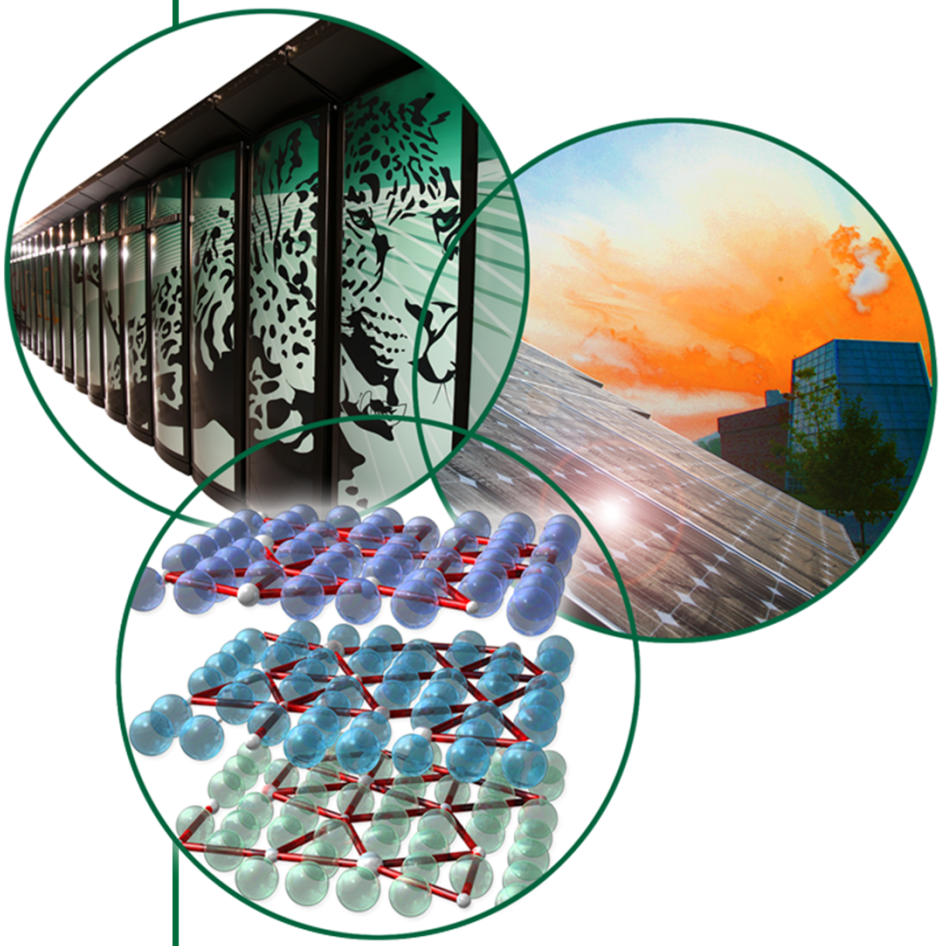
IDS120_20to1.5T7M Images

V. Graves

Target Studies

April 25, 2013



