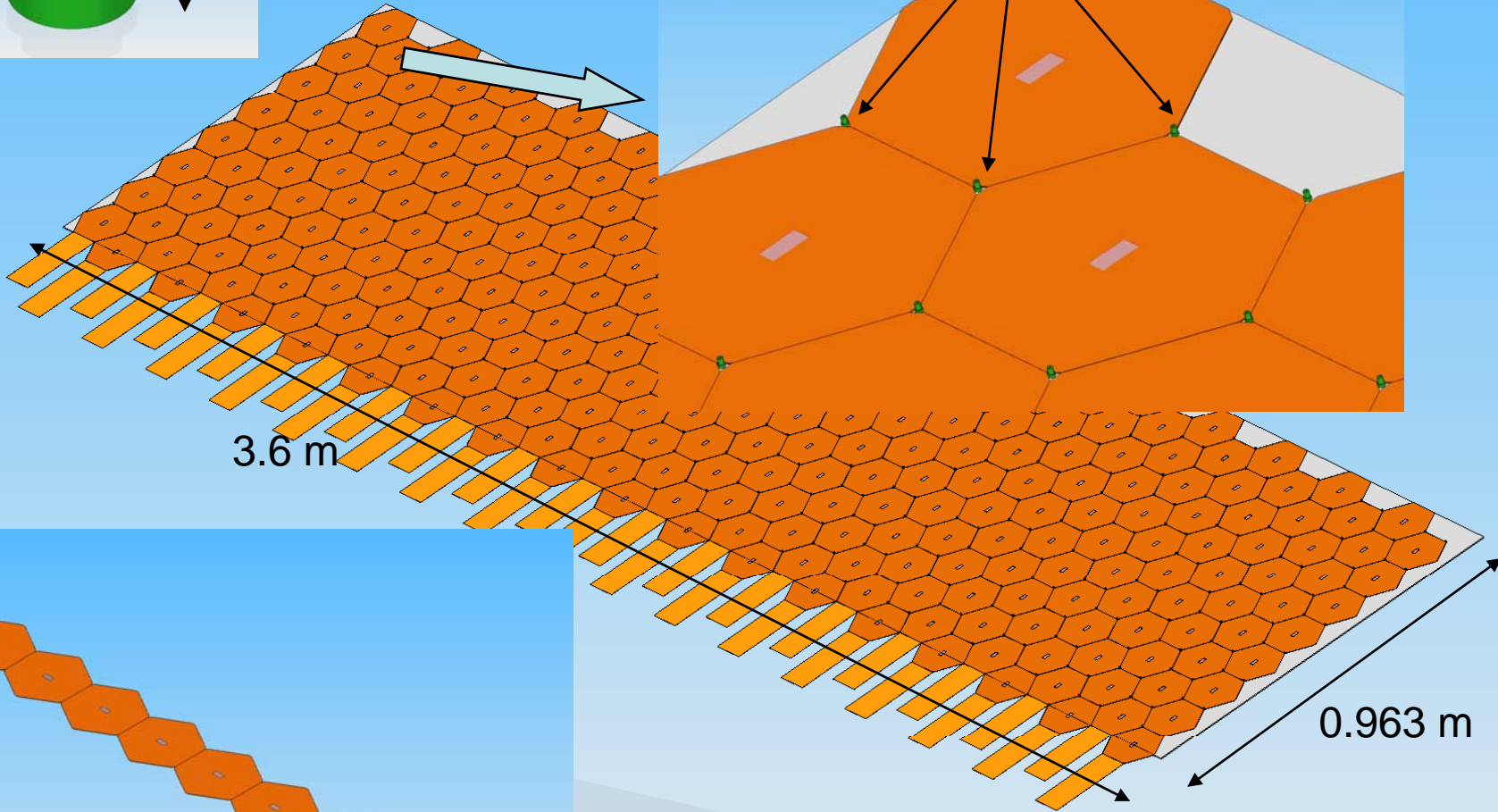




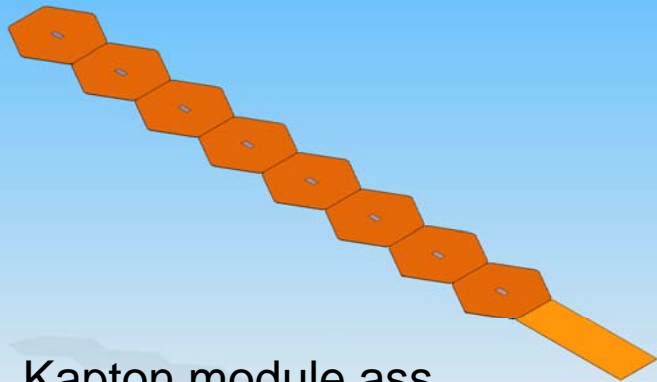
1.25 mm

Spacers for pins

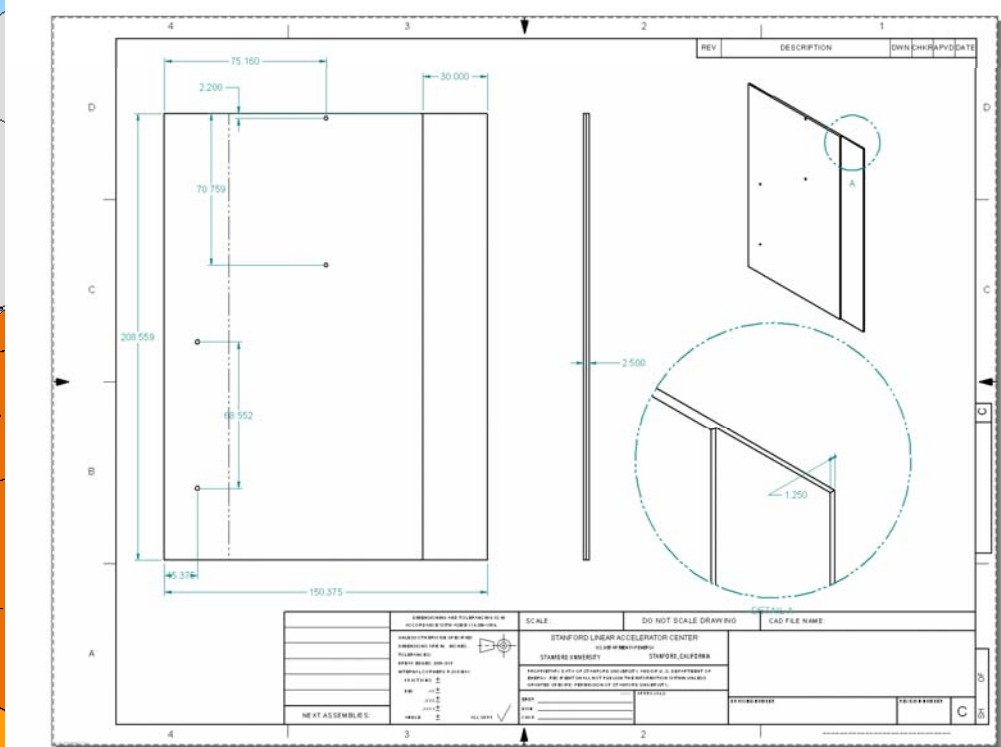
