

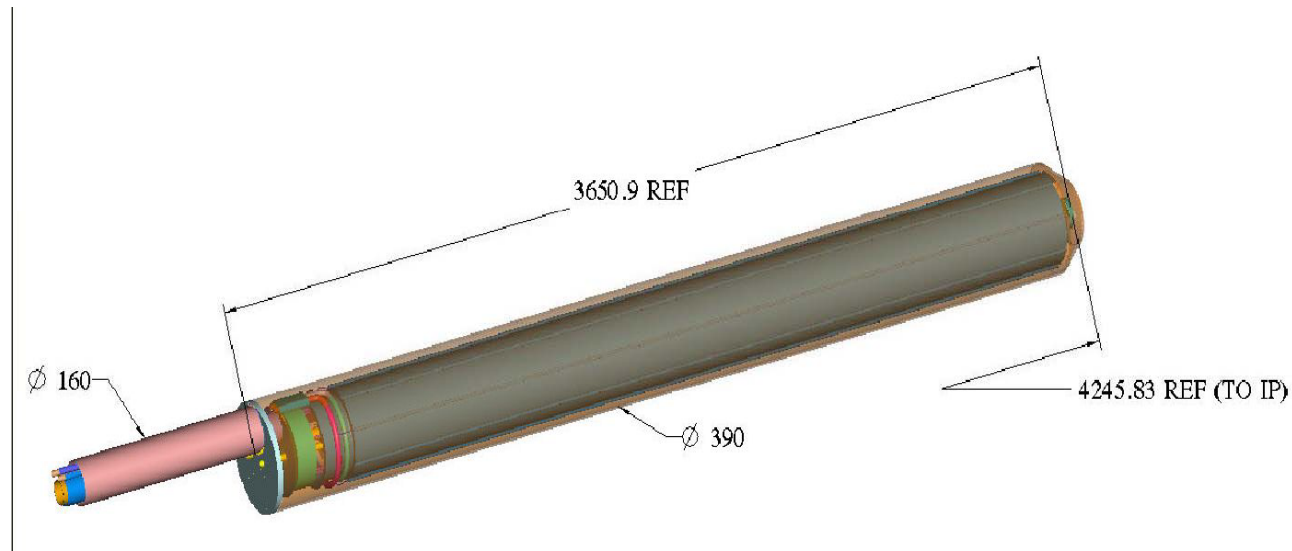
ILC IR FINAL FOCUS & EXTRACTION MAGNETS

Prepared by Andy Marone
ILC Workshop, Sept. 17-21

DISCUSSION OUTLINE

- Magnet design status
- Service cryostat design status
- Interface regions
- Some Remaining engineering tasks

