

BNL IHEP IR Magnets

Mechanical Design Revisions

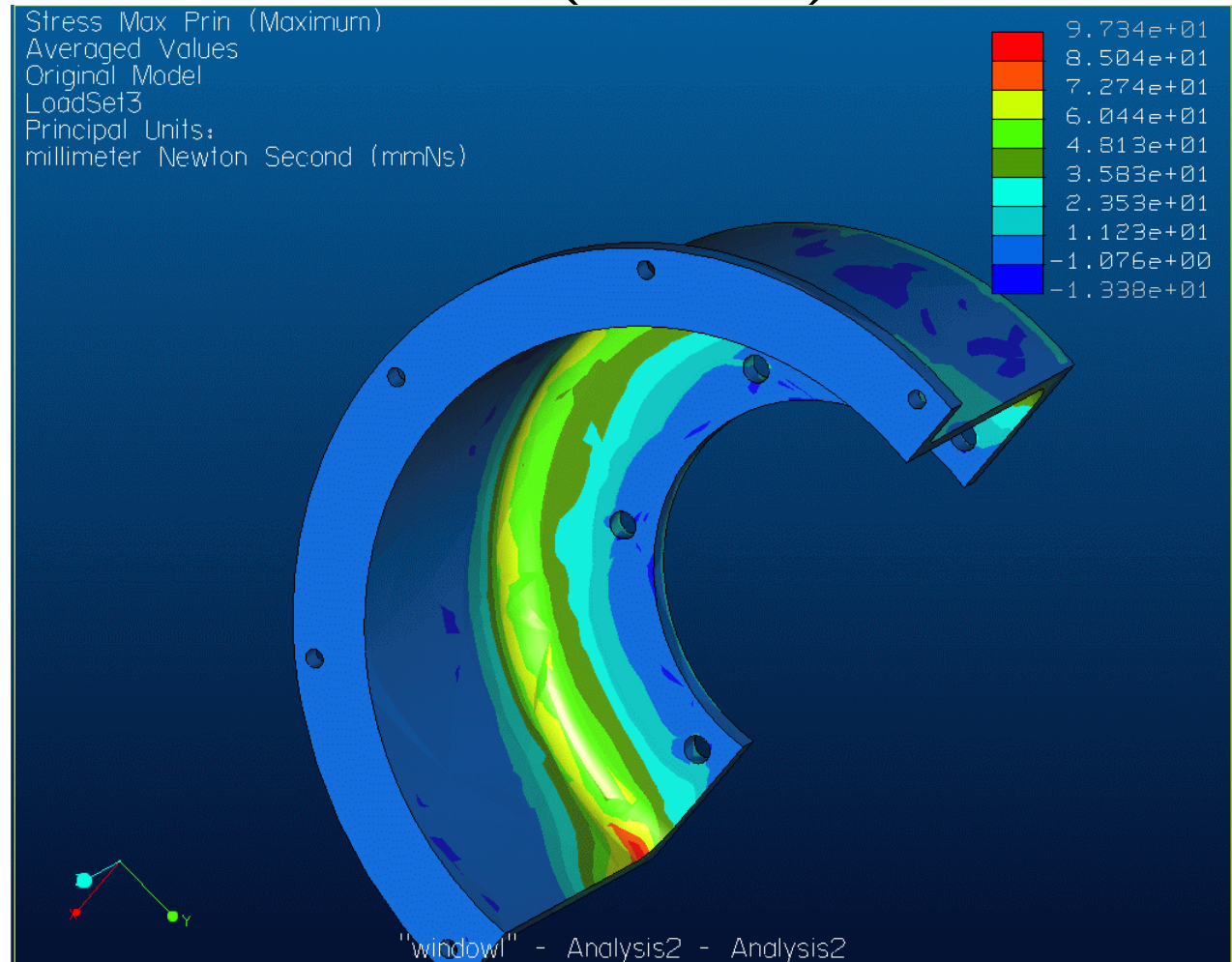
Andy Marone

