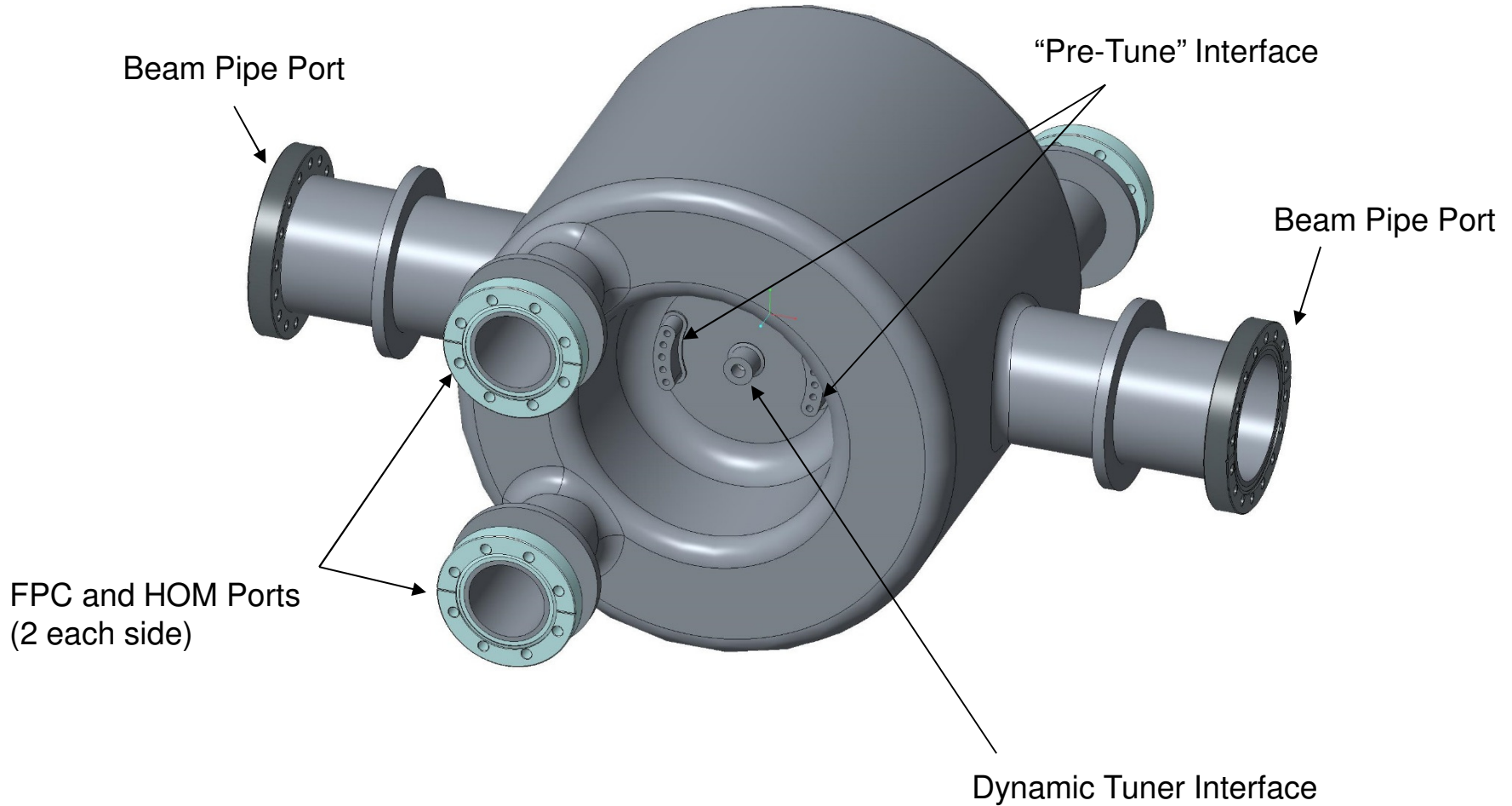


# Crab Cavity Concept Design and Analysis

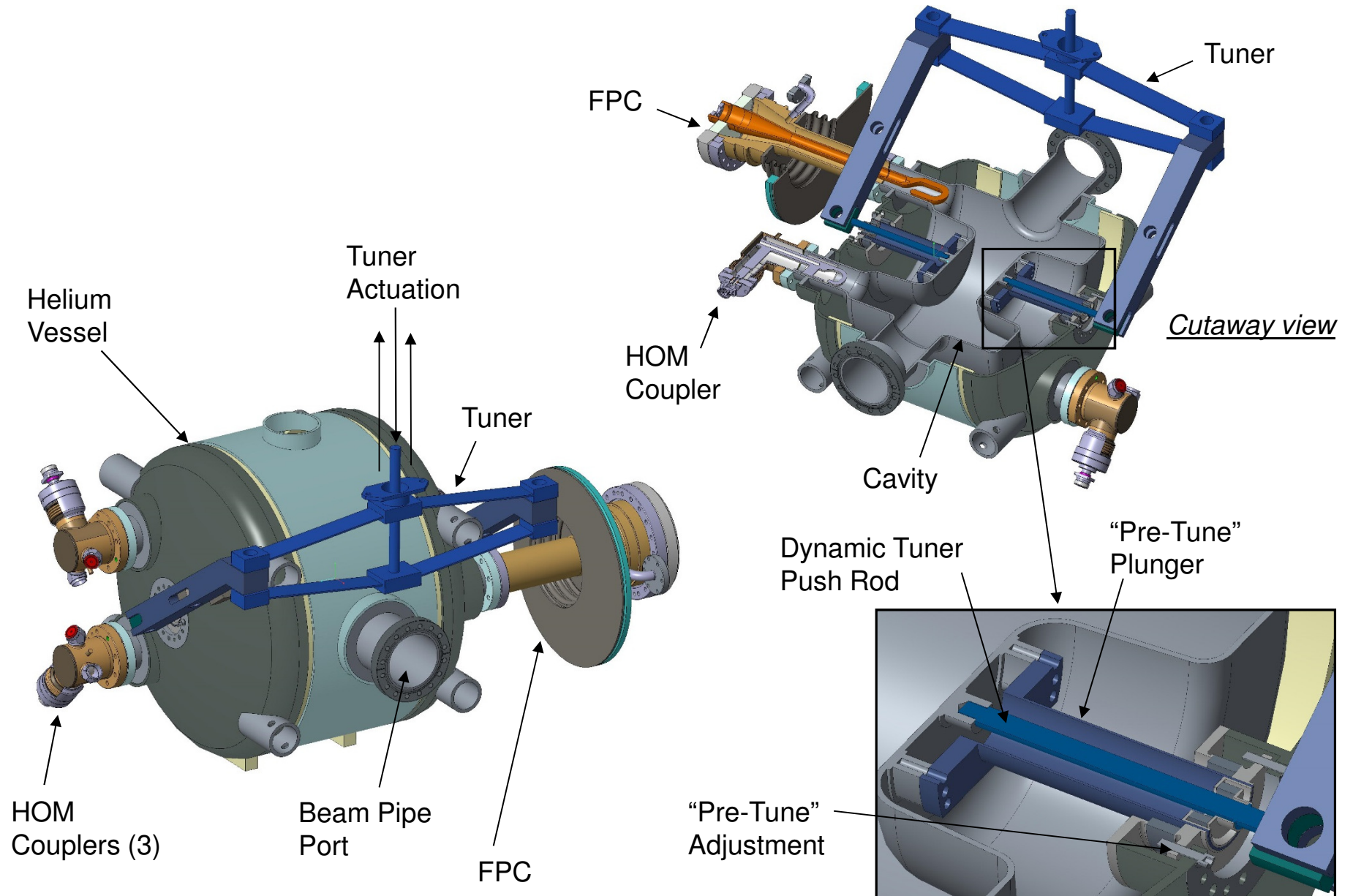
2017-12-01

# Crab Cavity Preliminary Concept

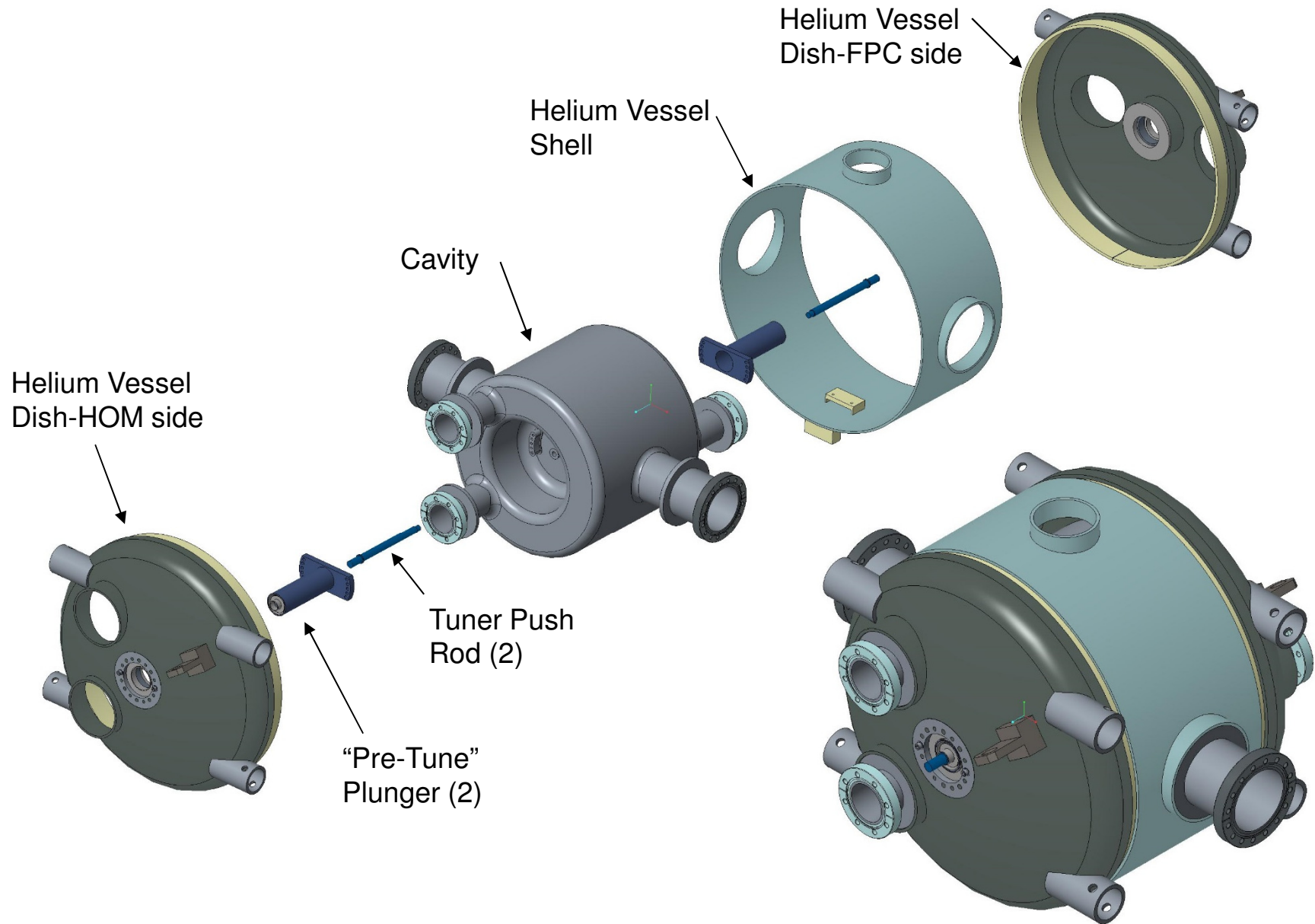