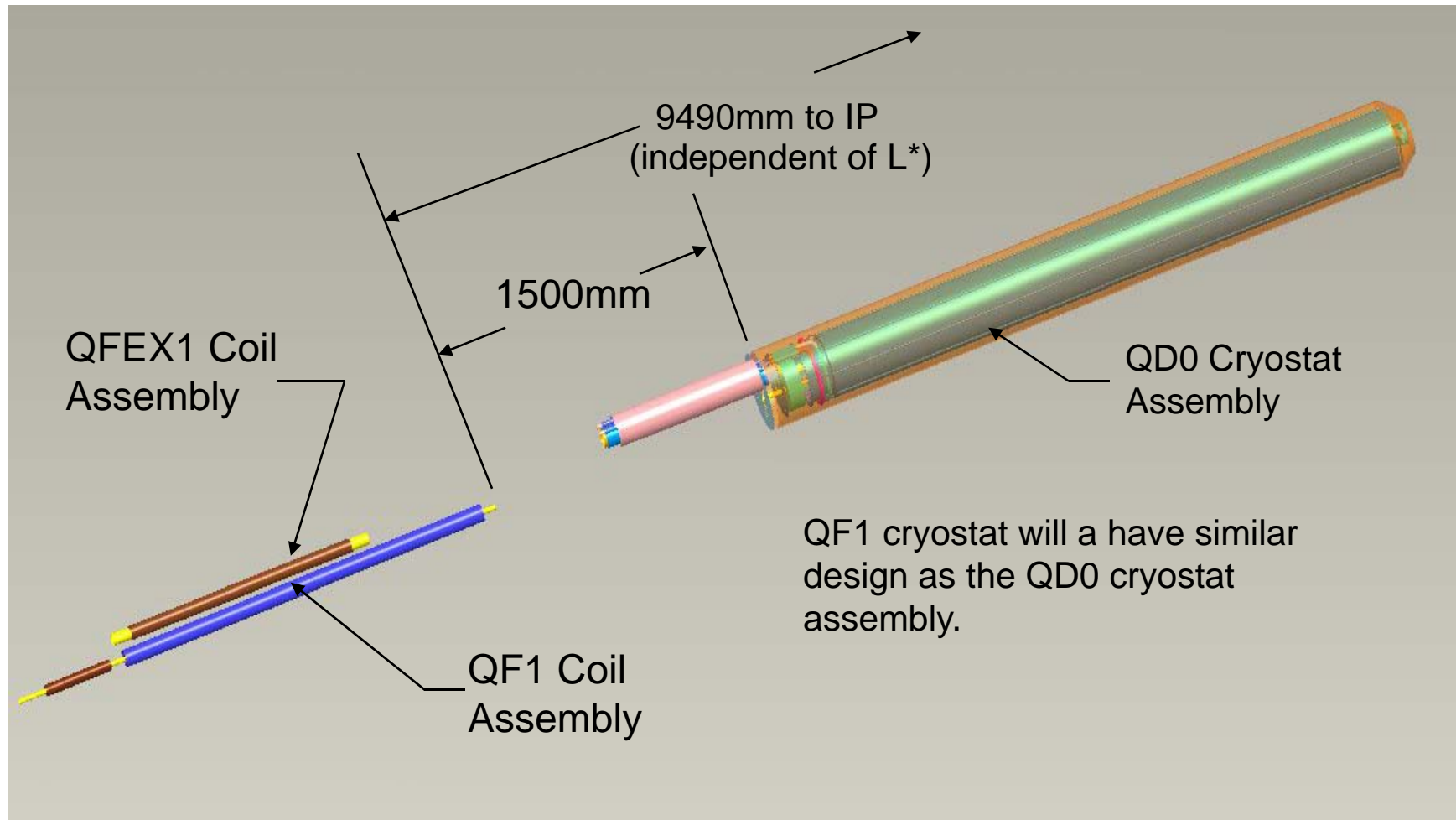
QD0 CRYOSTAT



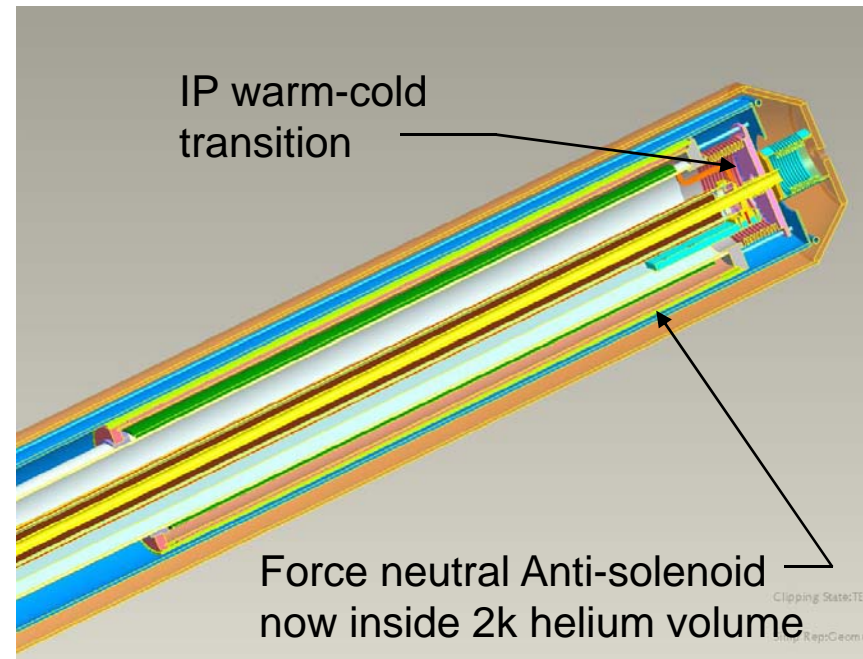
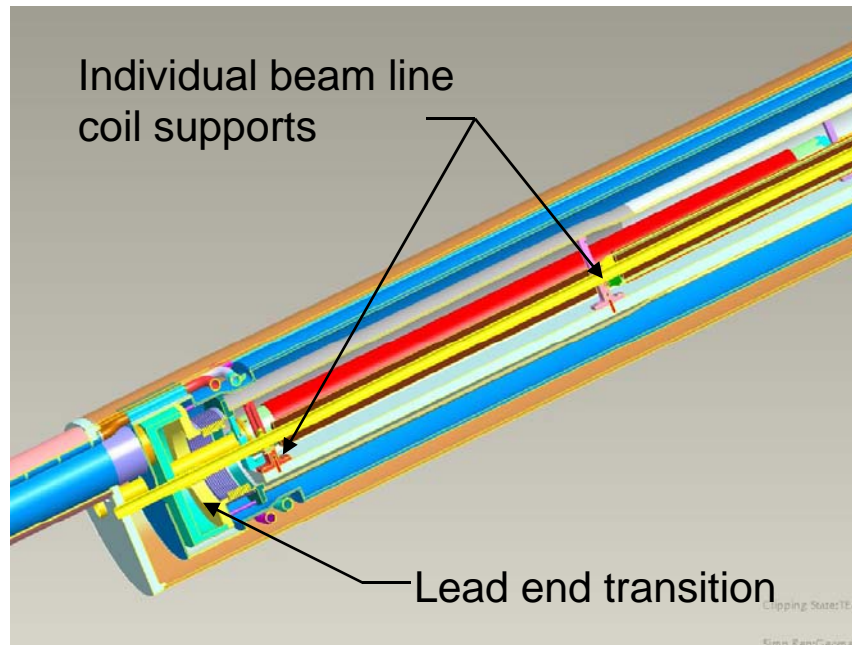
- Overall dimensions of QD0 cryostat.
- Sized and shown for $L^* = 4500\text{mm}$.
- For $L^* = 3500\text{mm}$ distance to IP would be 3245mm, all other dims. remain constant.