Video Conference

May 27, 2003

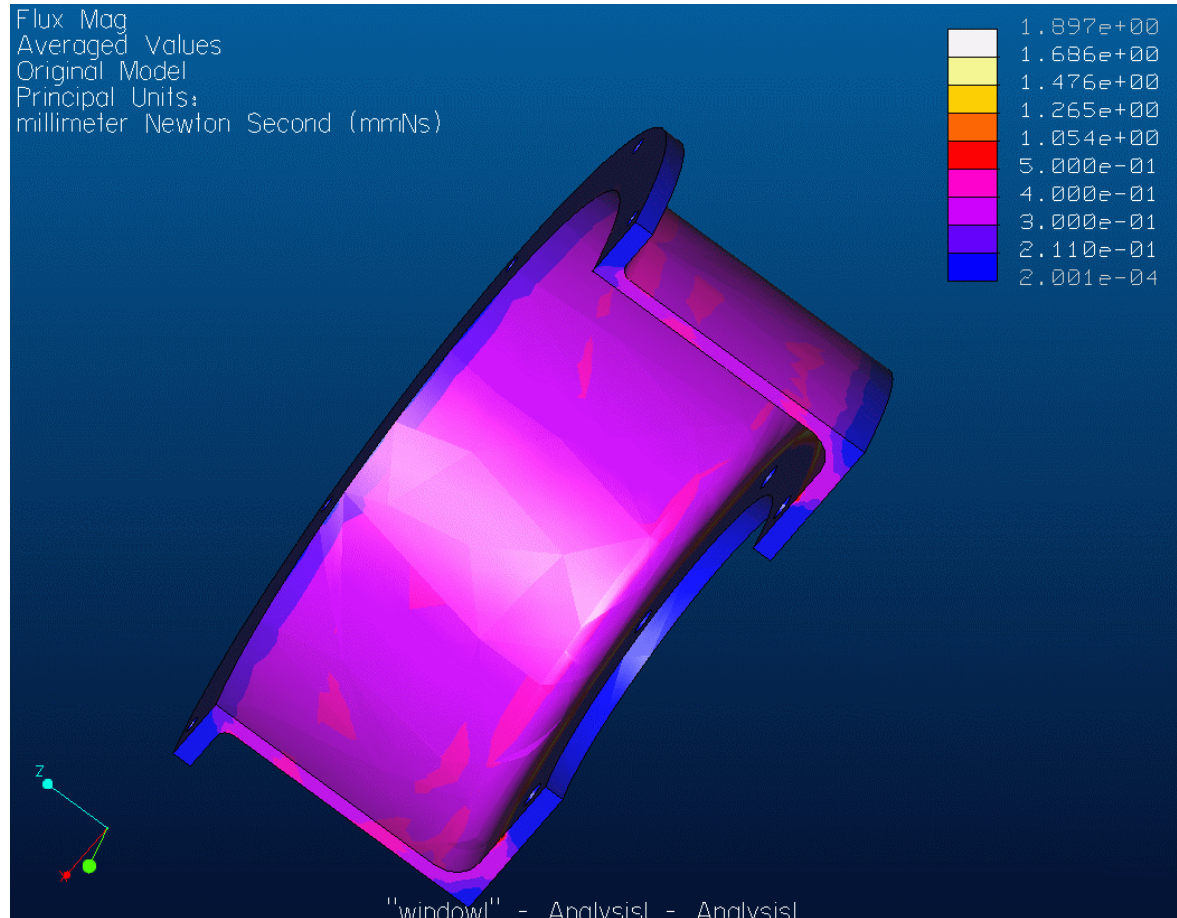
Axial Restraint axial stress (MPa)