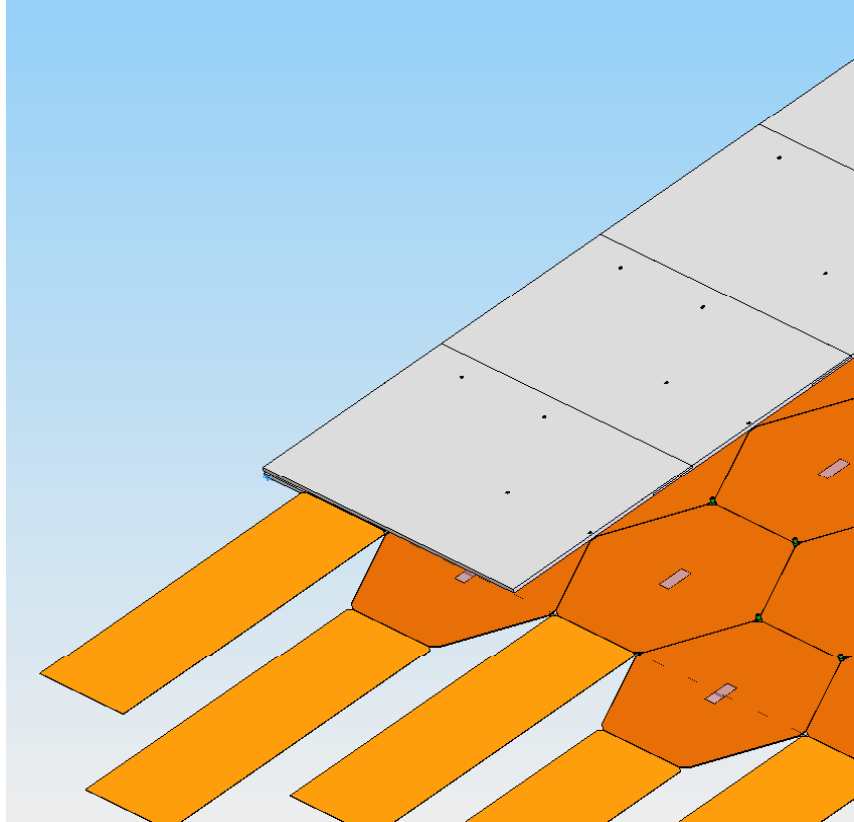
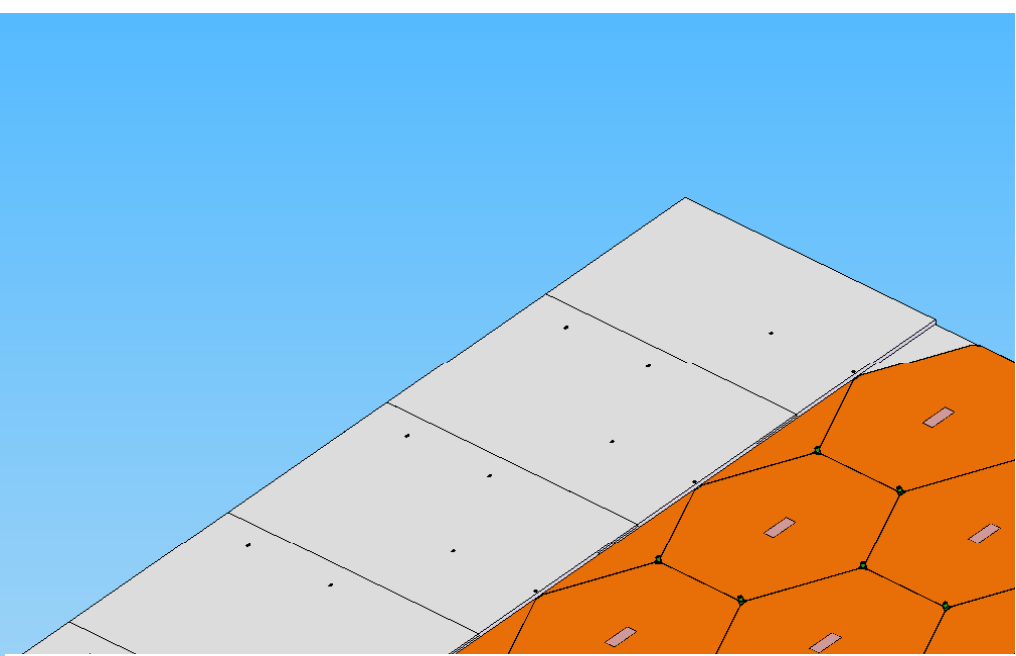
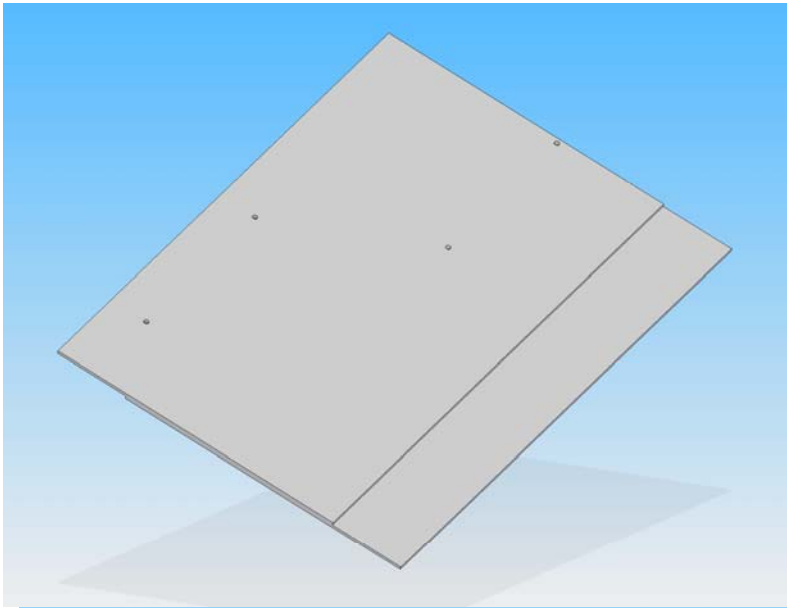


