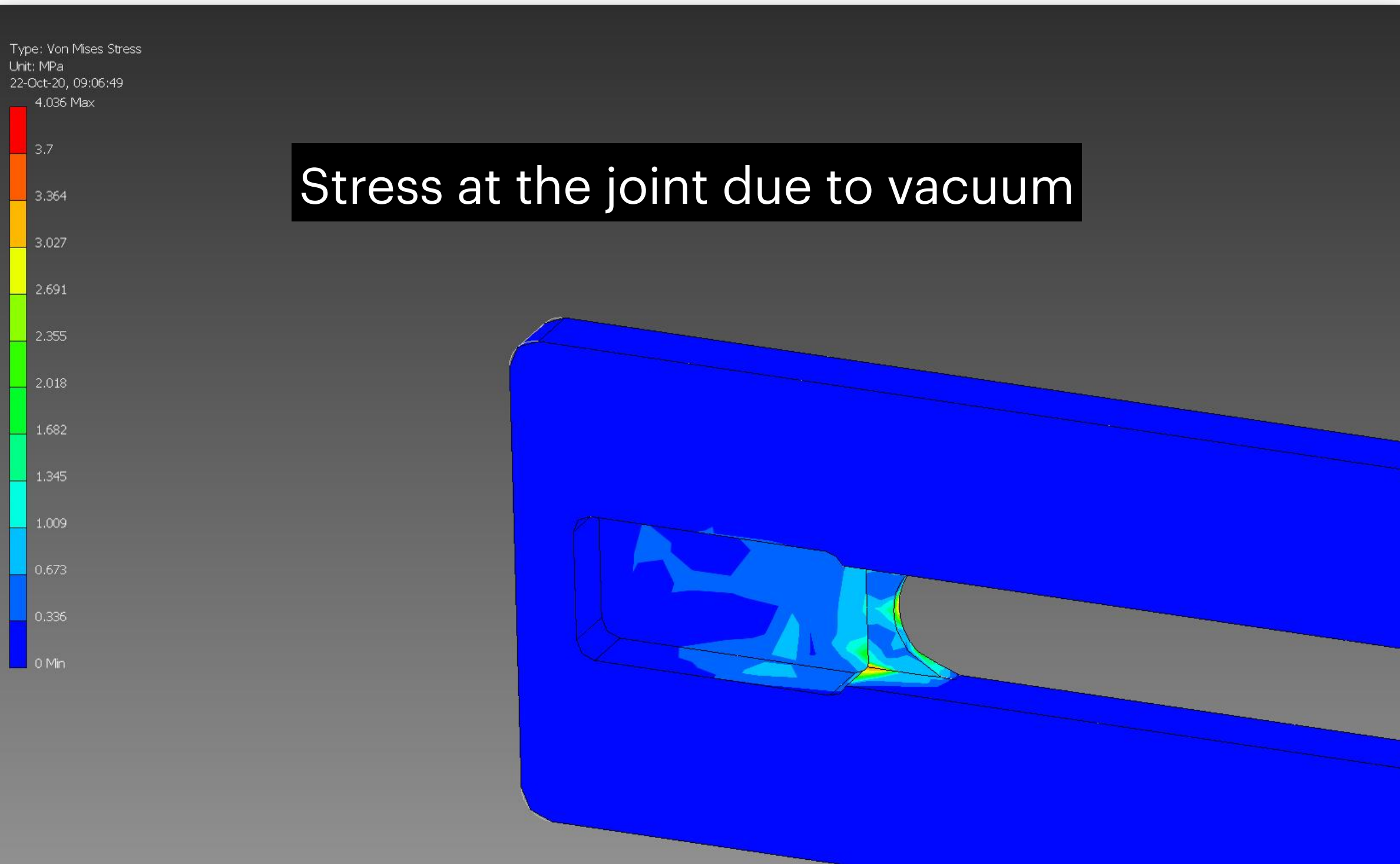
The window bar

- ◉ Aluminium section length is TBD
- ◉ Depending on the B-field and beam energy…