- 13KN applied load away from IP
- Max stress = 97MPa



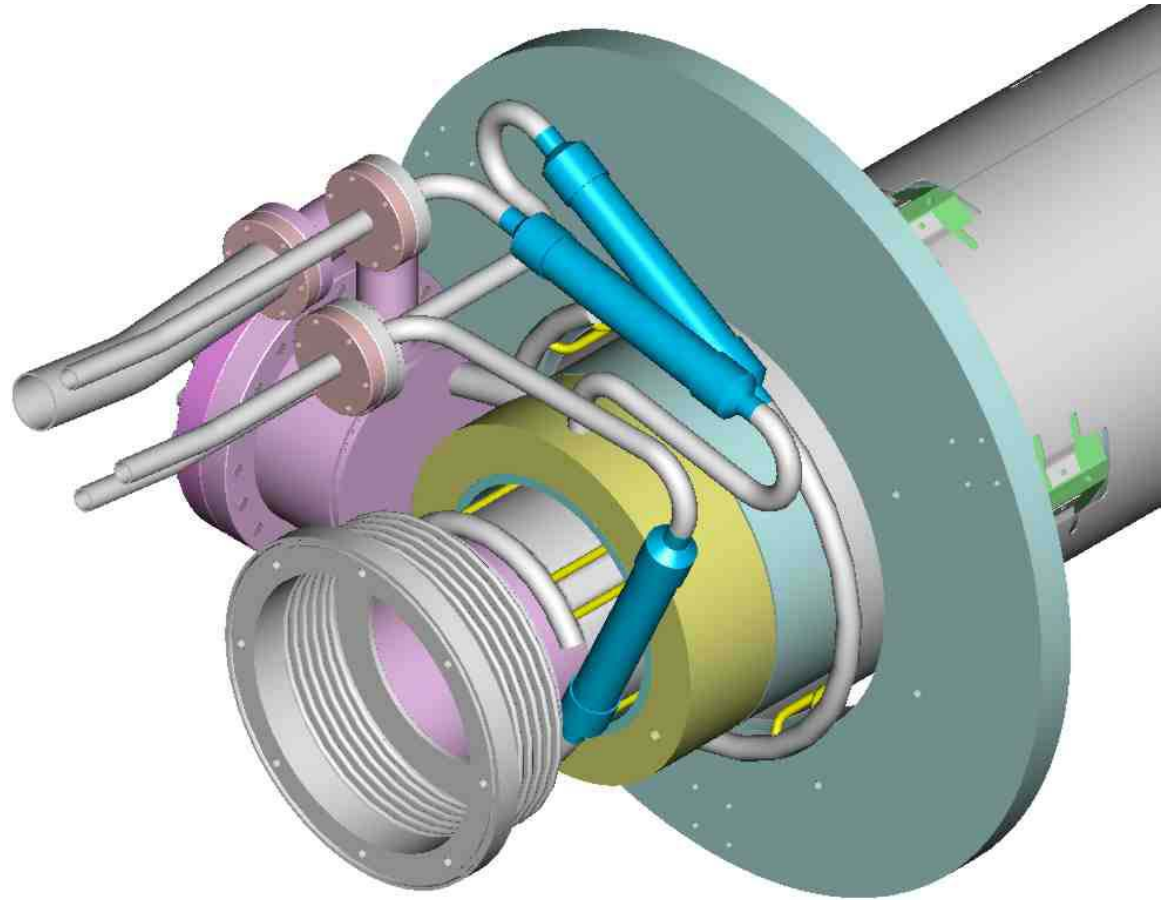
Axial Restraint heat flux (mW/mm)

- Ultem 2400
polyetherimide
glass
reinforced
thermoplastic
- $k = 0.22$ w/m-C
- 300K – 4K
heat load
- 1.5 W total
heat load