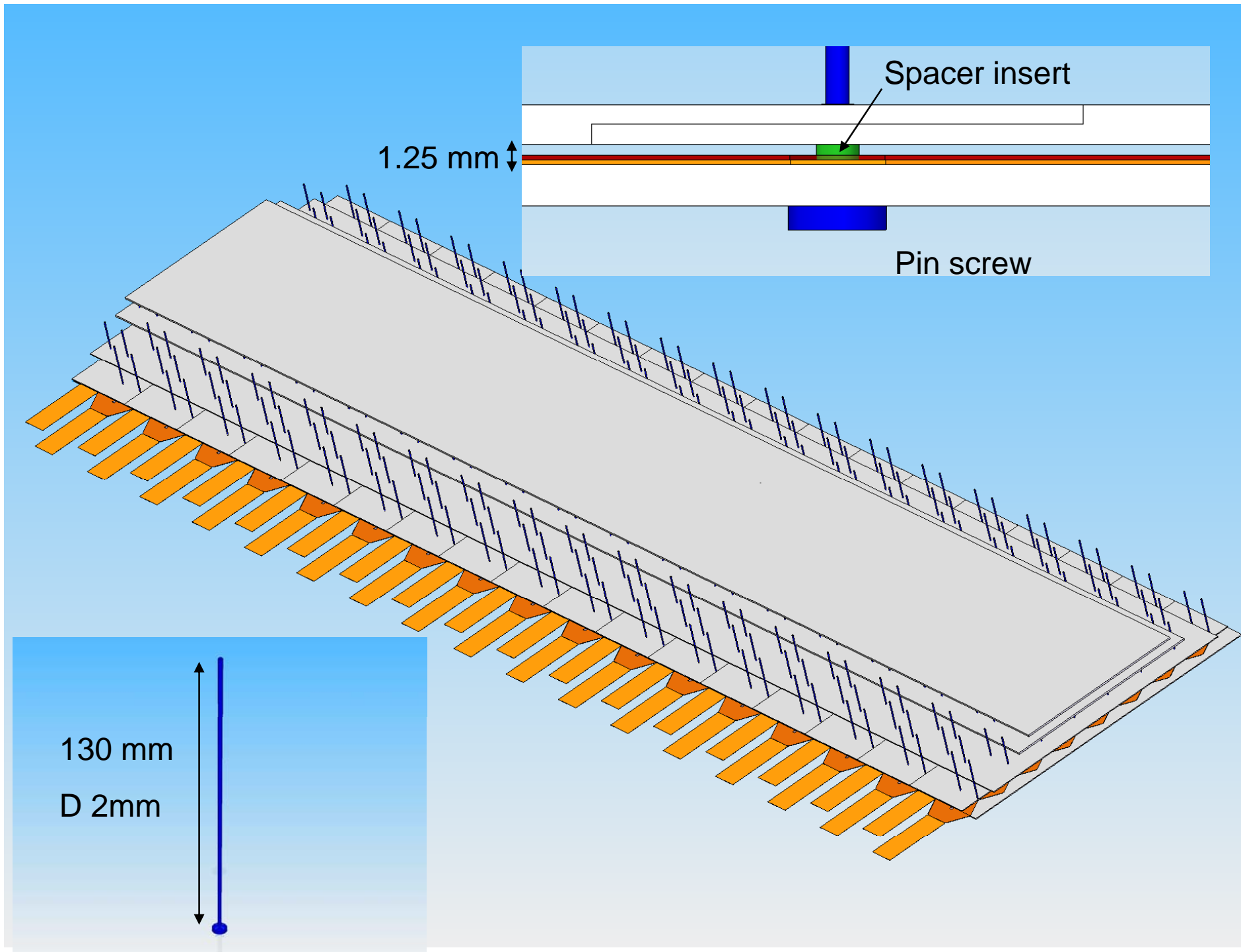
3.6 m

0.963 m



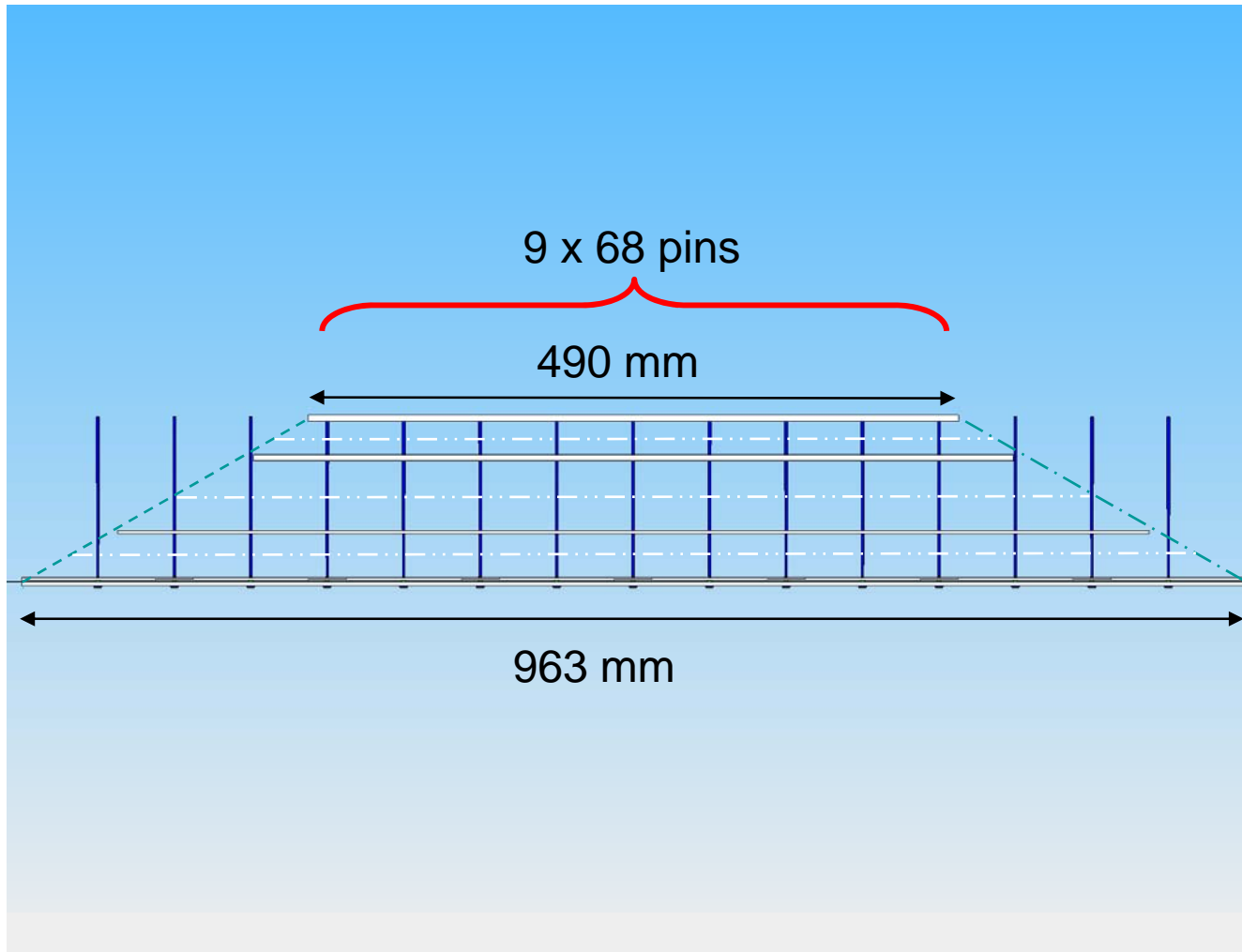
Kapton module ass.





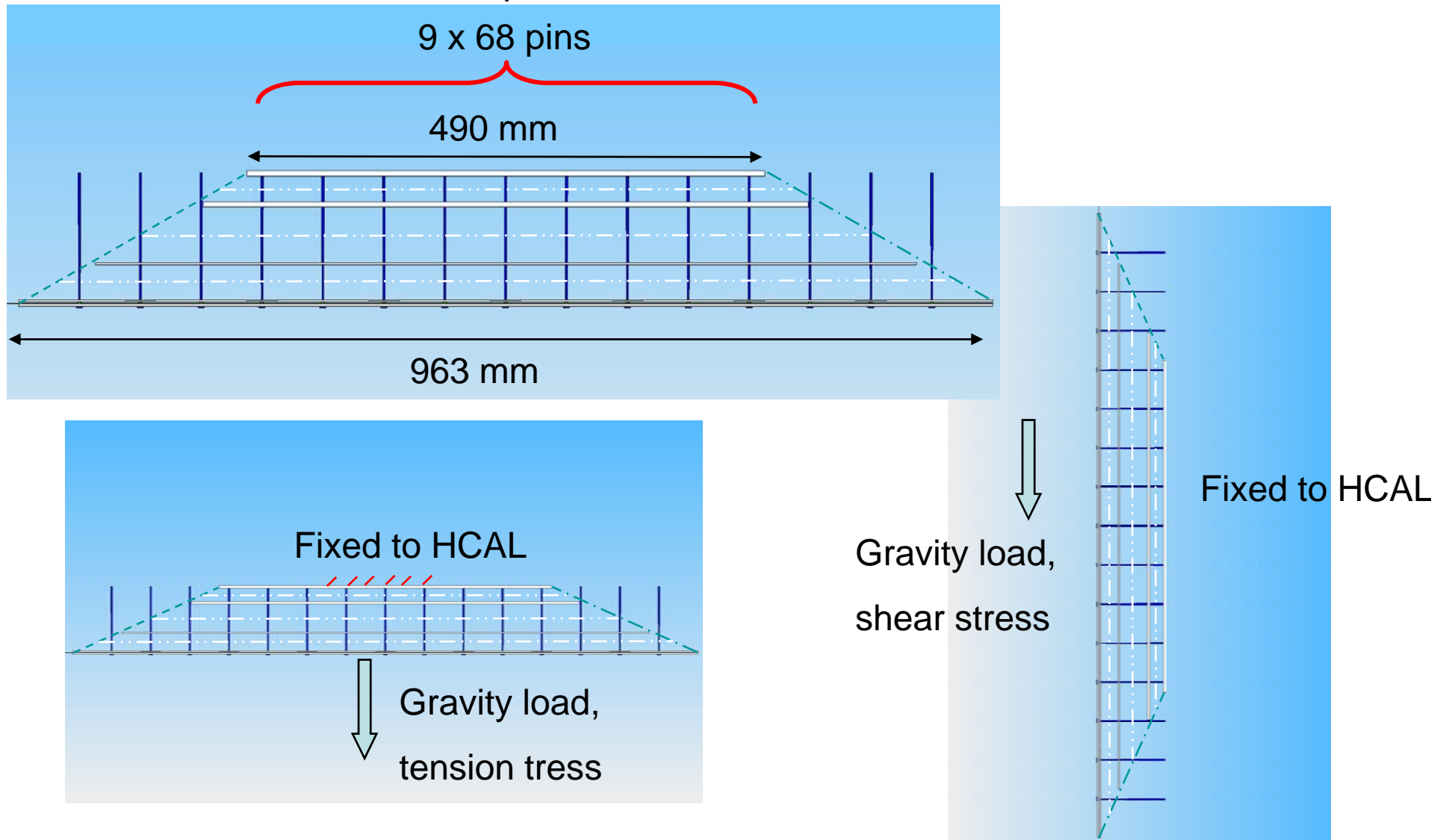
Total weight of one wedge module ~ 5 tons