- Cavity wall thickness: 4mm



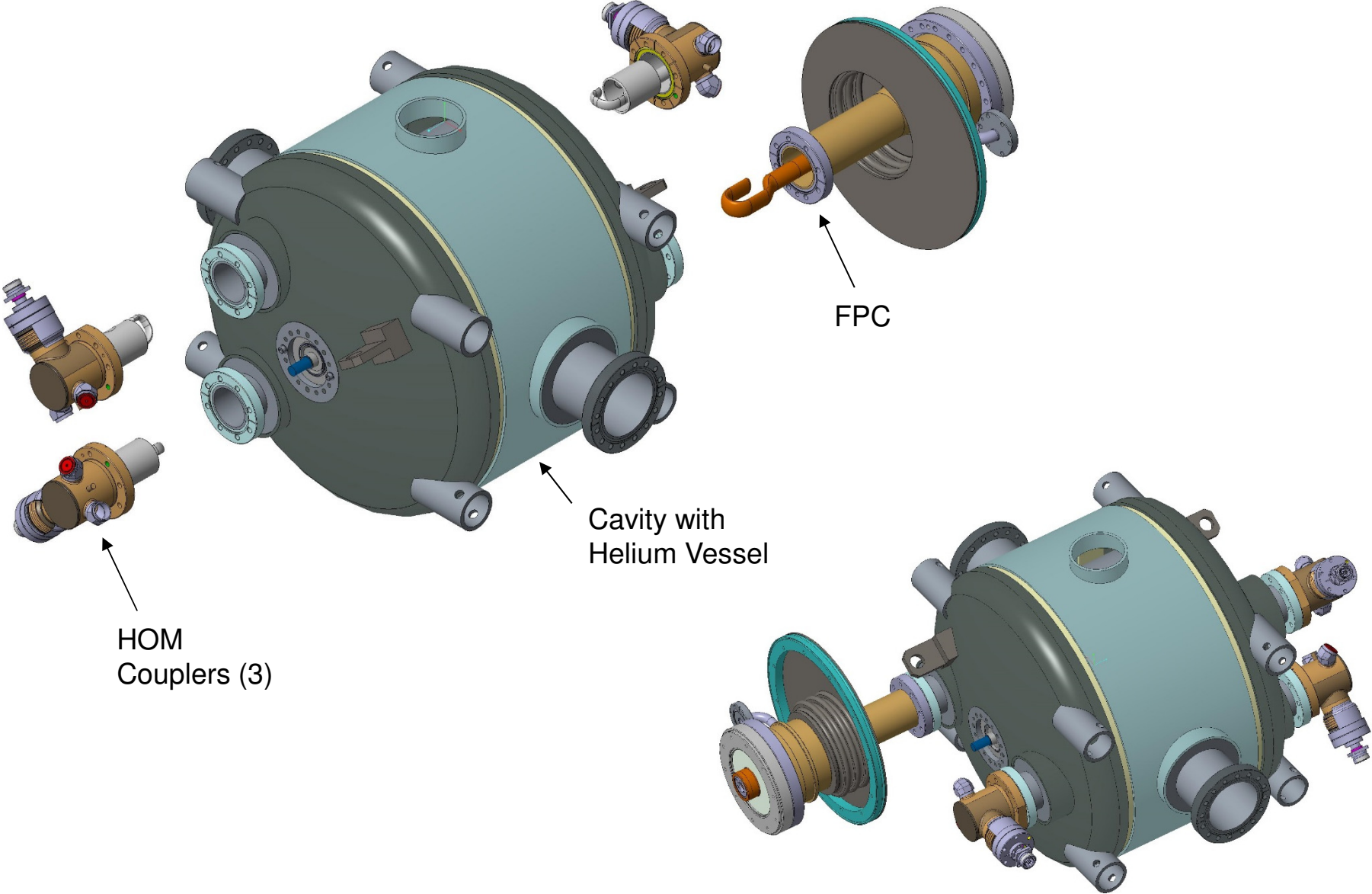
# Crab Cavity System Concept



# Crab Cavity Helium Vessel Integration

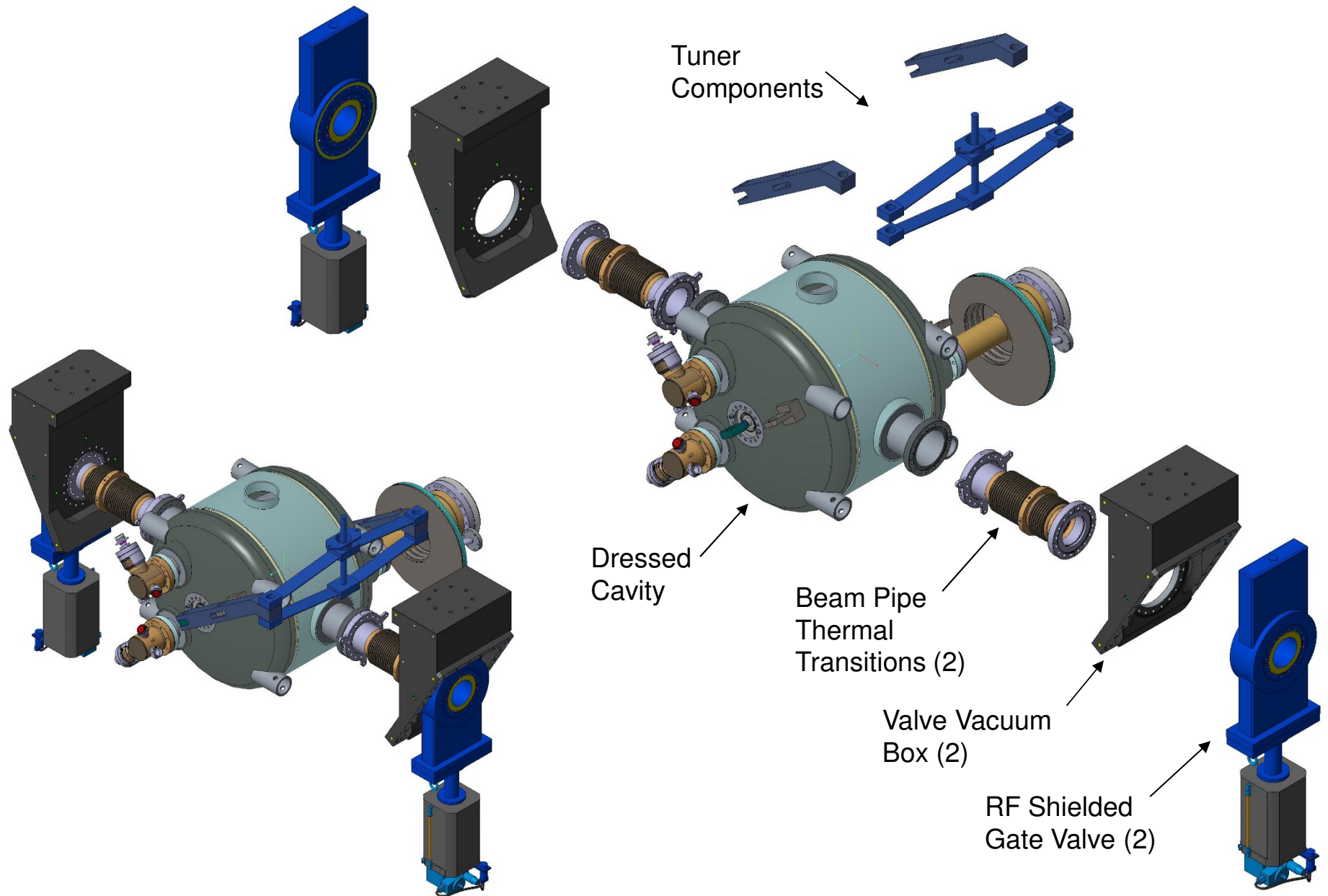