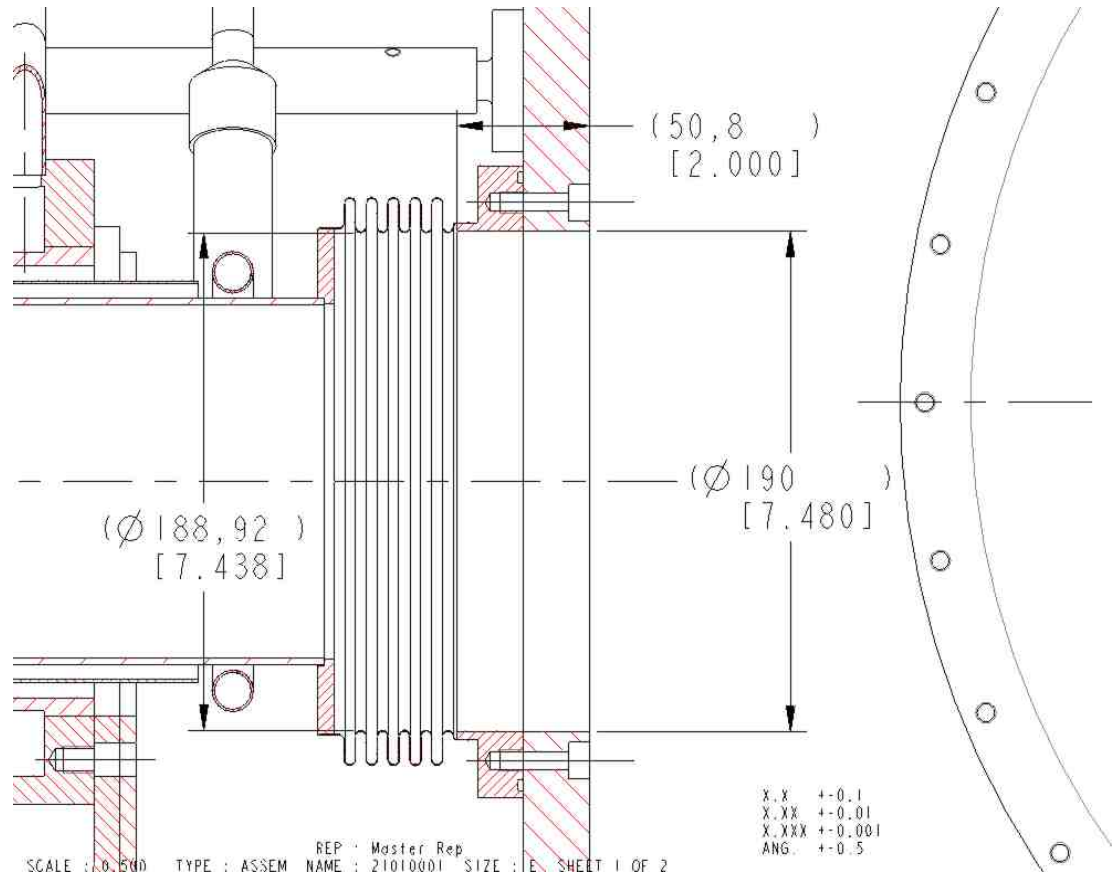
Lead End revisions

- Bellows flange revised to provide $\text{Ø}190\text{mm} \times 50\text{mm}$ clearance
- Pipe stubs added to He lines
- Front plate thickness increased