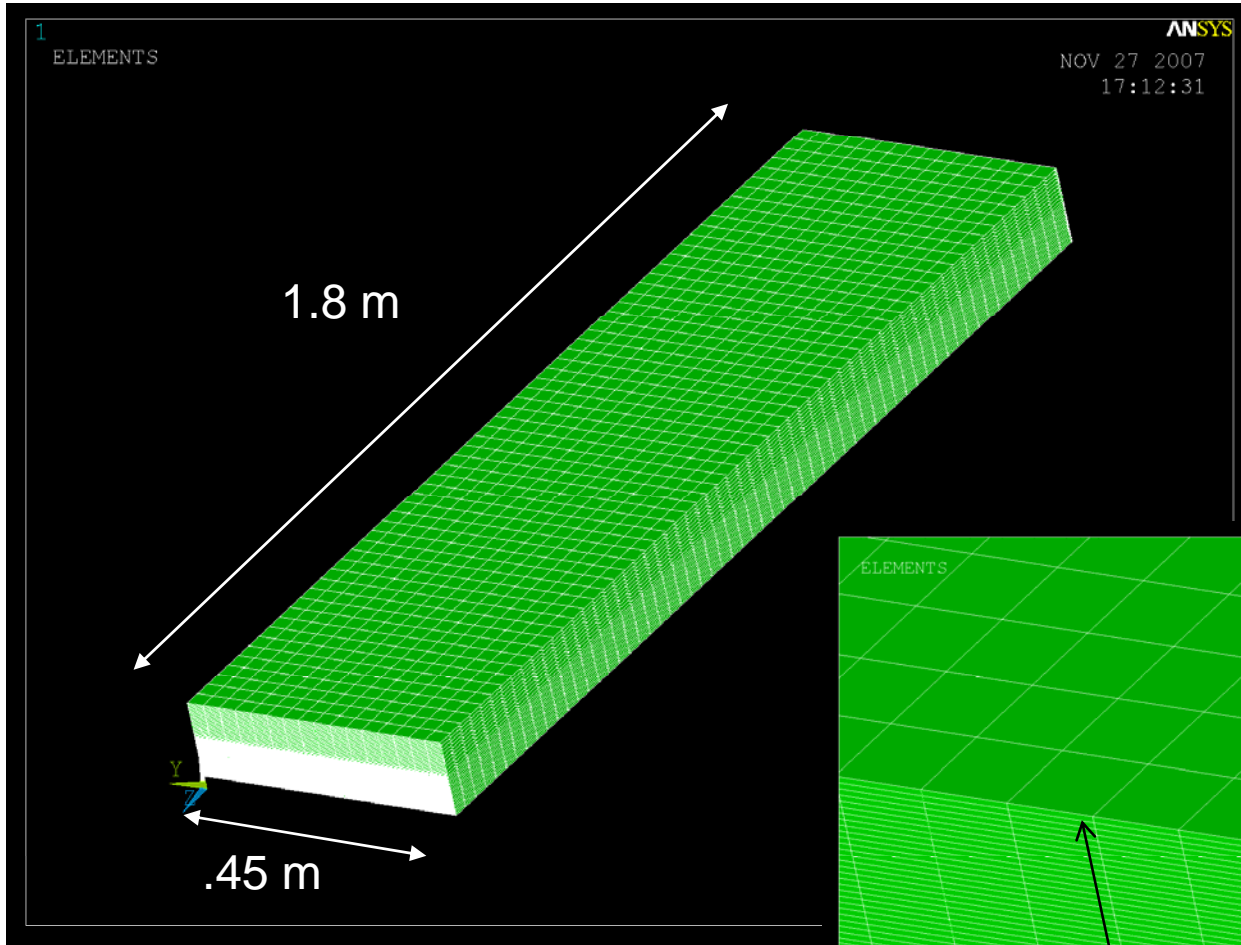
central pins working



Load condition changes according to the orientation of the wedge module in the barrel.

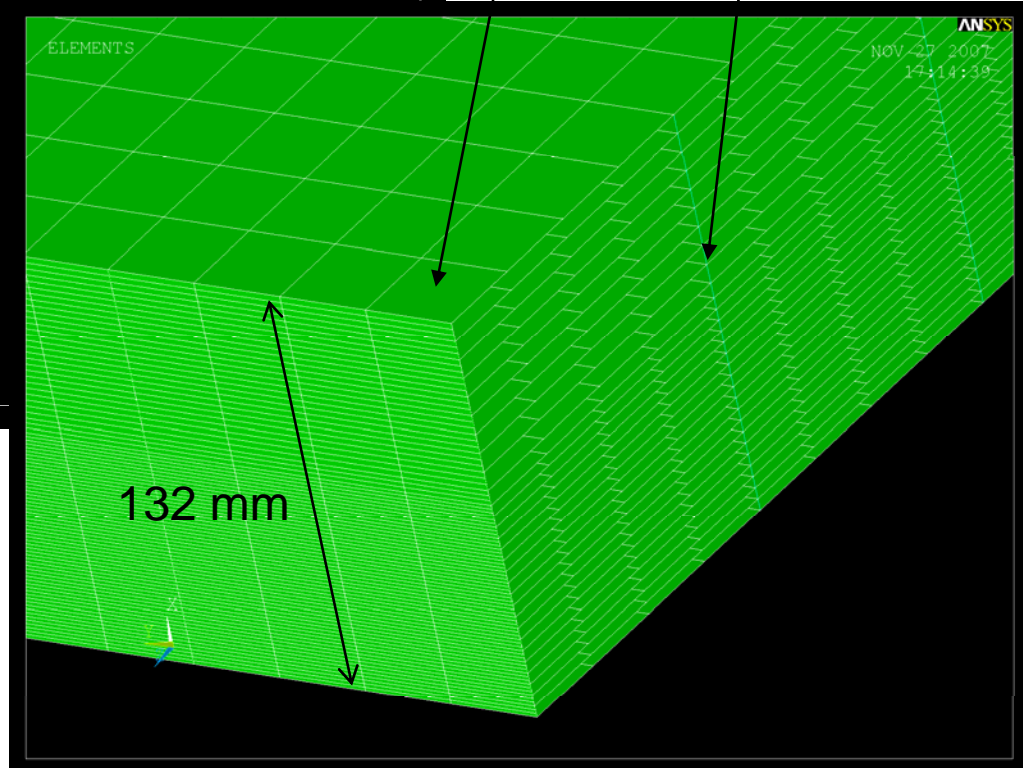
A detailed FEM model to be developed for the deformations and the stress between the W plates

