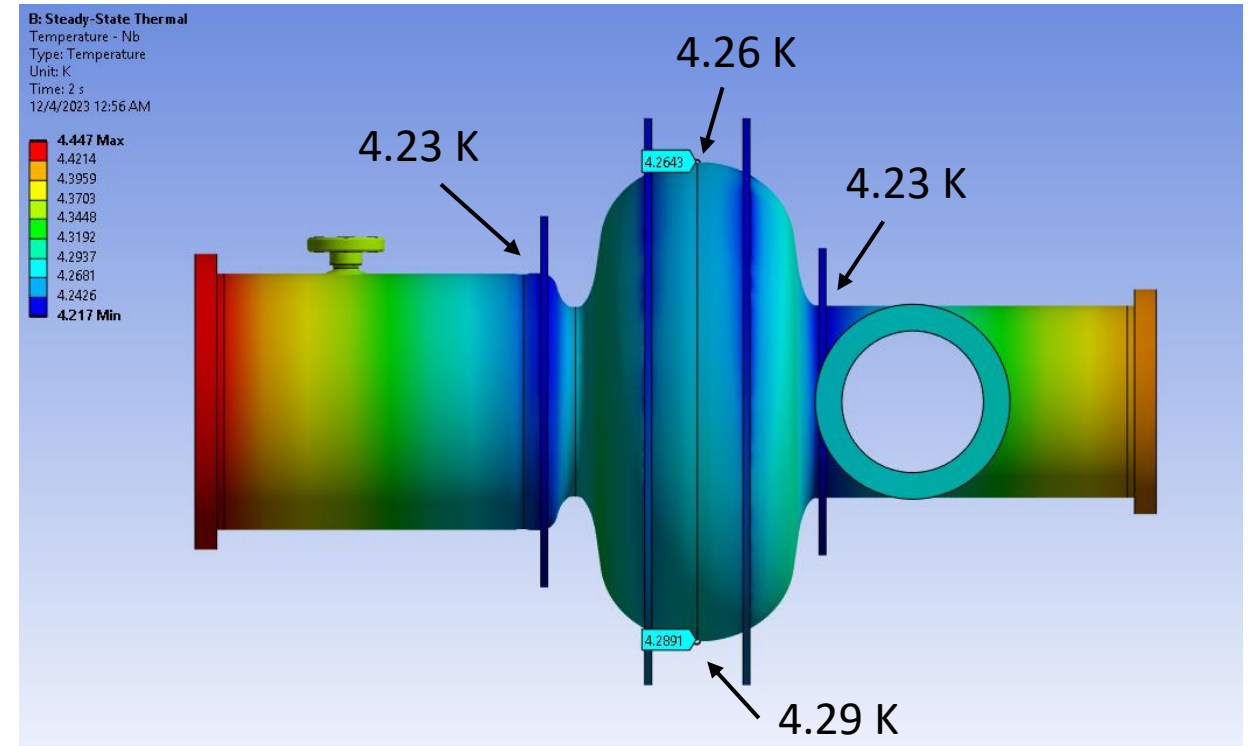
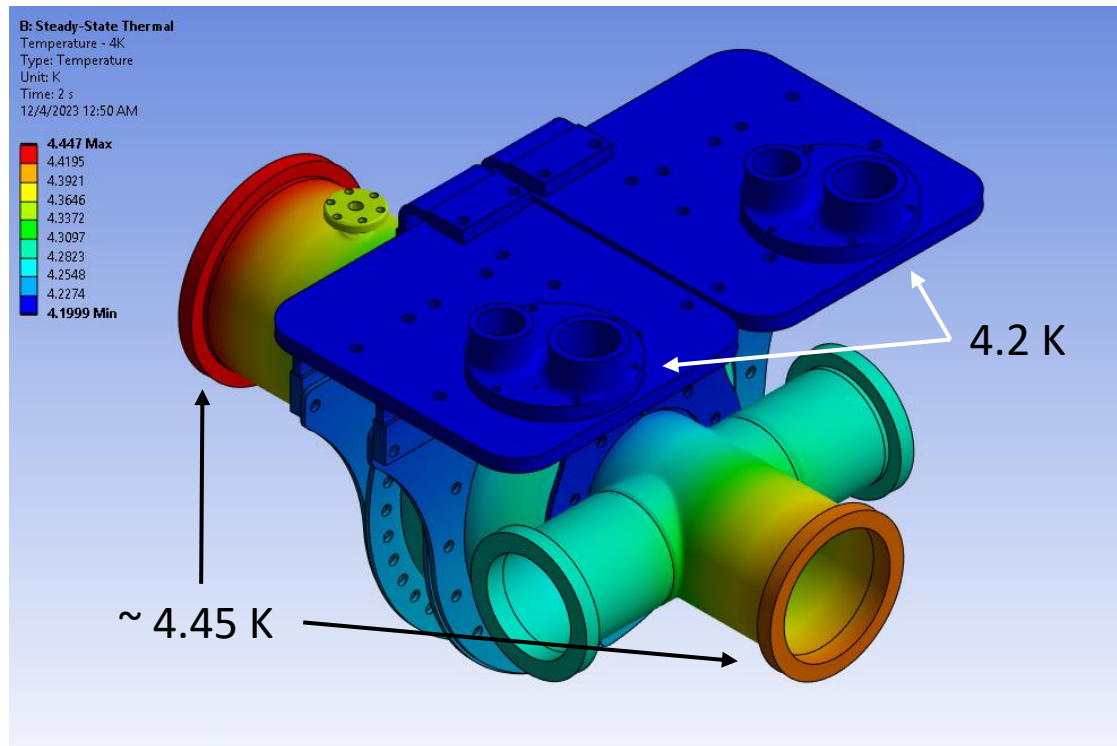
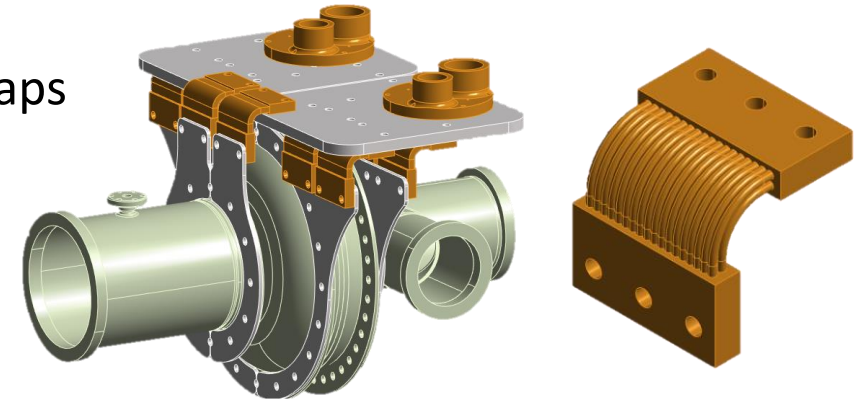
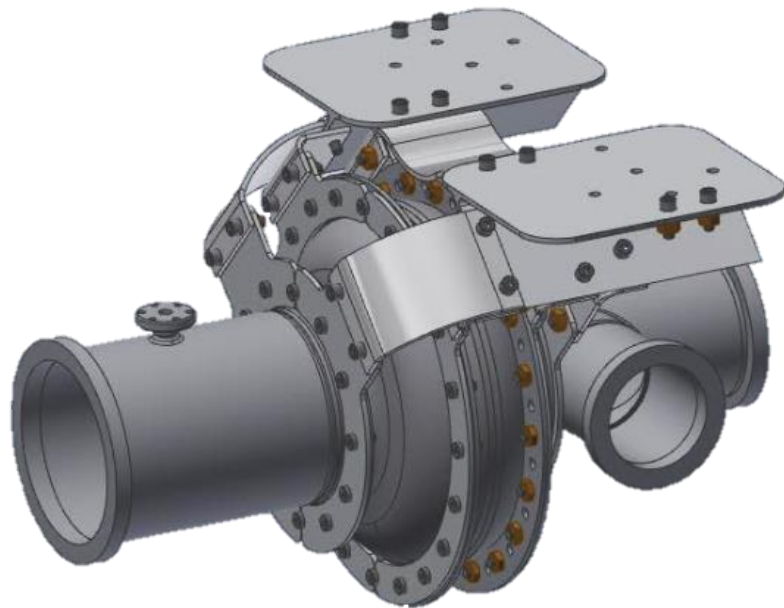


- Final design uses 5N Aluminum rings with copper braided thermal straps
  - High-purity Al offers high thermal conductivity with lower weight
  - Copper braided straps proved effective in previous experiments
- Cavity remains close to 4.2 K for high  $Q_0$
- Uniform cooling around entire cavity cell  $\rightarrow$  low thermal gradients



- Most challenges rise from practical limitations / obstacles
- Low contact resistance – requires good material, clean surfaces, improved with pressed indium
  - All become more difficult with full-sized systems
- Not much headroom at our operating parameters
  - Pushing fields much past 10 MV/m gets challenging
  - For constant  $\Delta T$  across thermal link, required cross-section  $\propto E_{acc}^2$
- Thermal link design may be restricted by technical limitations



- Supply / vendor challenges
- Spatial requirements
- Simpler design (identical straps)
- Reduced cost