CURRENT OVERALL DESIGN

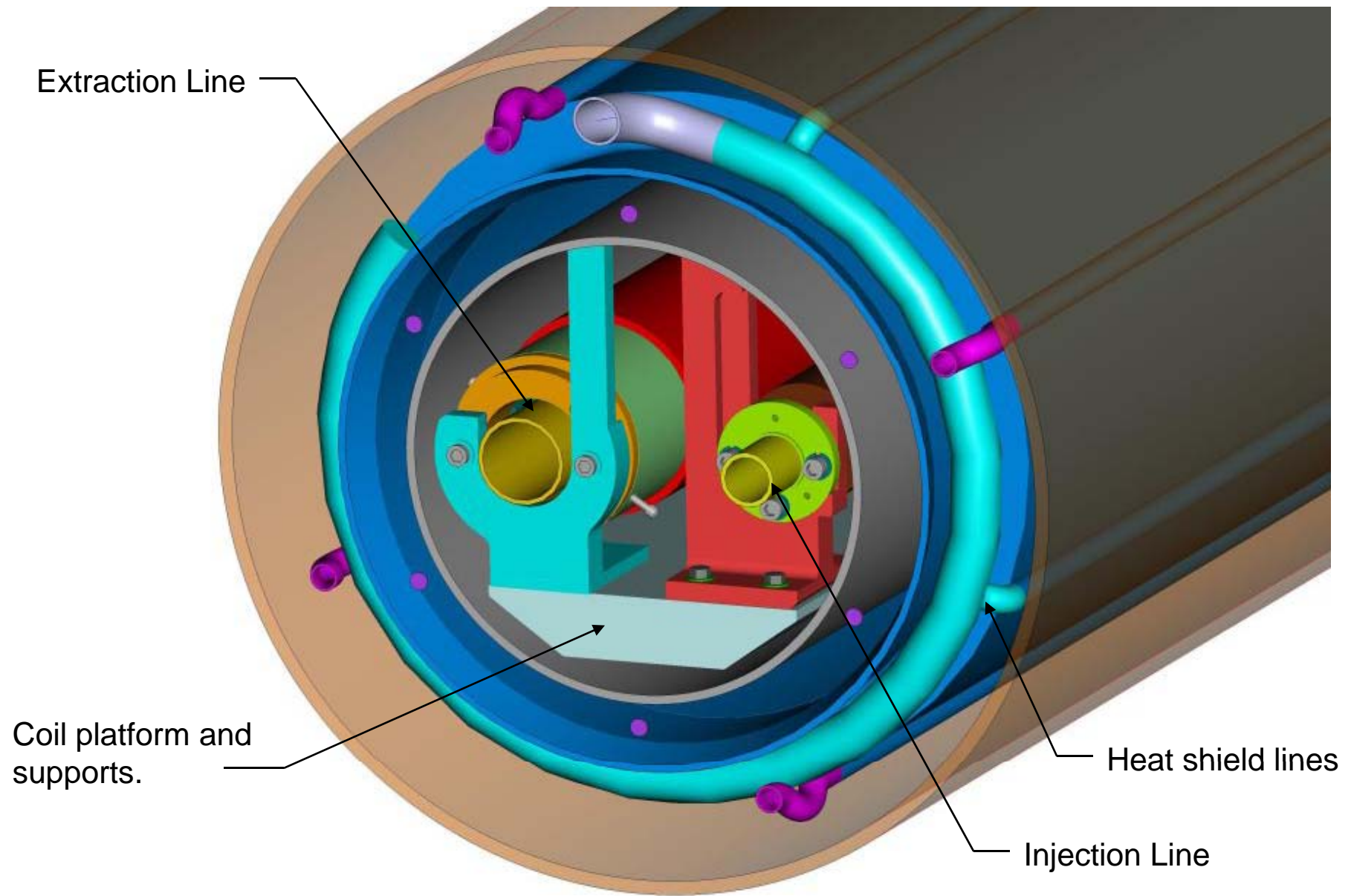
$$L^* = 4500\text{mm}$$



QD0 Design

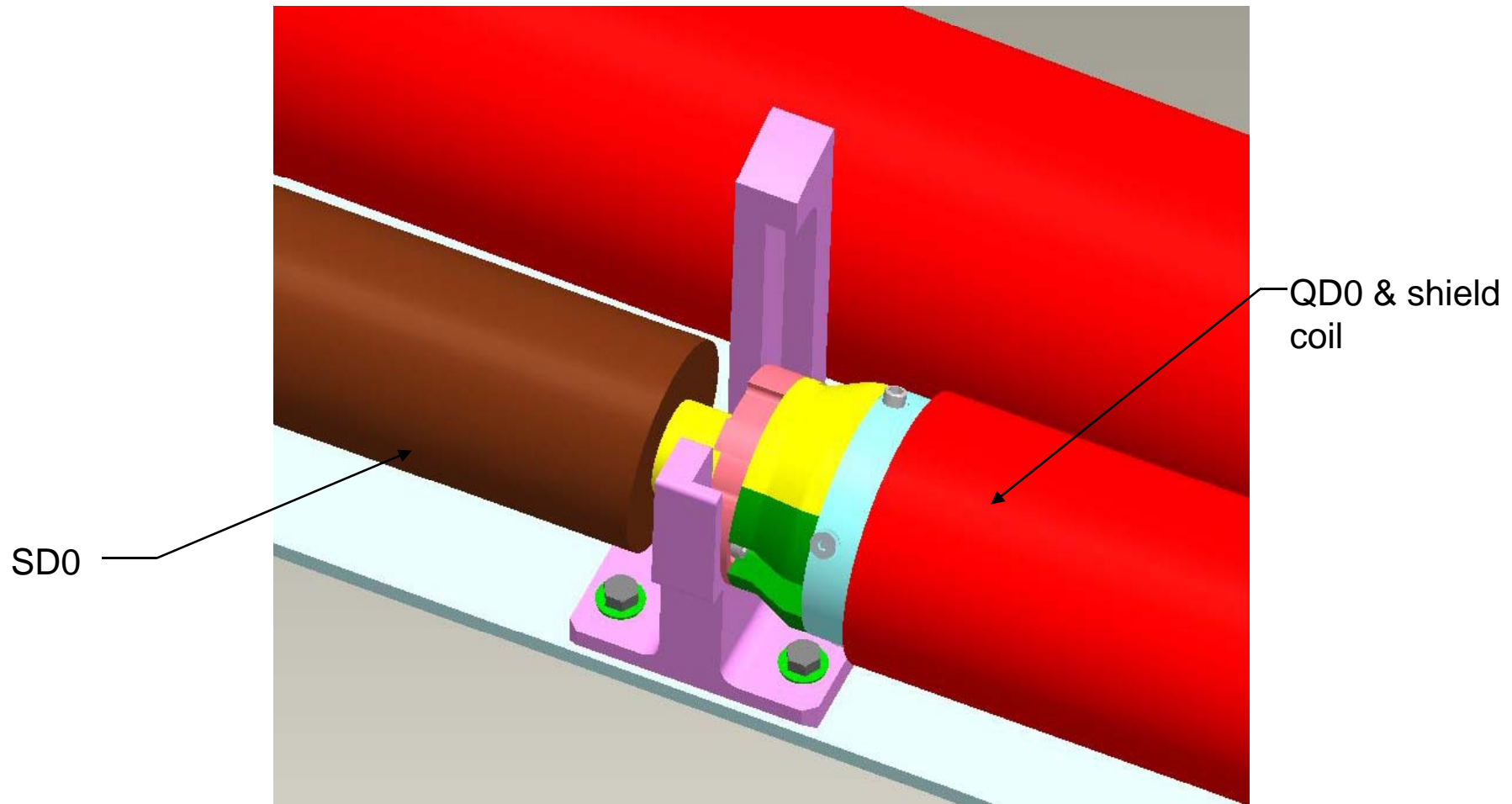


All vessels sized for up to a 4500mm L^* , any larger L^* would require an increase in the diameter of each vessel.