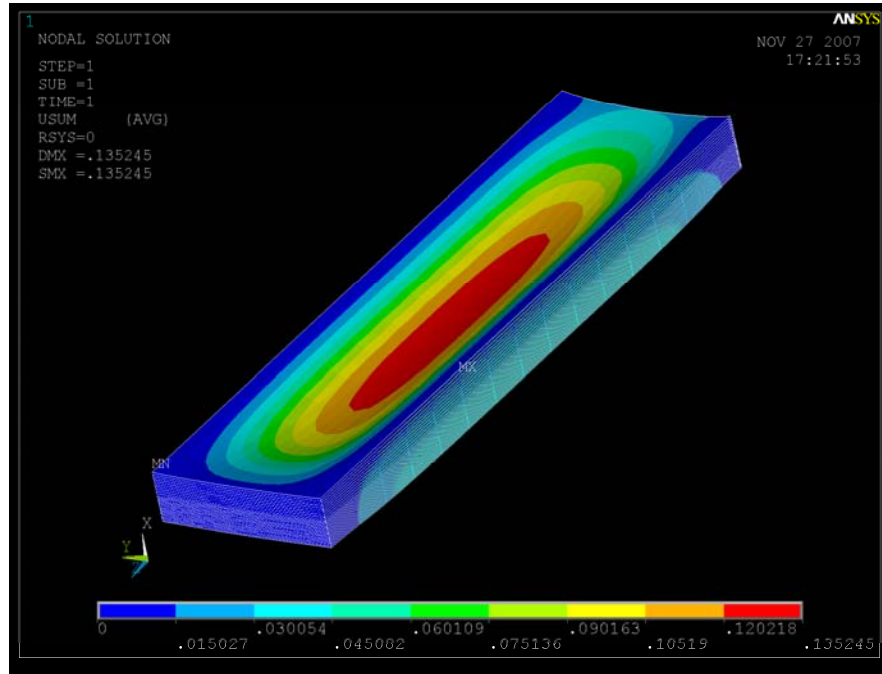




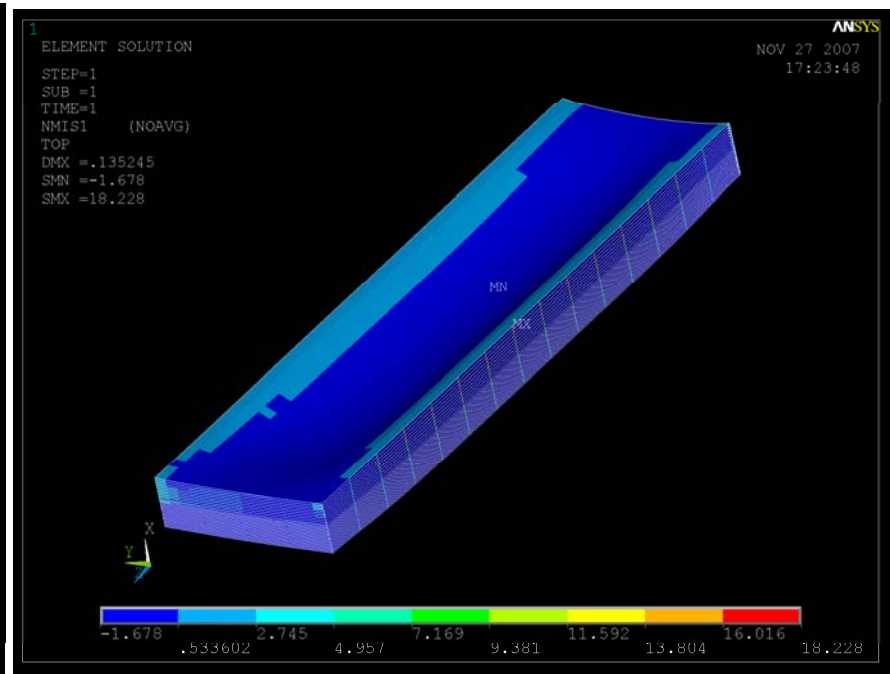
Shell element for the W plates

Beam elements for the pins

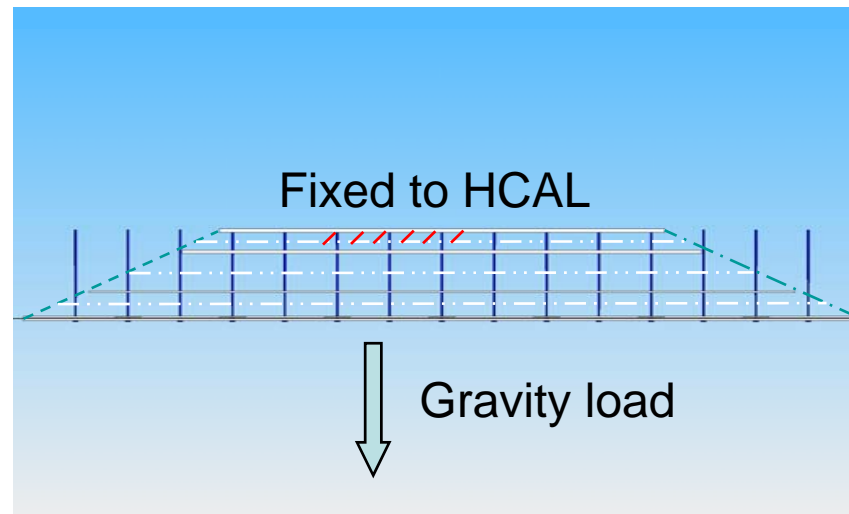


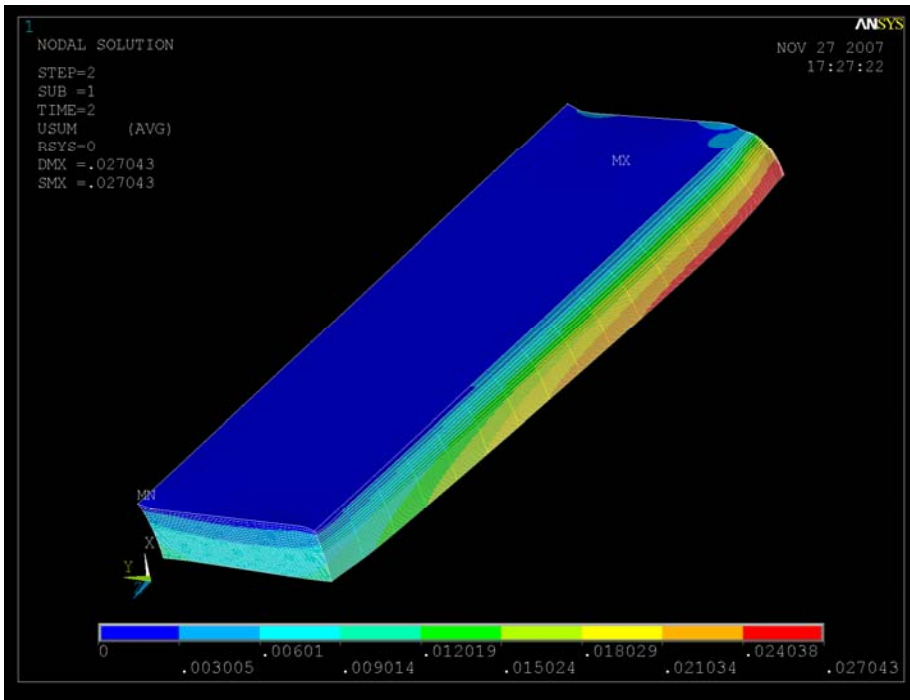


Max deformation, 0.135mm

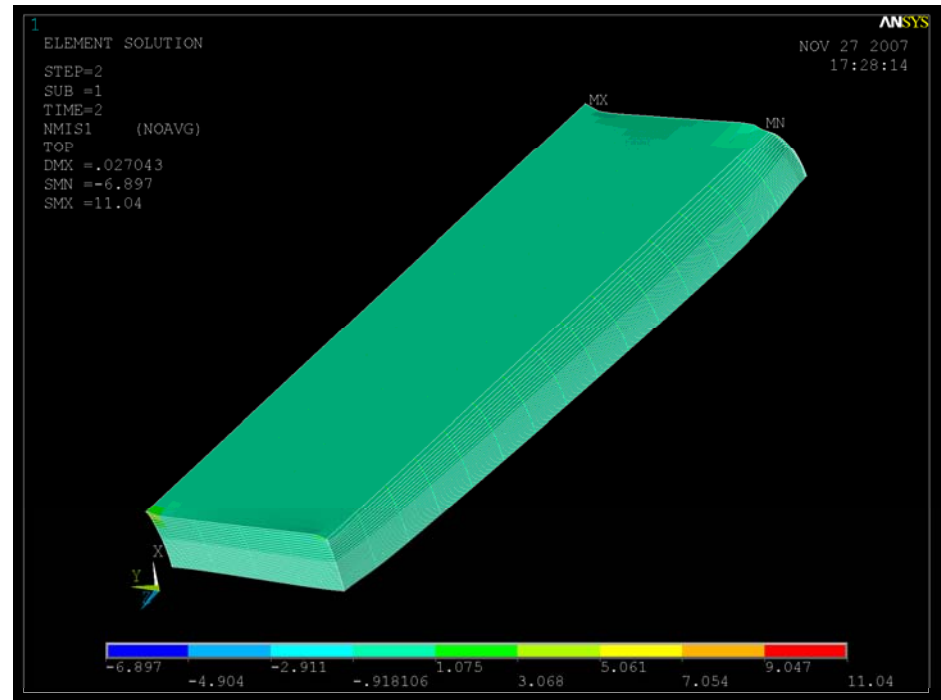


Max stress on pins, 180 MPa

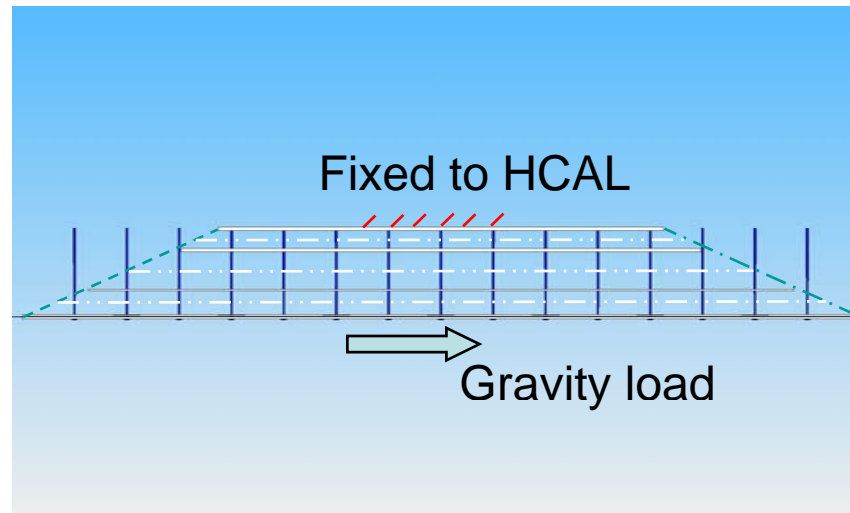




Max deformation, 0.027mm