# Crab Cavity Power Coupler Integration



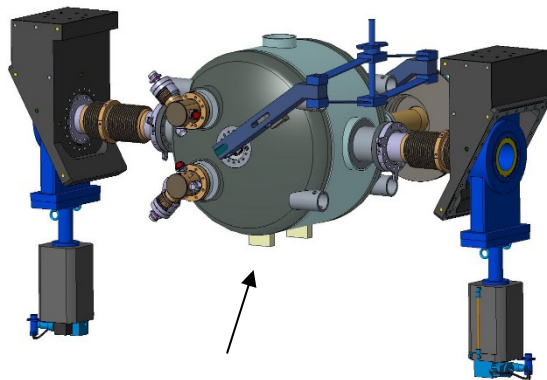
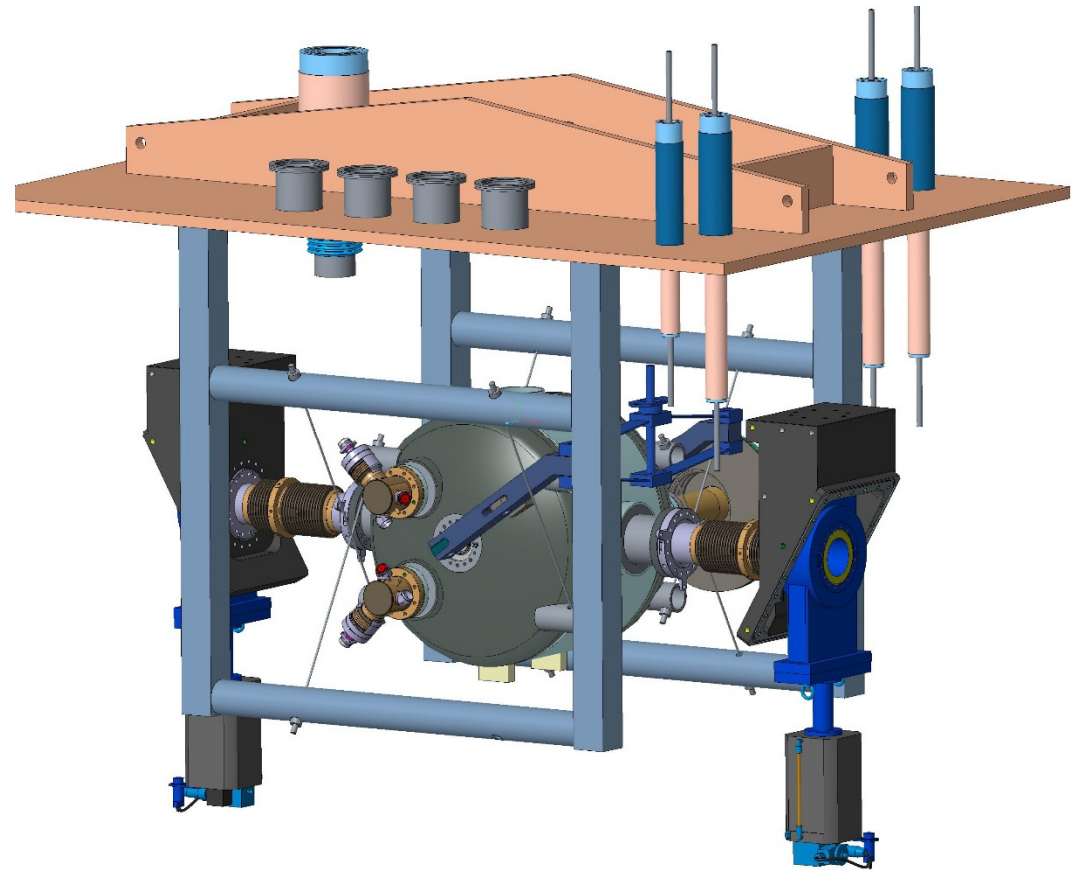
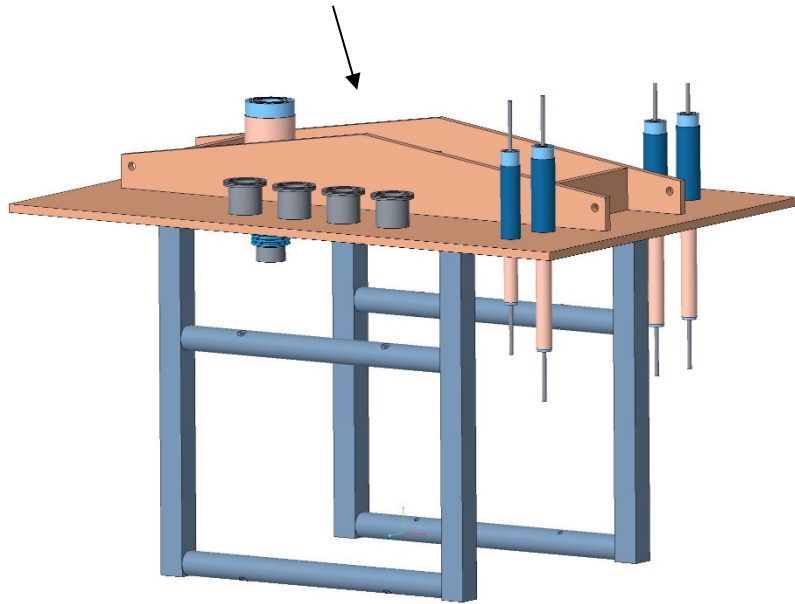