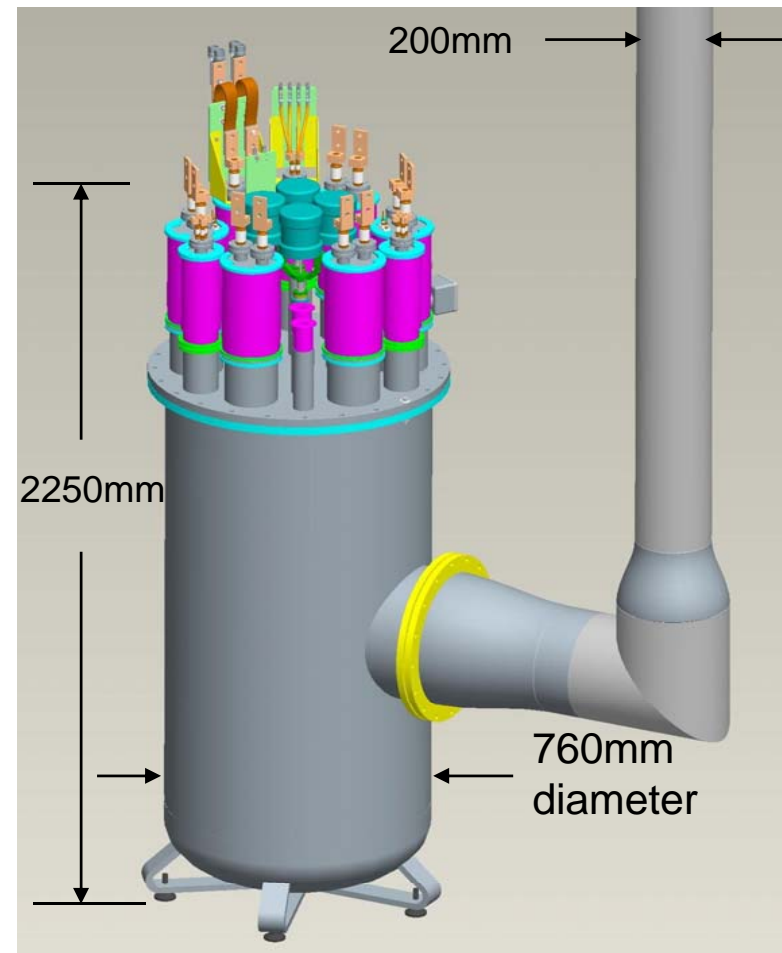
View looking in non-IP end of cold mass

QD0-SD0 SUPPORT



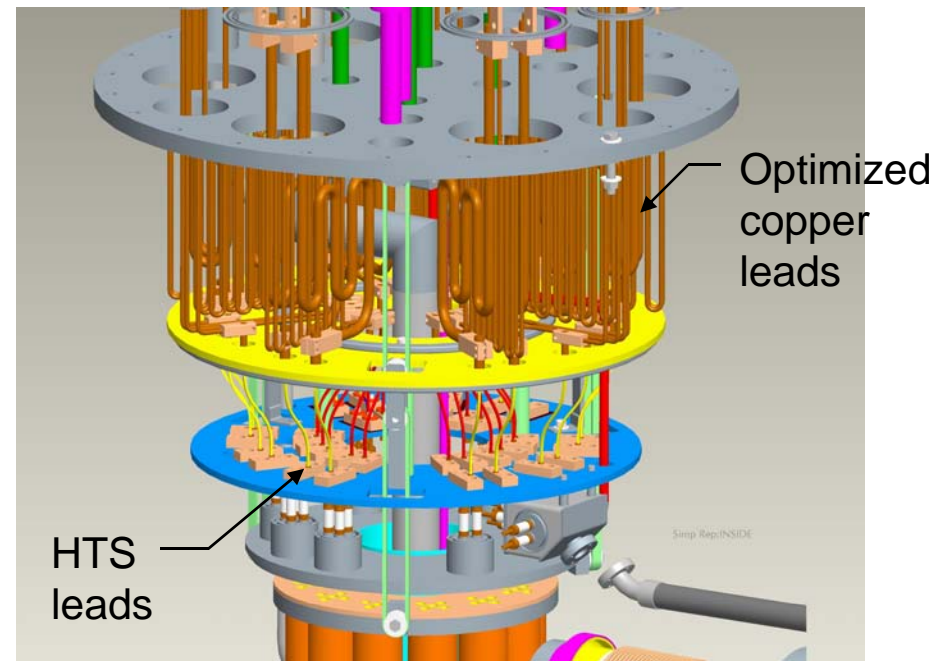
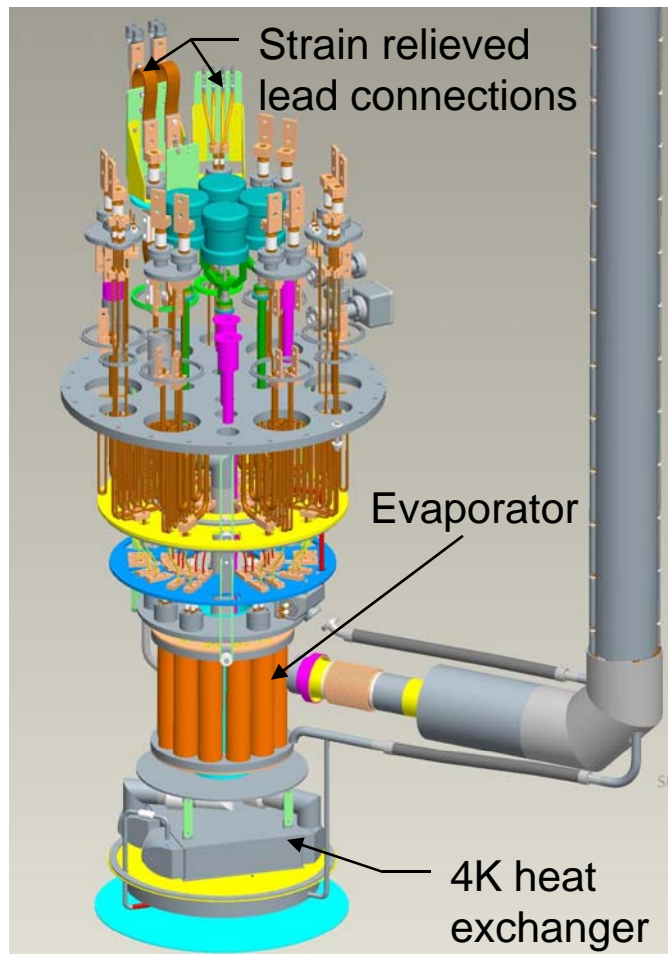
SERVICE CRYOSTAT DESIGN STATUS