U.S. DEPARTMENT OF ENERGY

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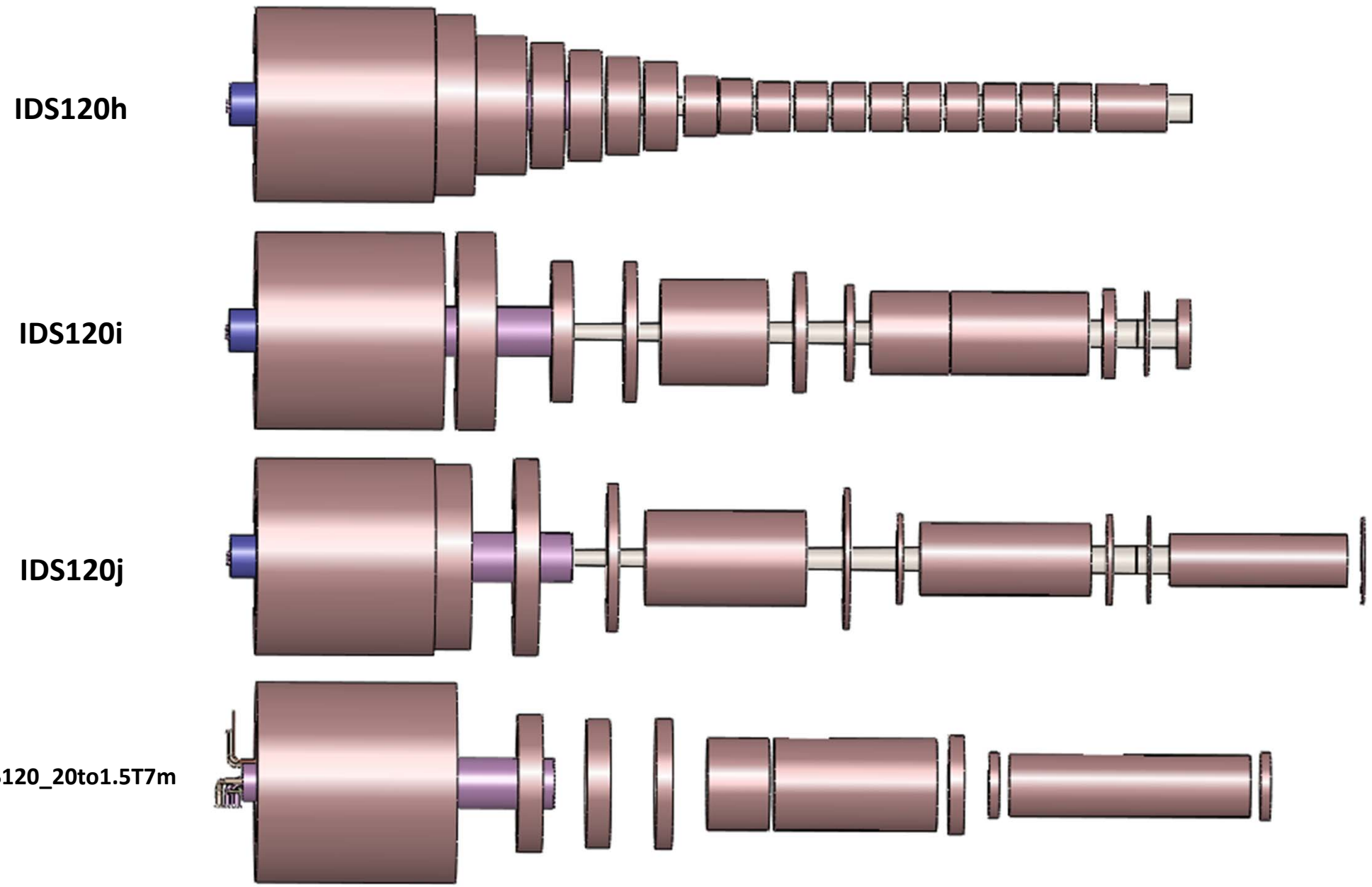