# Crab Cavity Hermetic String Build



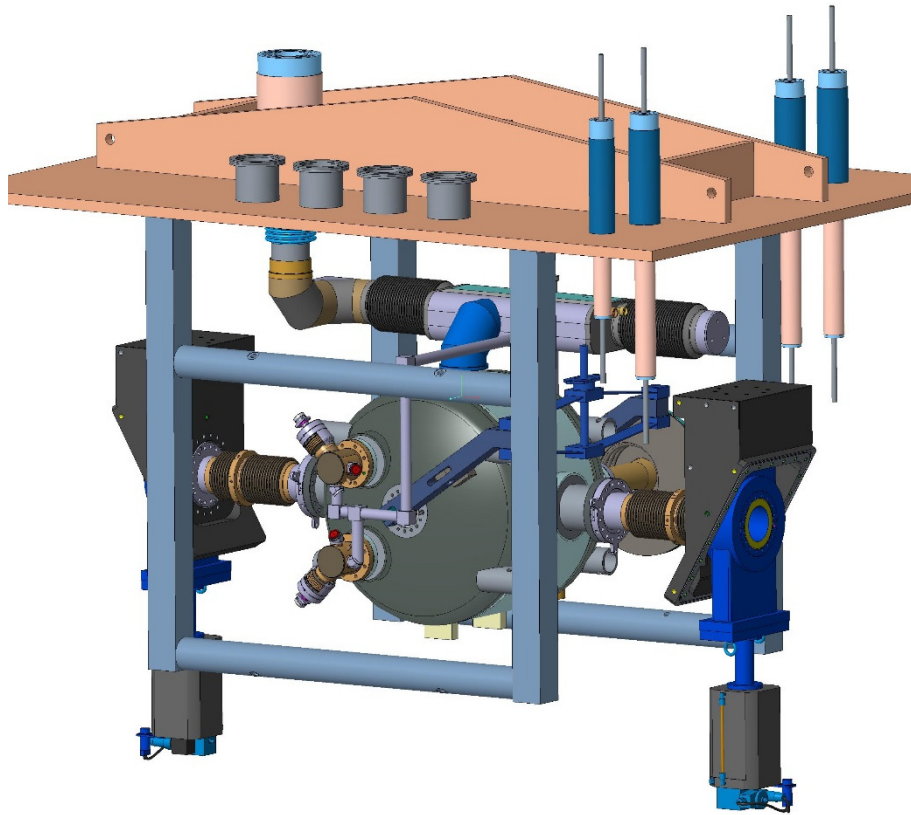
# Crab Cavity Vacuum Cover Integration

Vacuum Cover with  
Support Frame

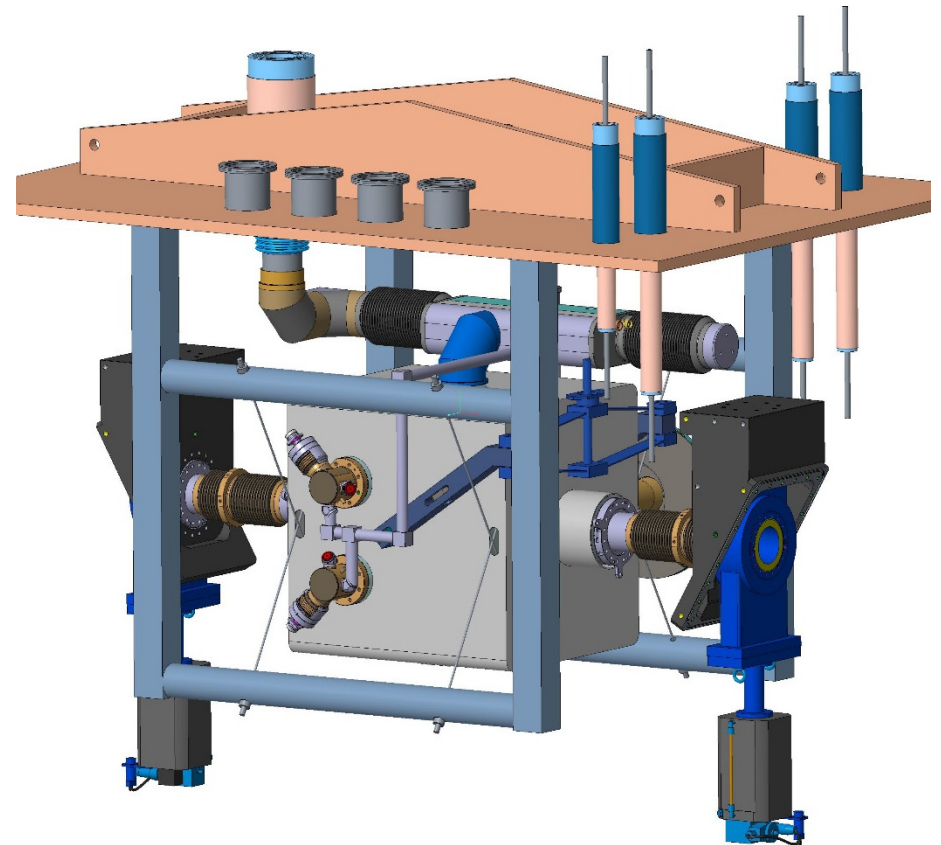


Hermetic String

# Crab Cavity Cold Mass Buildup



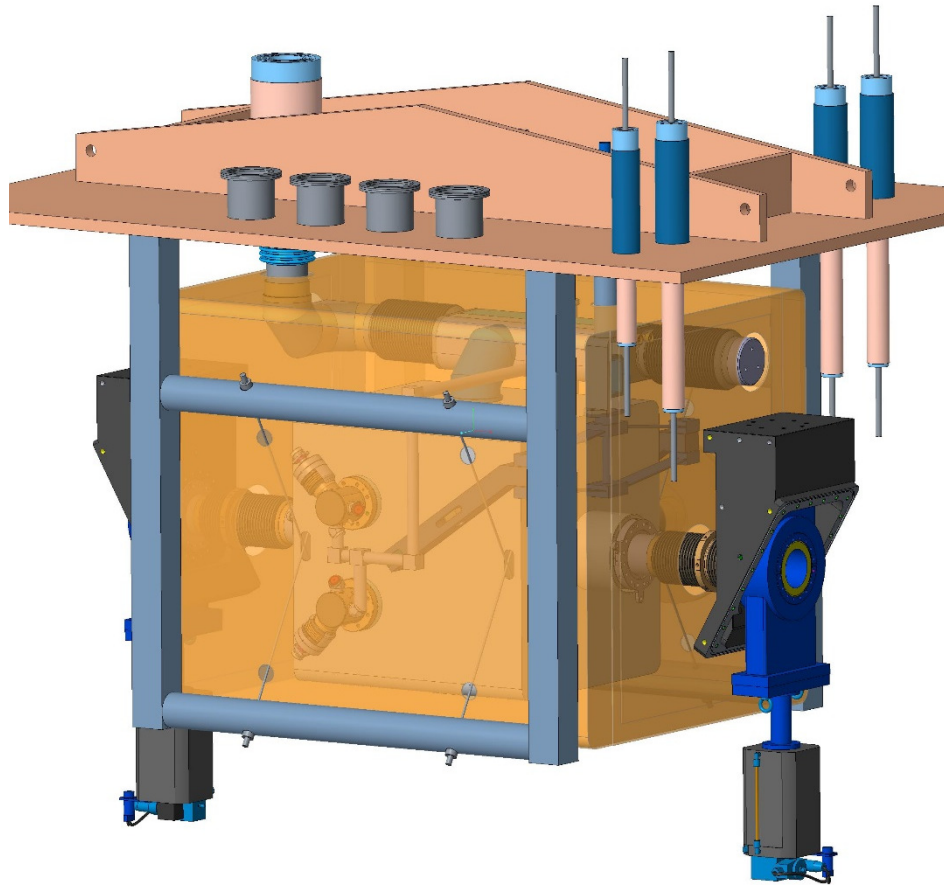