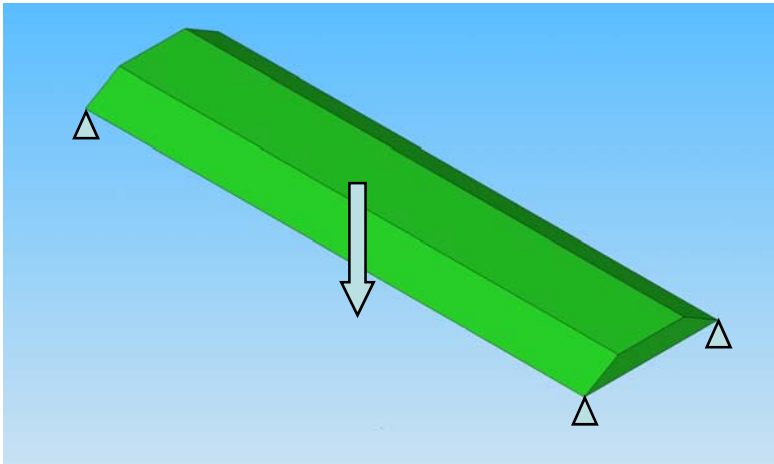


Max stress on pins, 110 MPa

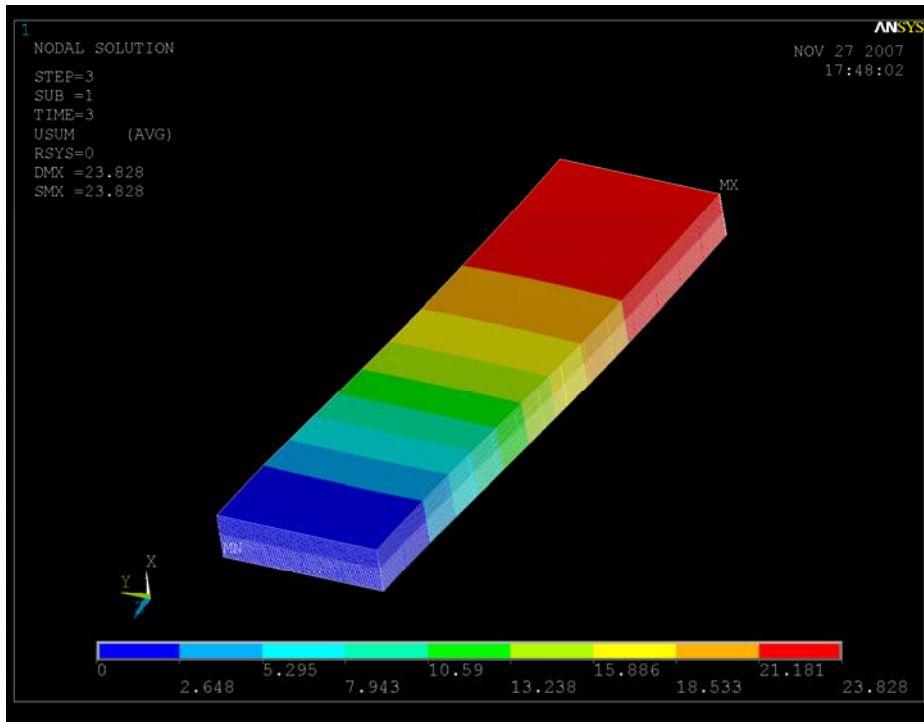


Considerations

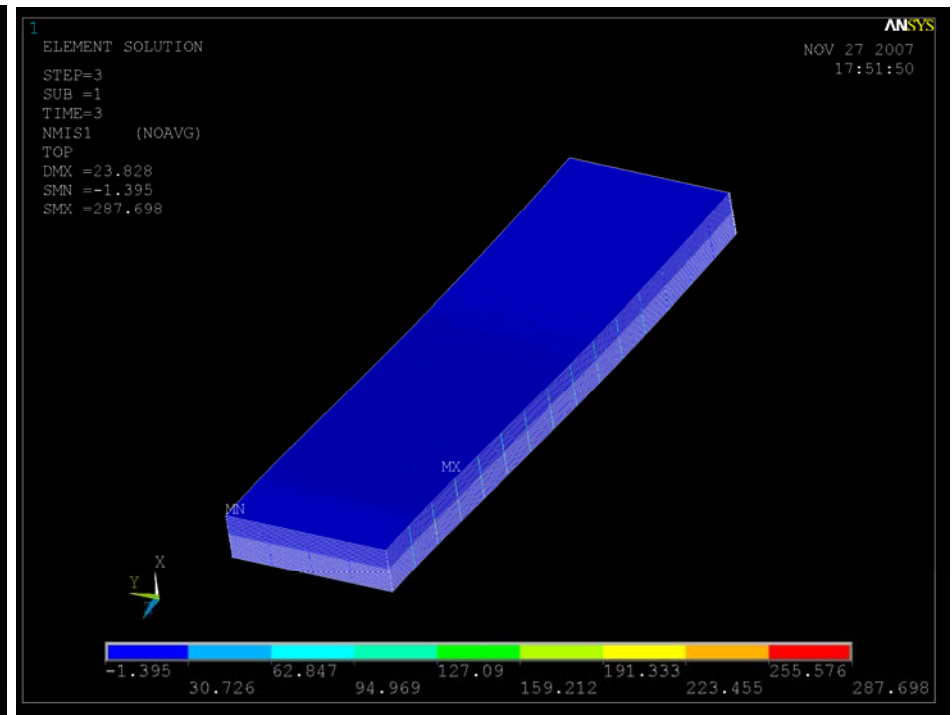
- Deformations are small
- Max stress on pins, good safety factor with 2mm OD pins
- Tungsten plates experience low or negligible stress : it is a good in case of a joined plates assembly
- The pins concept show good performances