- Basic design completed
- (12) 1000 A leads
- (24) 100 A leads
- Possible revision of evaporator and heat exchanger (may lower overall height)
- More work on transfer line required



Overall service cryostat dimensions

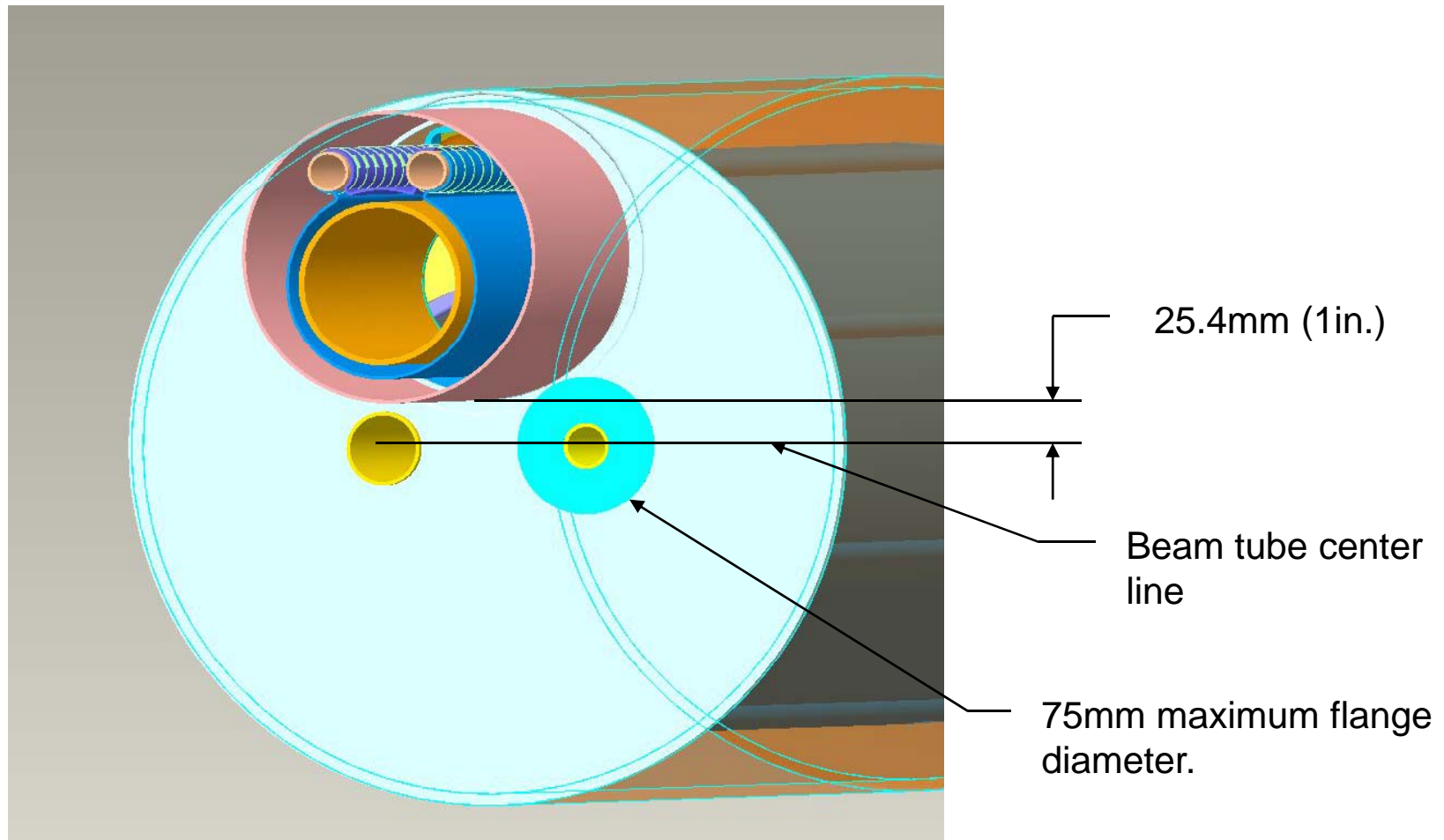
Service cryostat inner construction



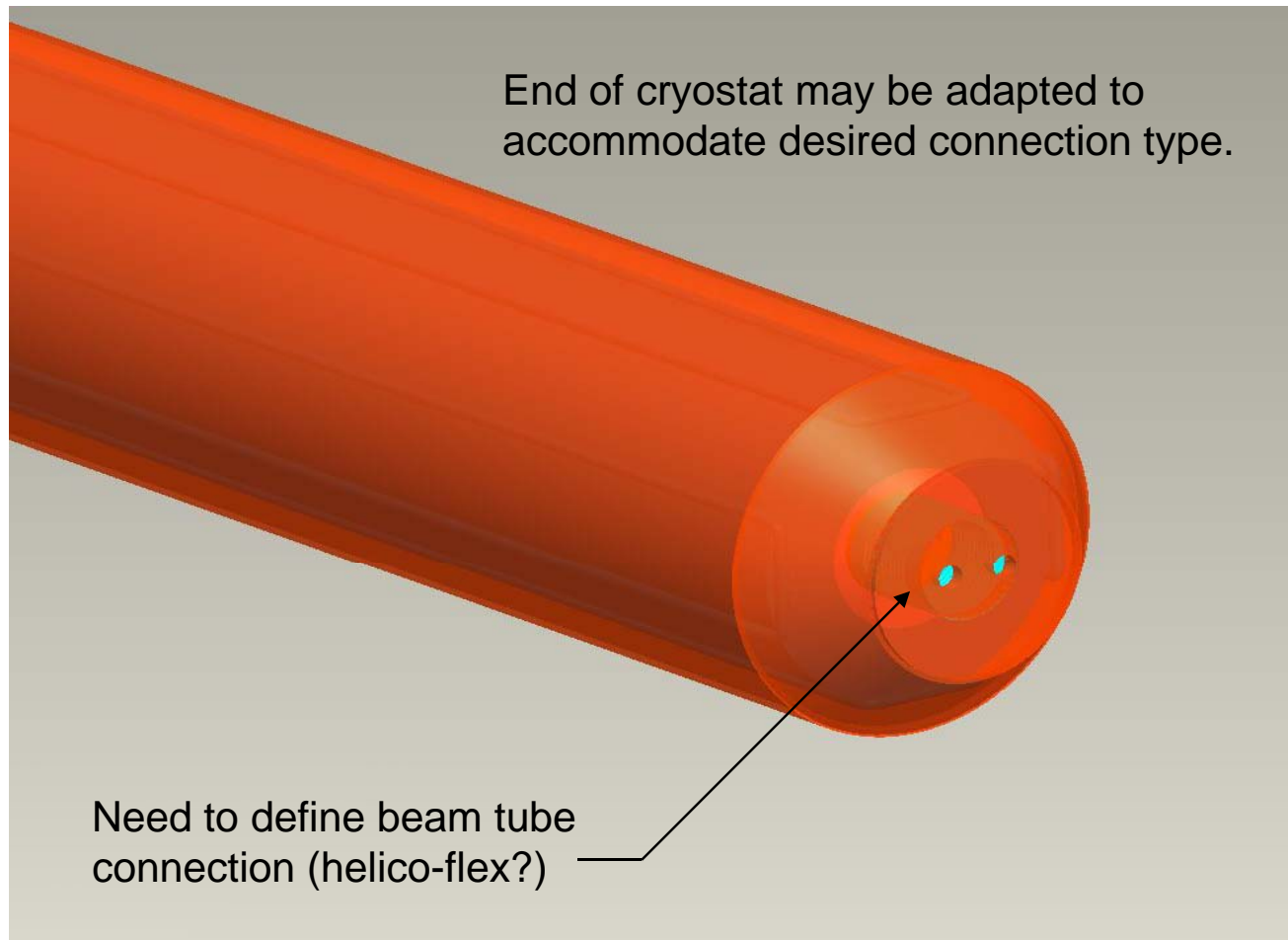
MAGNET INTERFACE REGIONS

- Non-IP end beam tube connections.
- IP-end connections.