Helium Plumbing



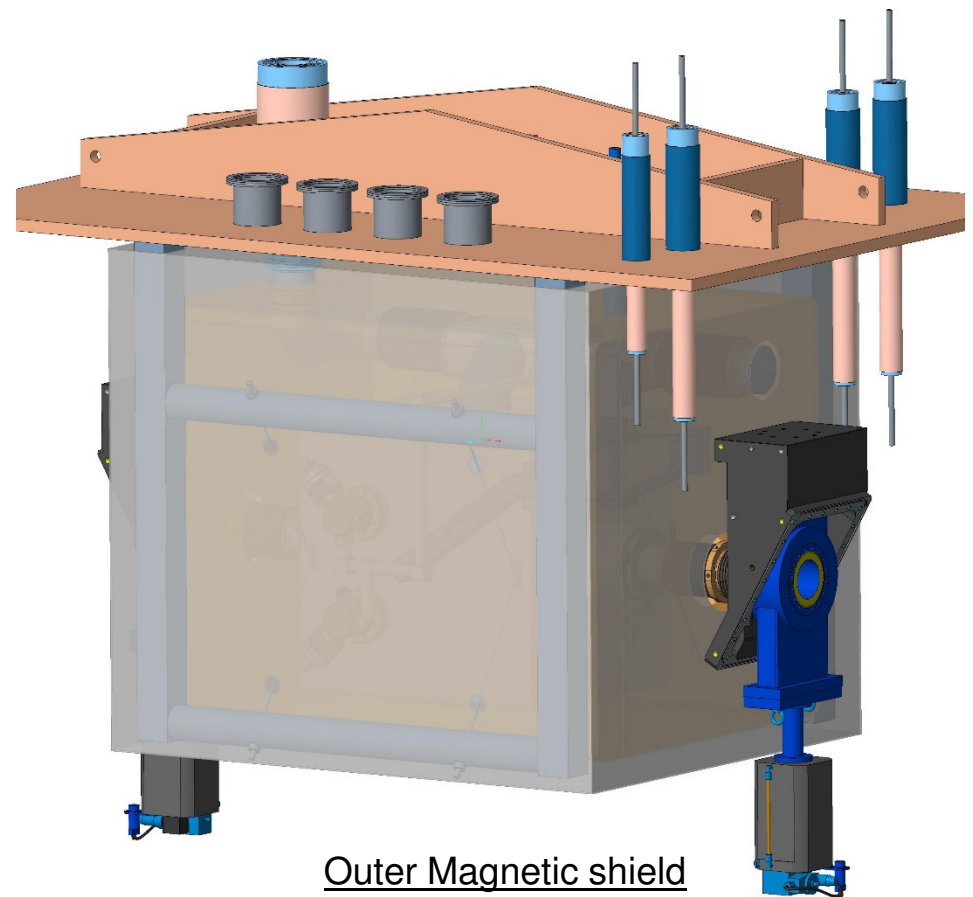
Inner Magnetic Shield



# Crab Cavity Shield Integration

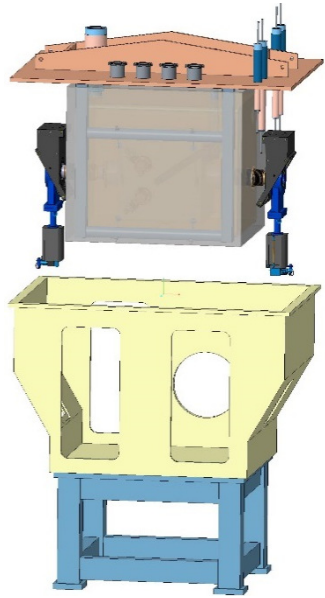


Thermal Shield

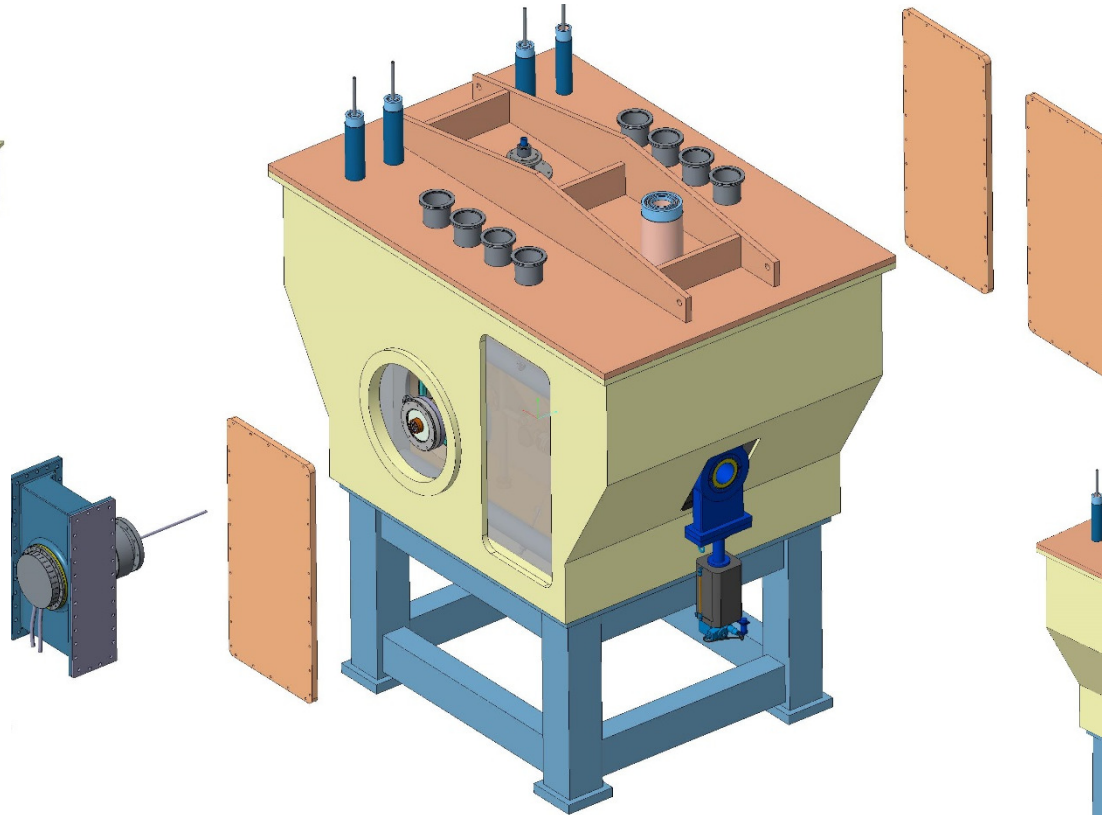


Outer Magnetic shield

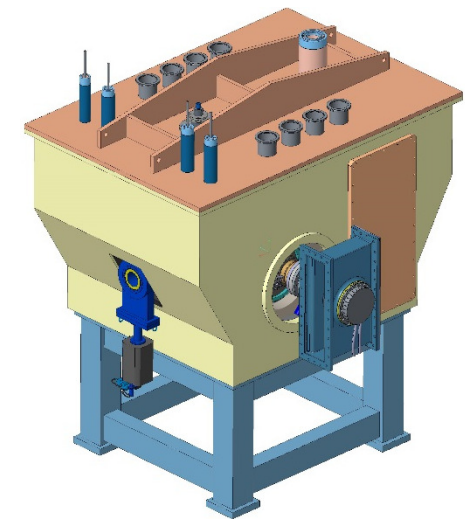