Long wedge supported from the ends



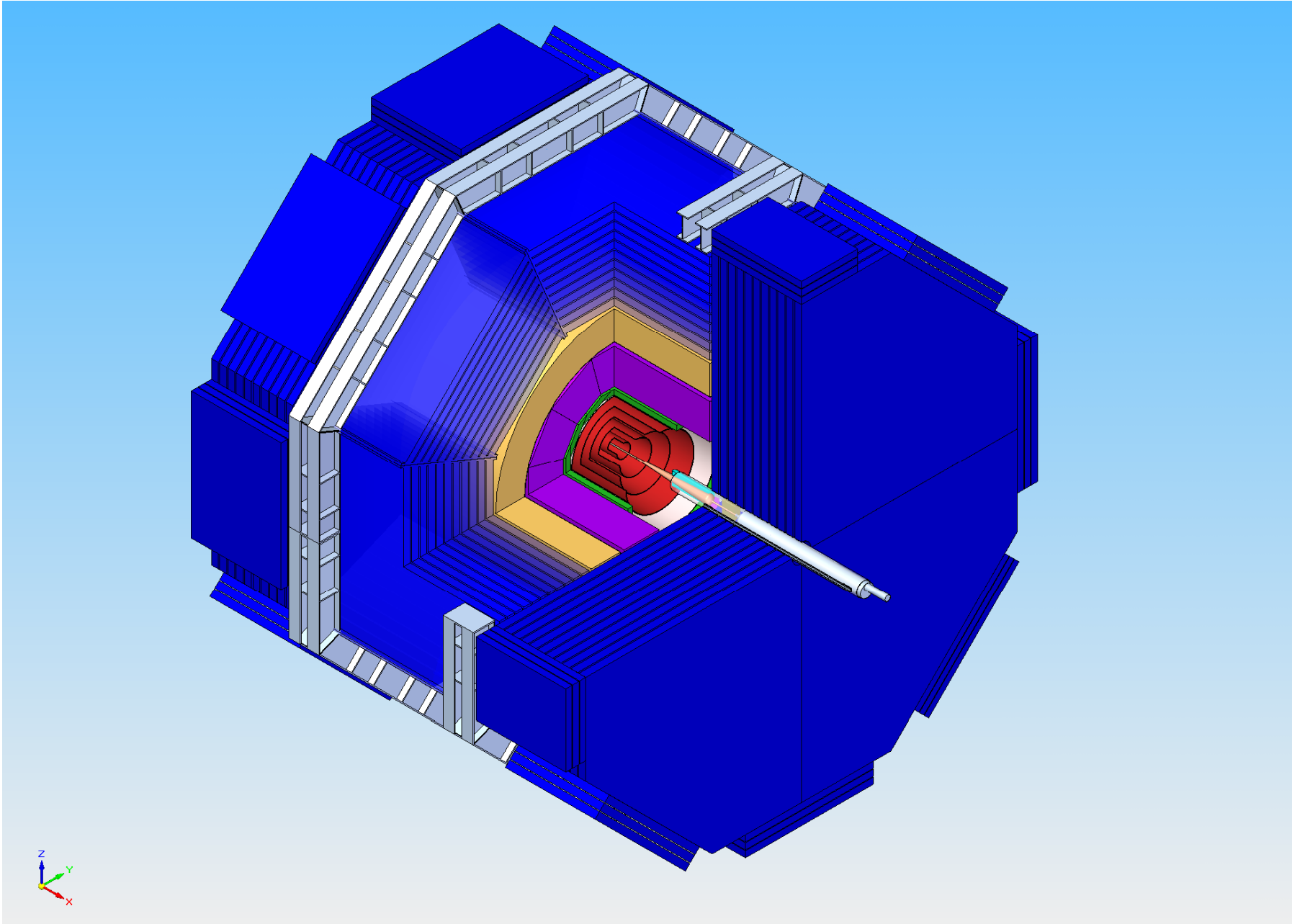
Deformations, 23mm

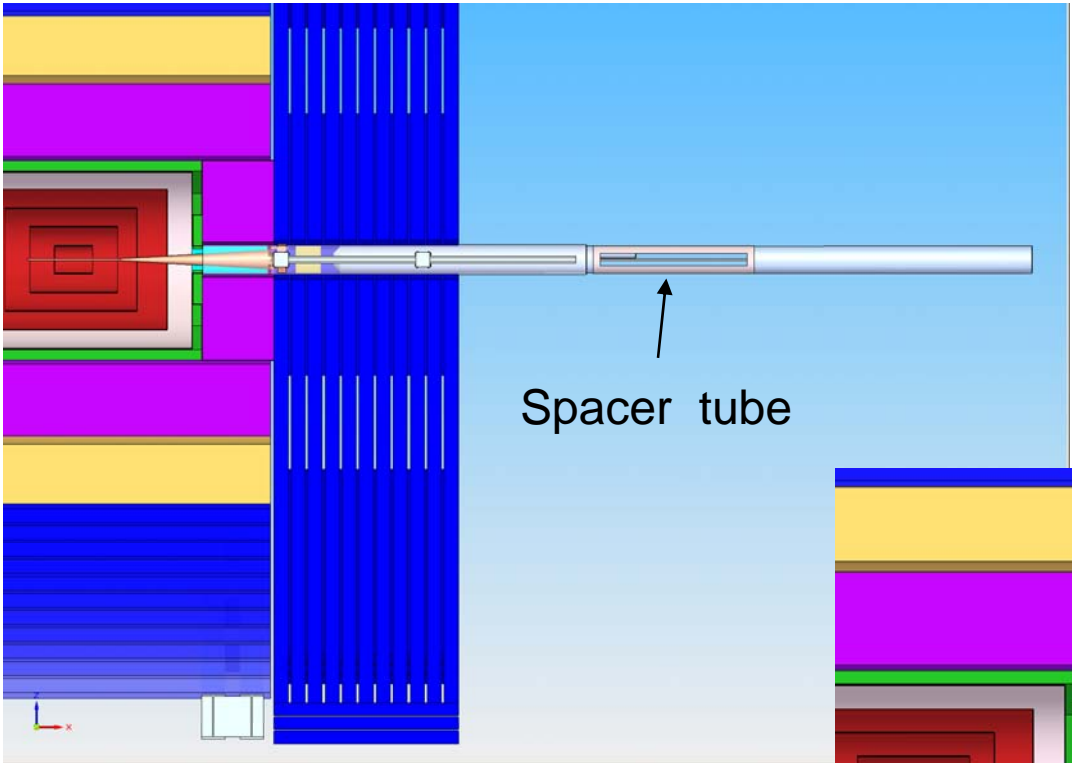


Max stress on pins, 2870 MPa

Considerations

- Deformations and stresses are large
- The pins concept does not perform for this specific support configuration

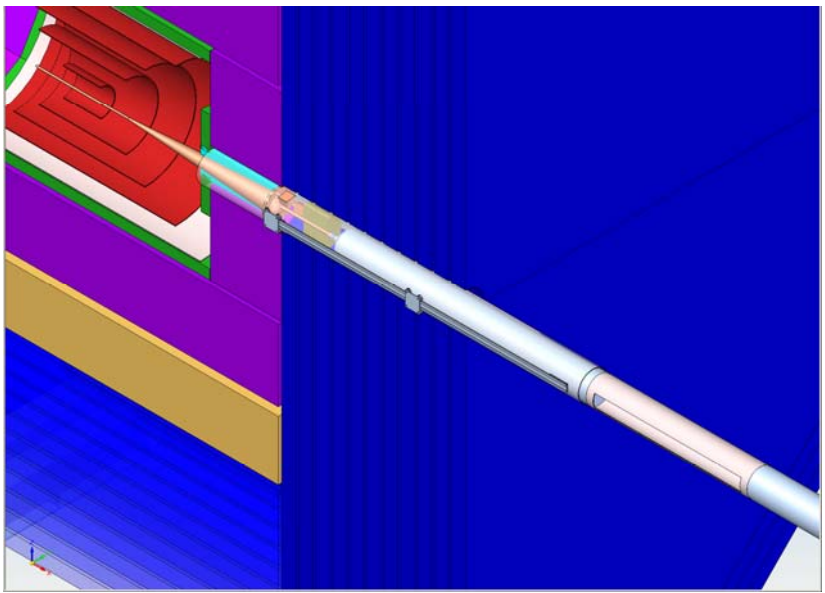
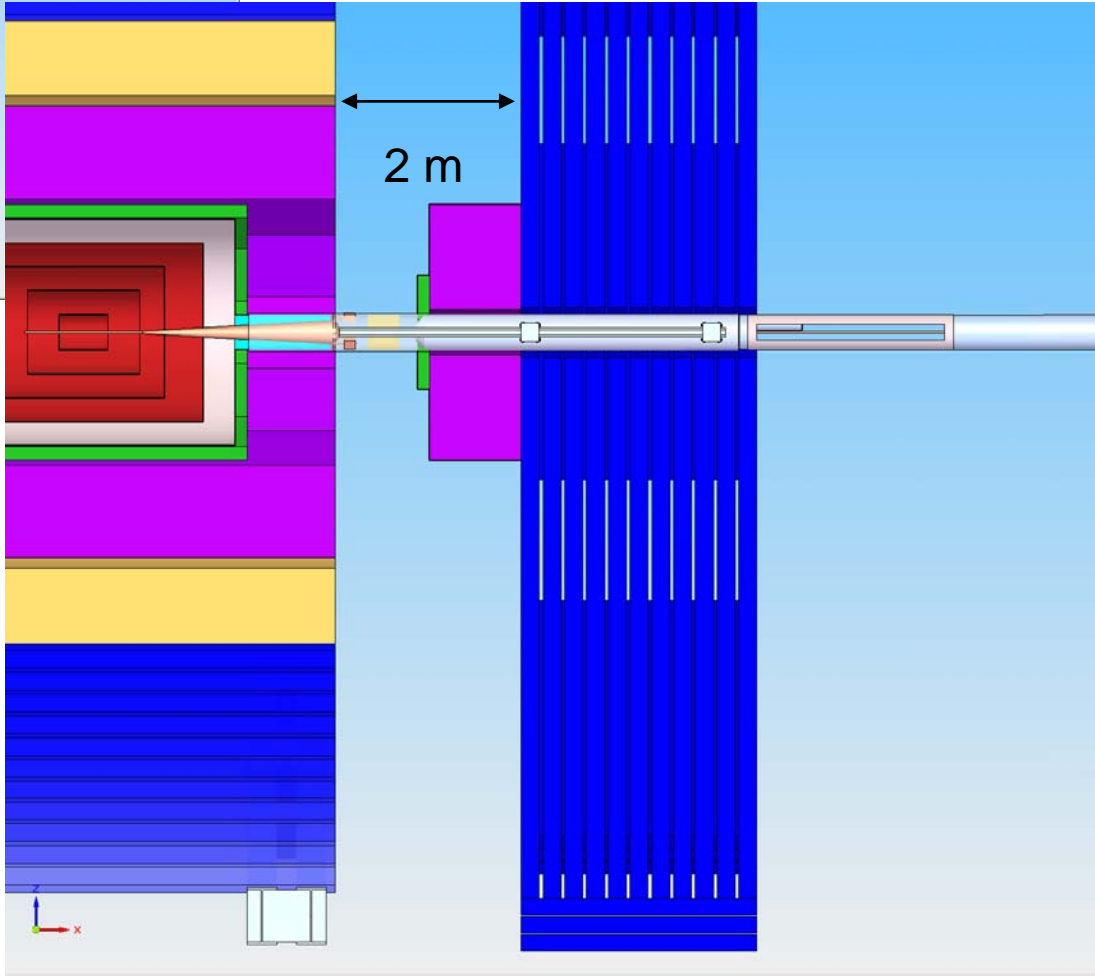