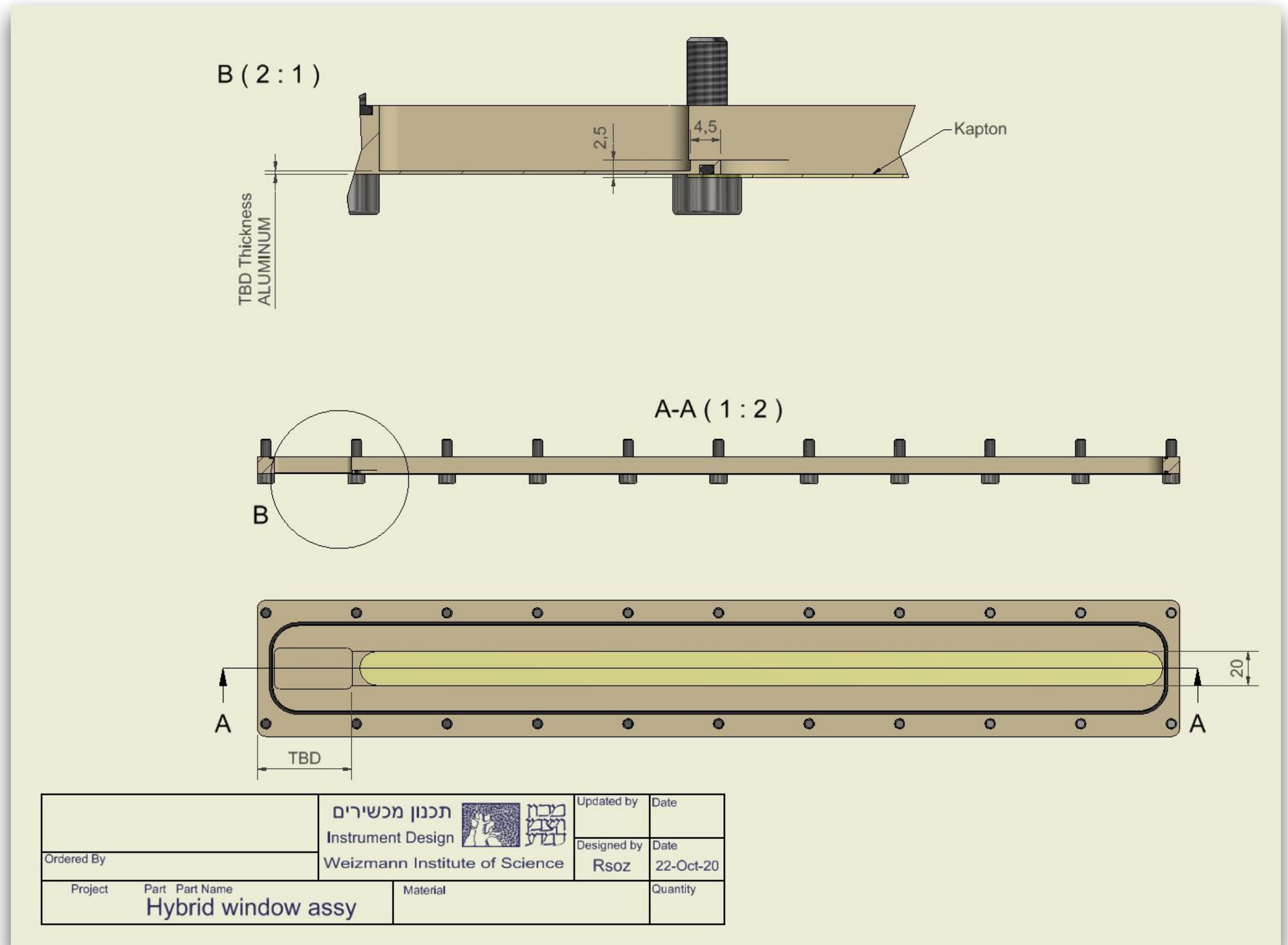
Damage due to vacuum

Stress at the joint due to vacuum

Deformation at the joint due to vacuum