# Crab Cavity Vacuum Vessel Integration



Insertion

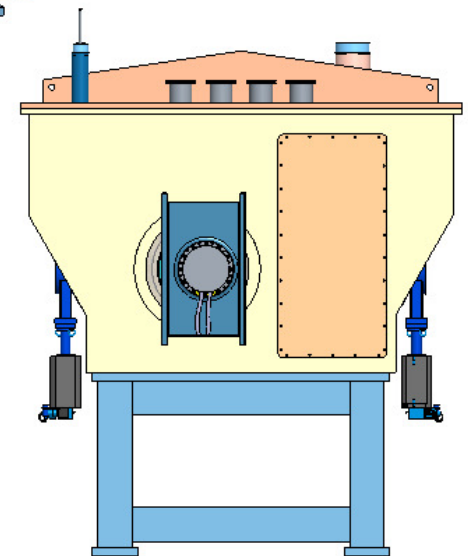
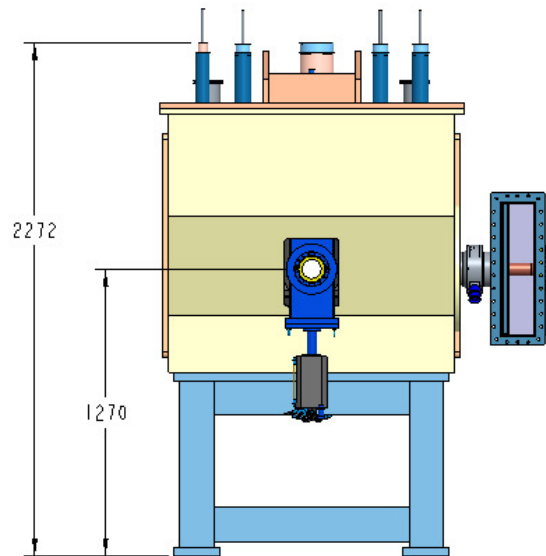
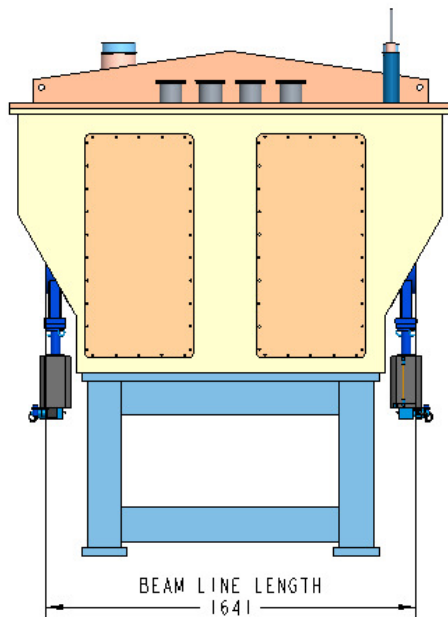
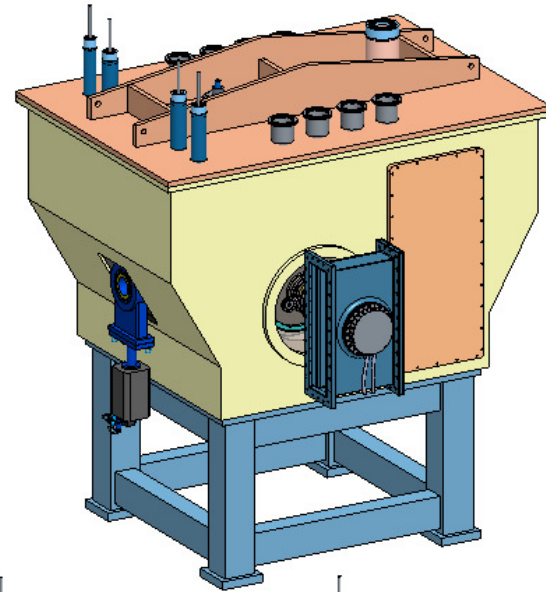
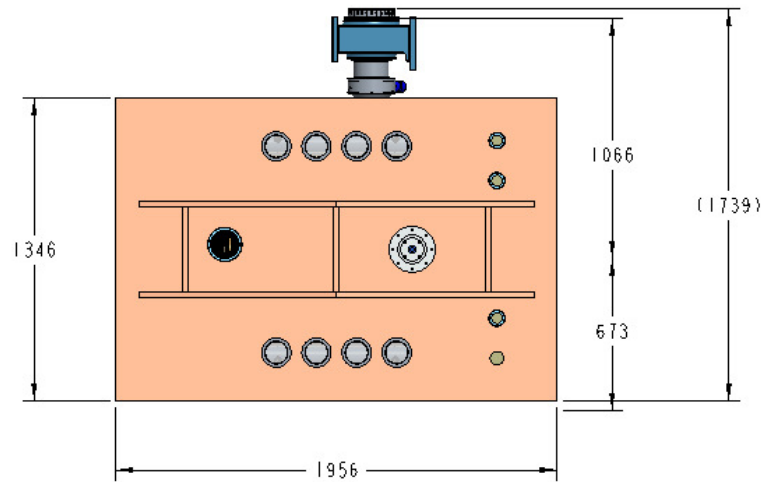