- Cryostat support.

LEAD-END (NON-IP) BEAM TUBE CONNECTIONS

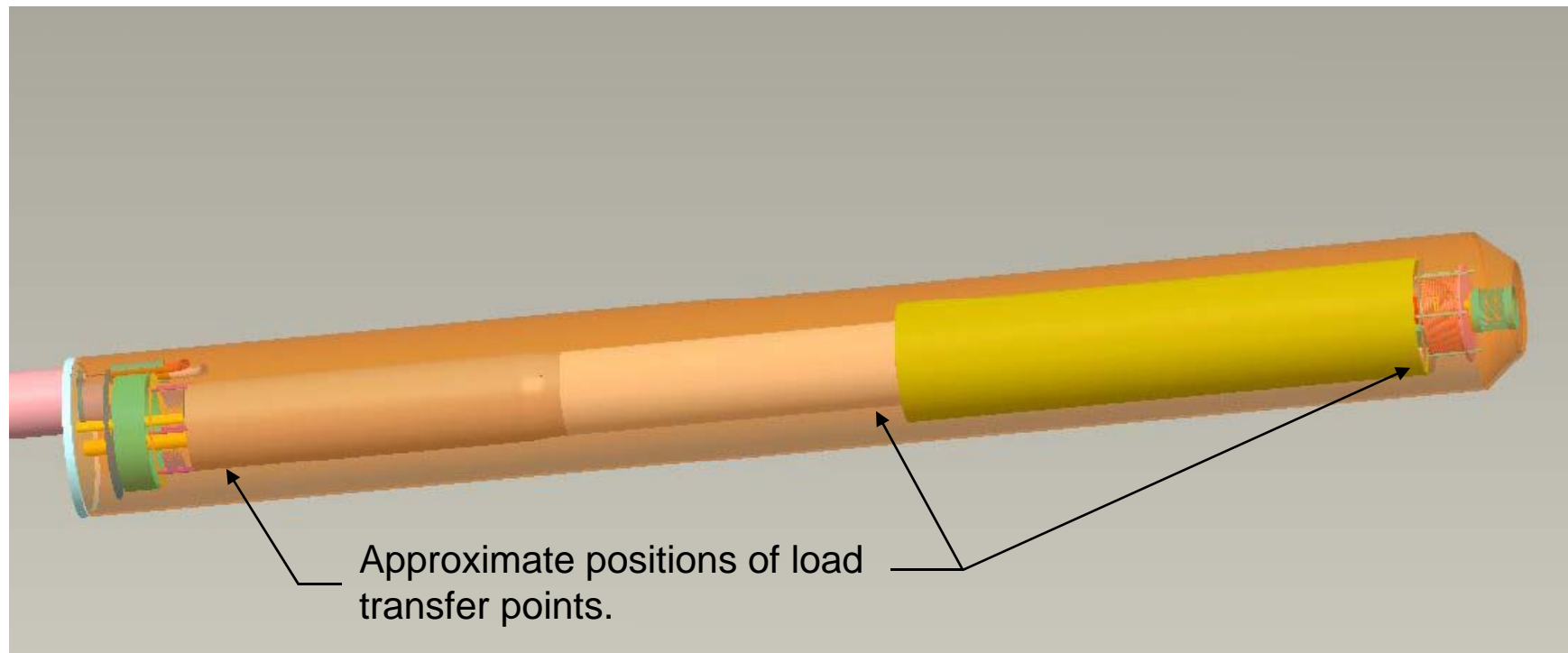


IP-END BEAM TUBE CONNECTION



CRYOSTAT SUPPORT

IDEAL AXIAL POSITIONS FOR CRYOSTAT SUPPORT TO BE PLACED



SOME REMAINING ENGINEERING / DESIGN

- Add internal cold mass supports.
- Vibration analysis
- Lead bus design
- Detailed transfer line design
- Interface connection design
- Cryostat support connection and adjustment design