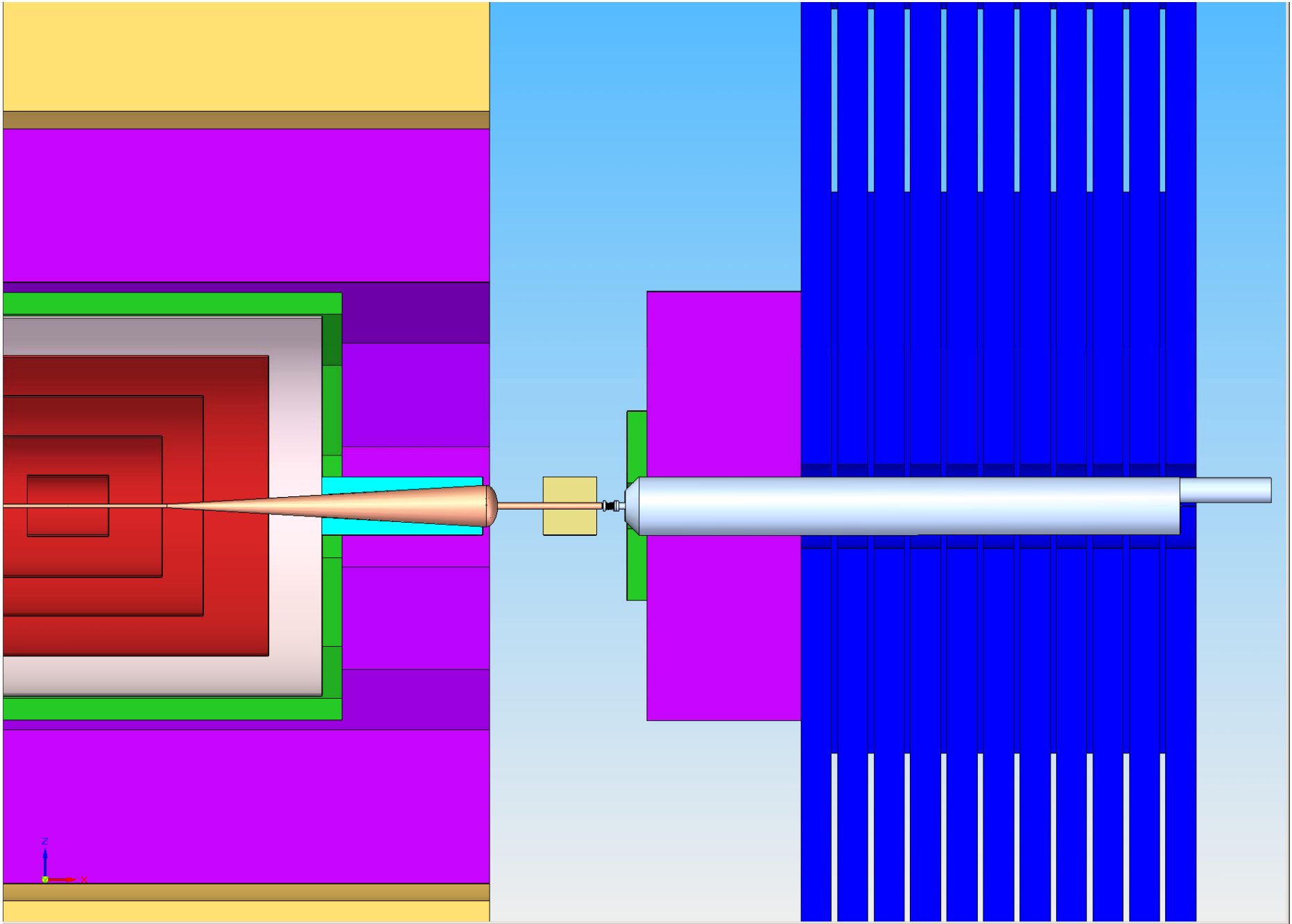


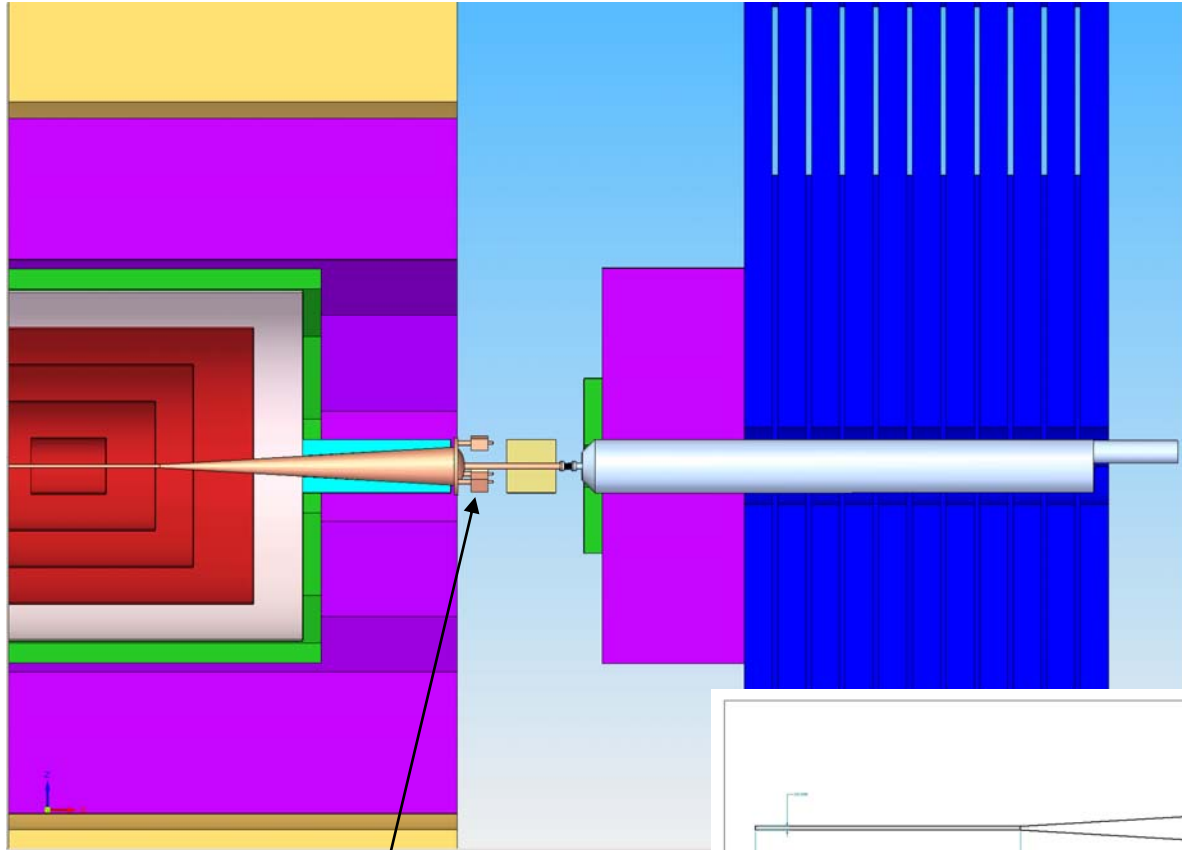
Sliding of QD0 on the door

Support of the beamcal and mask

Support of the beampipe







Needs of specification of the experimental vacuum chamber : valves, bellows, bakeout temp., pumping, supports

Ion Pumps