Closure

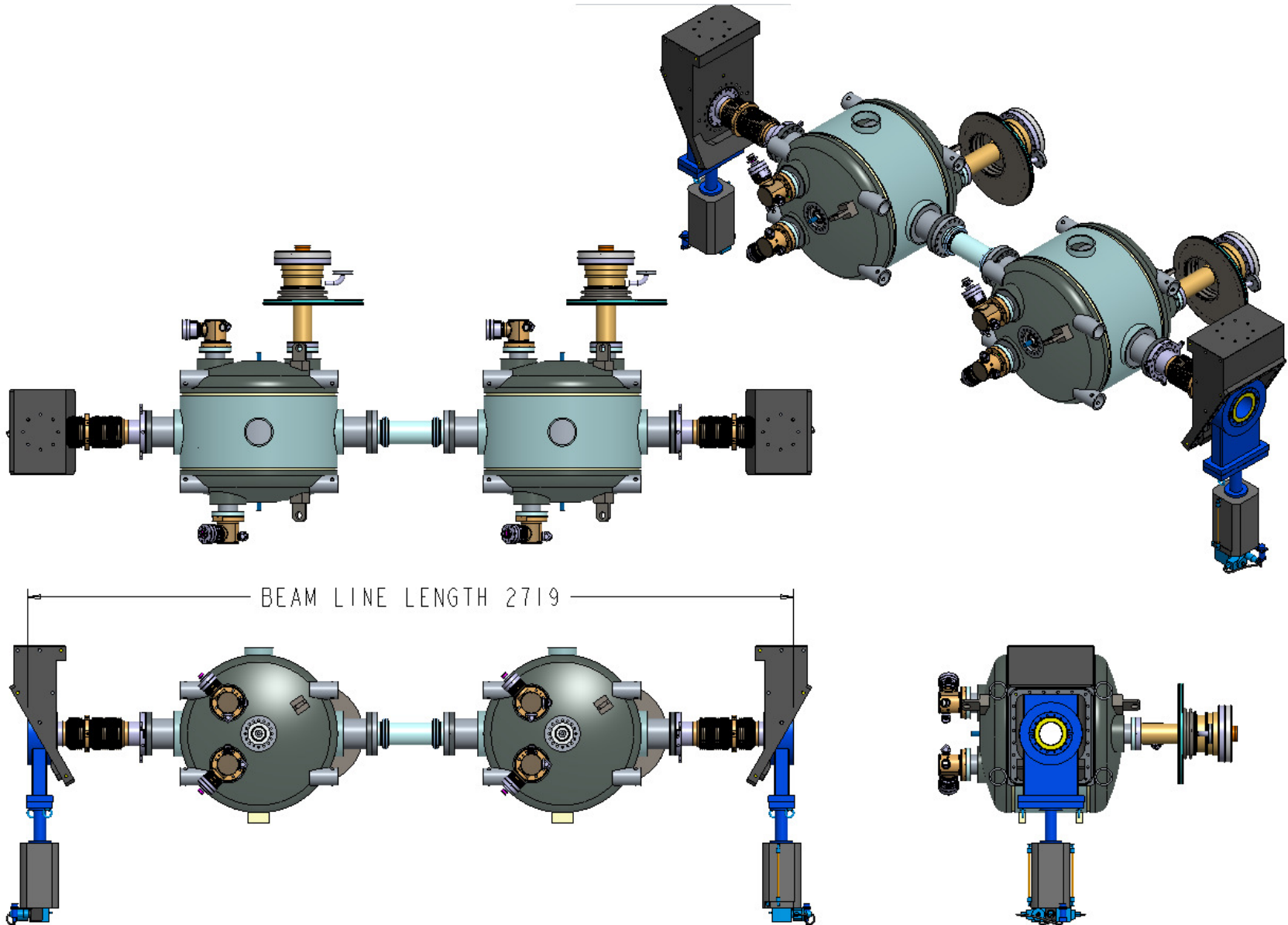


Completion

# Crab Cavity Cryomodule



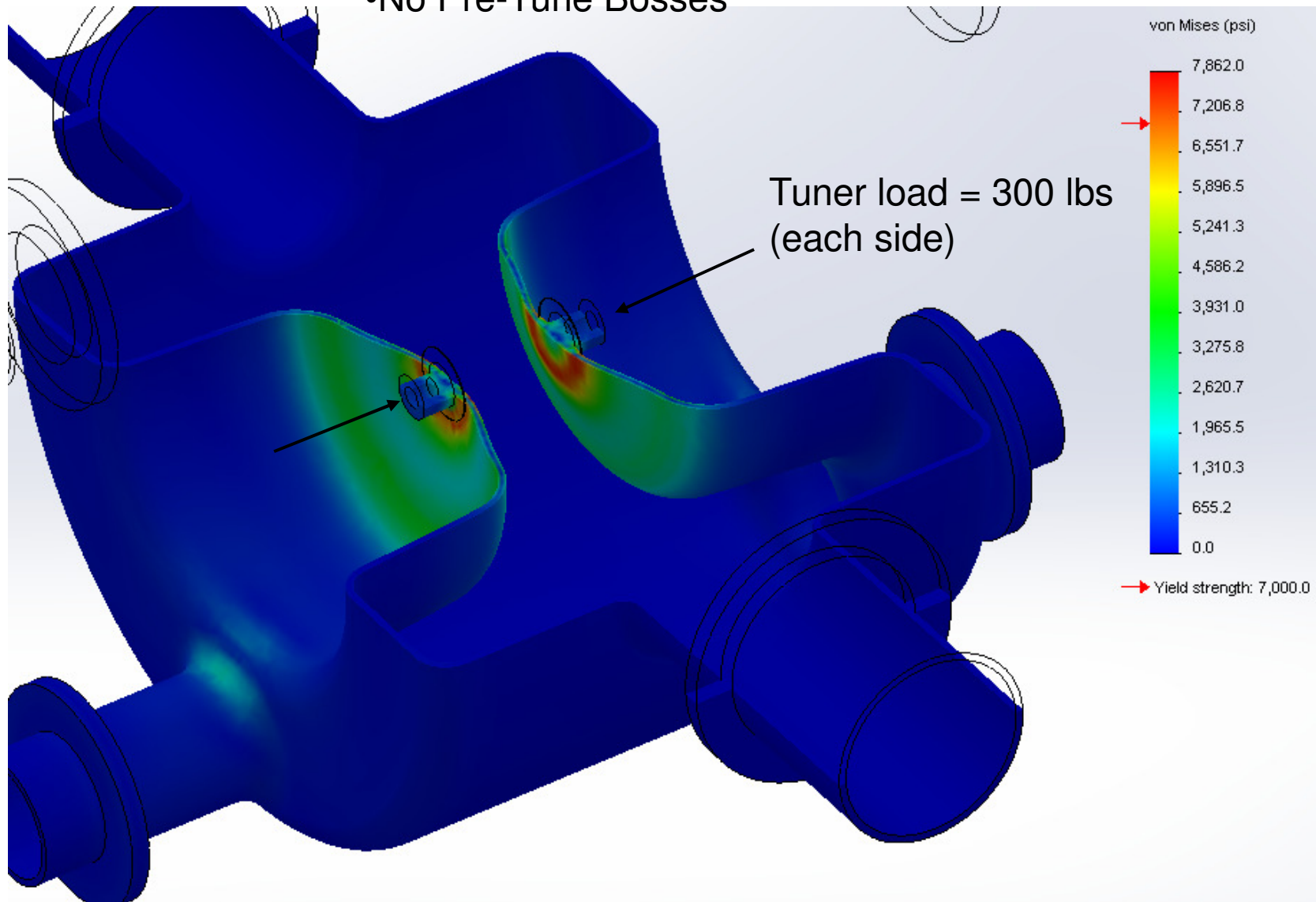
# Two Cavity String Length





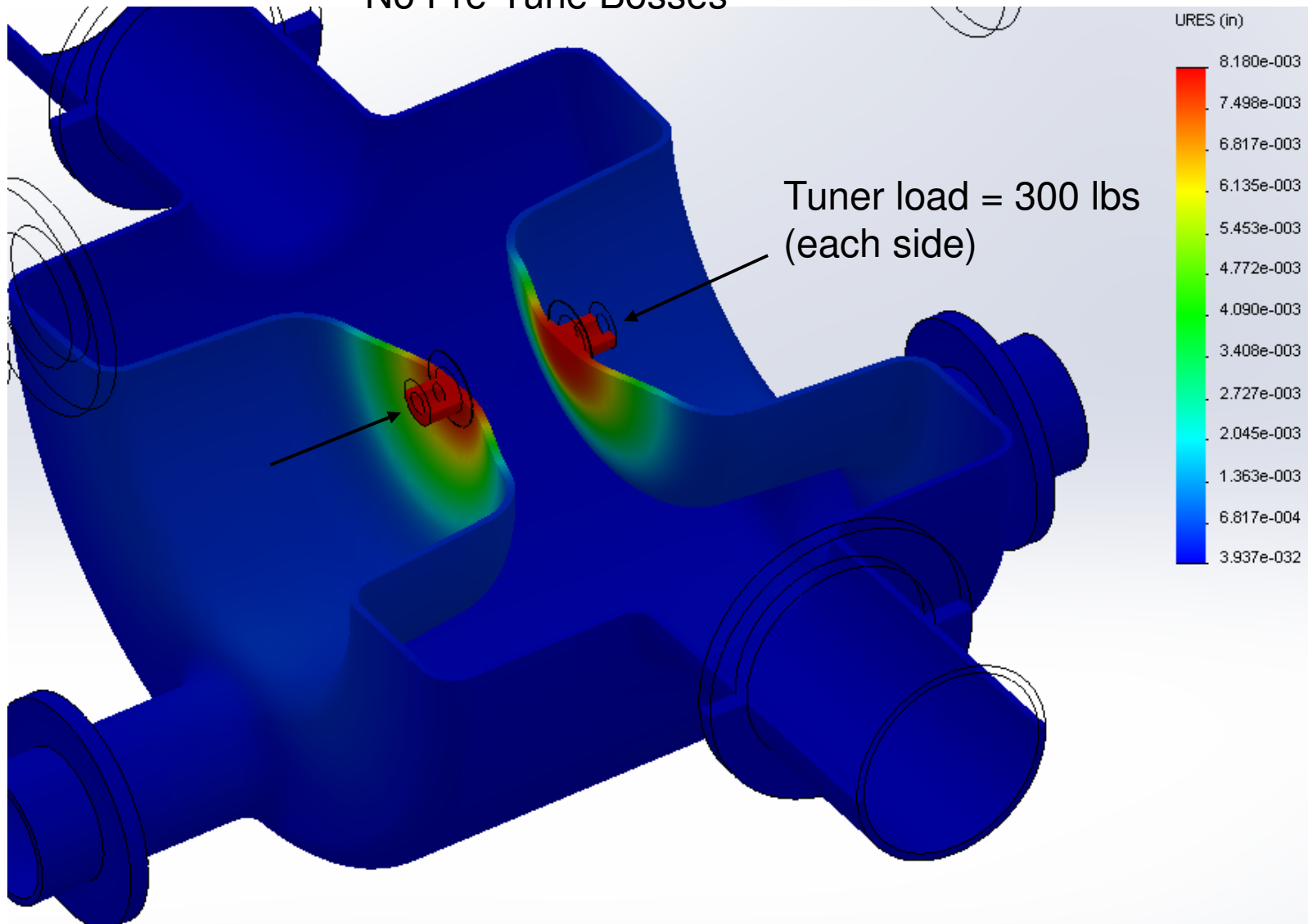
# Crab Cavity Analysis: Tuner Induced Stress

- Cavity wall thickness: 4mm
- No Pre-Tune Bosses