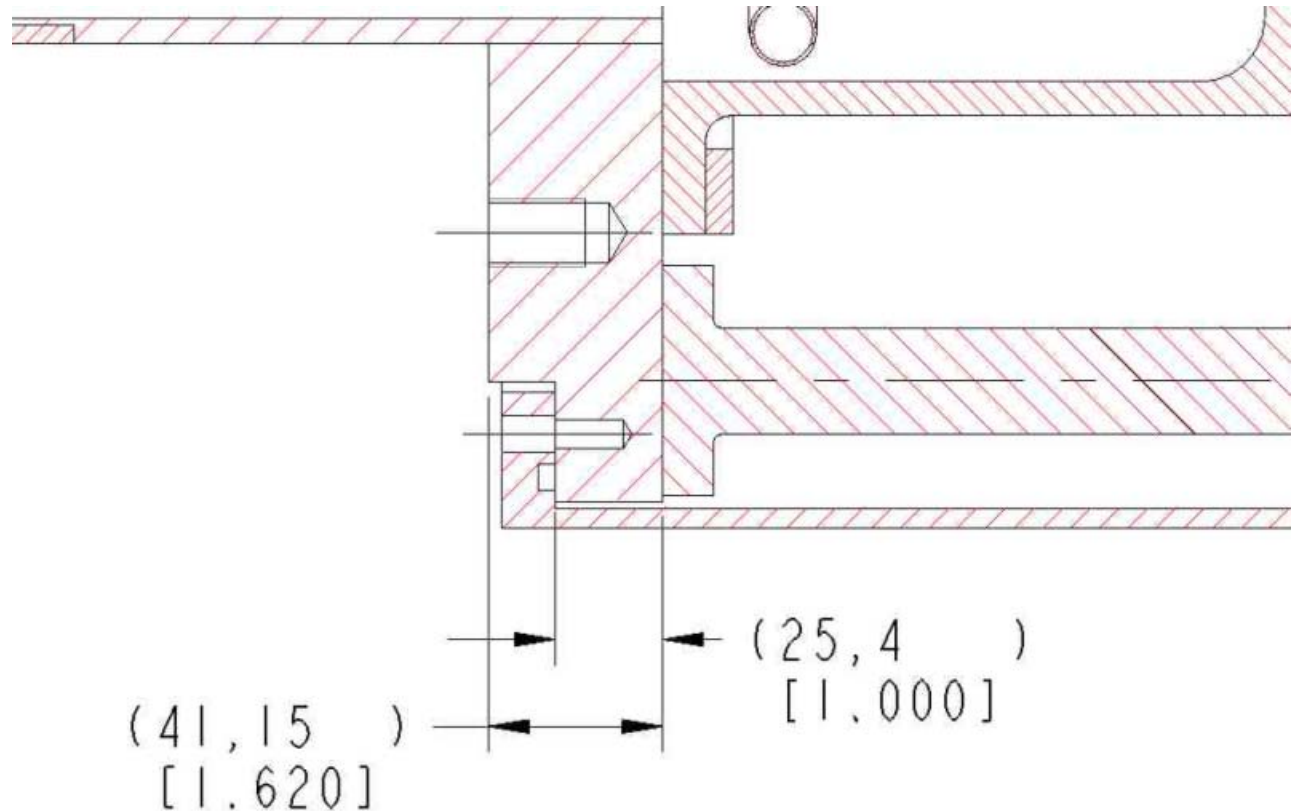
Lead End Bellows Revision

- Revised bellows design showing 190mm X 50mm clearance

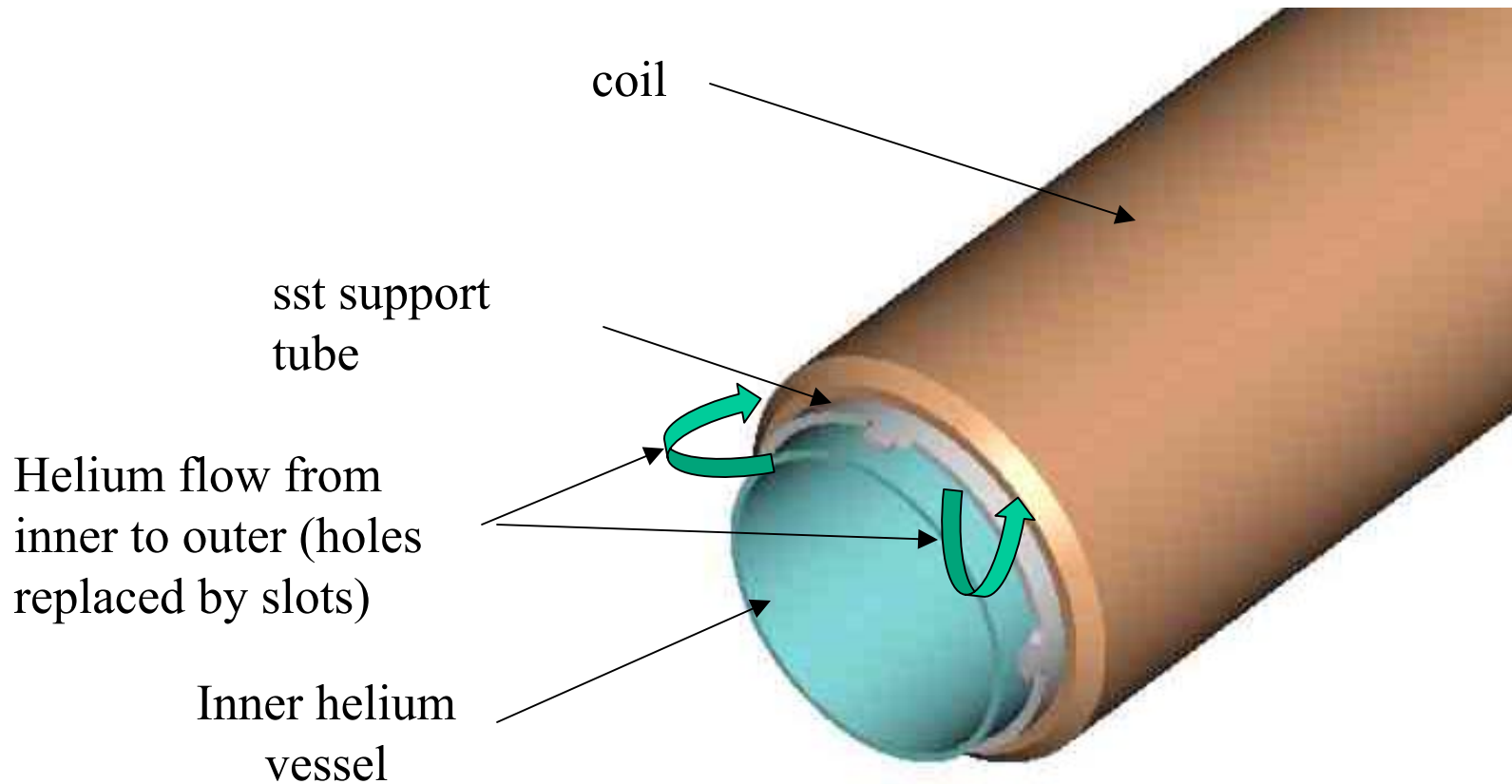


Front Plate Thickness

- Front plate thickness increased from 25.4mm to 41.15mm



Non Lead End helium flow



Open Issues

- Angle of cryogenic line port in end plate.
- Vacuum pump out port.
- Serviceability of access cover.