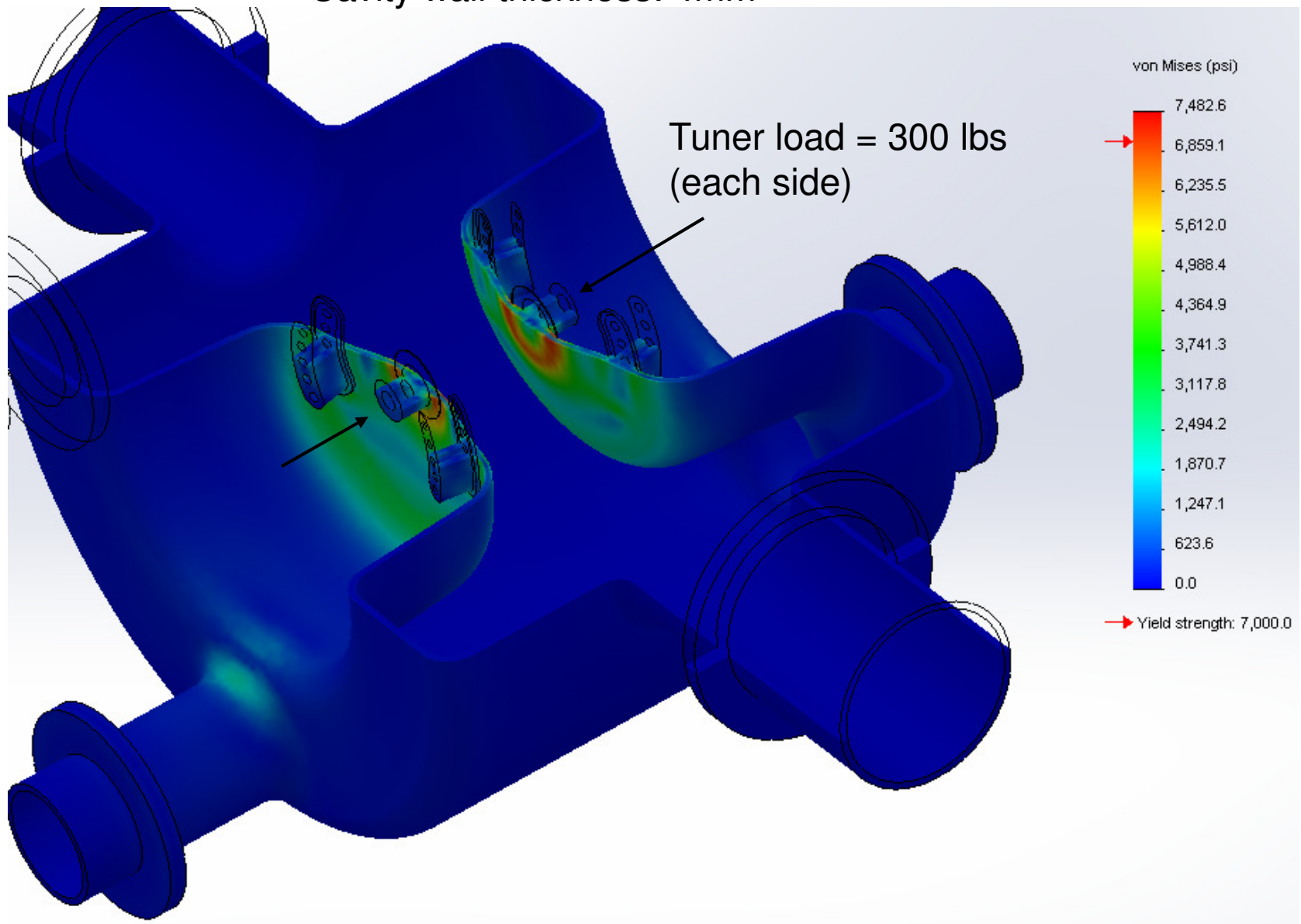
# Crab Cavity Analysis: Tuner Induced Deformation

- Cavity wall thickness: 4mm
- No Pre-Tune Bosses



# Crab Cavity Analysis: Tuner Induced Stress

•Cavity wall thickness: 4mm



# Crab Cavity Analysis: Tuner Induced Deformation

•Cavity wall thickness: 4mm