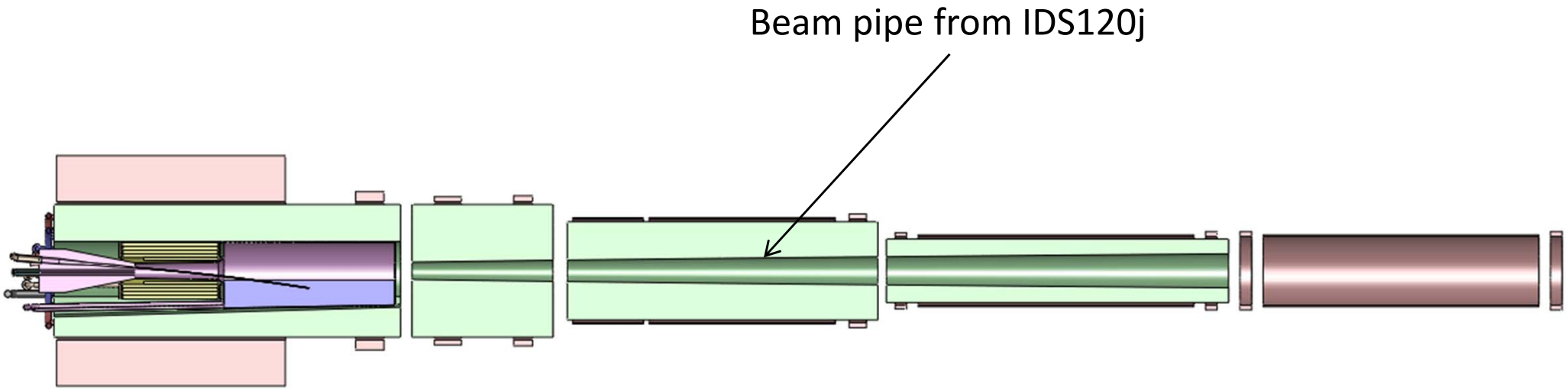
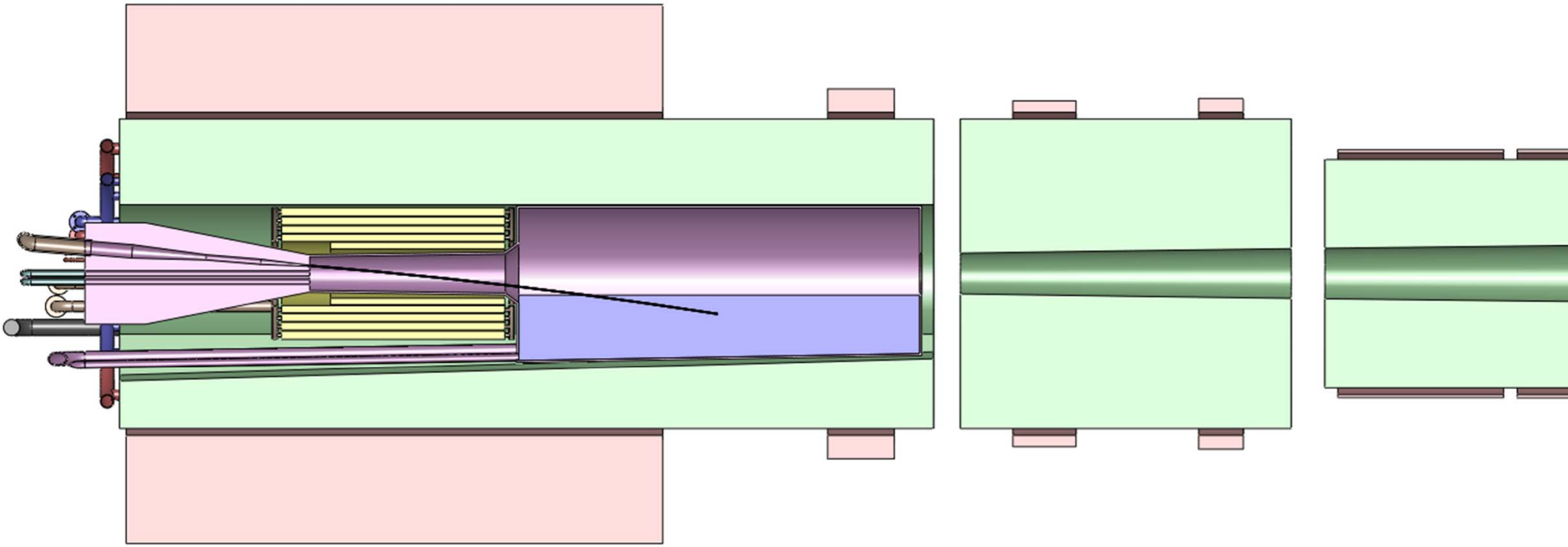
IDS Coil Comparison



IDS120_20to1.5T7m

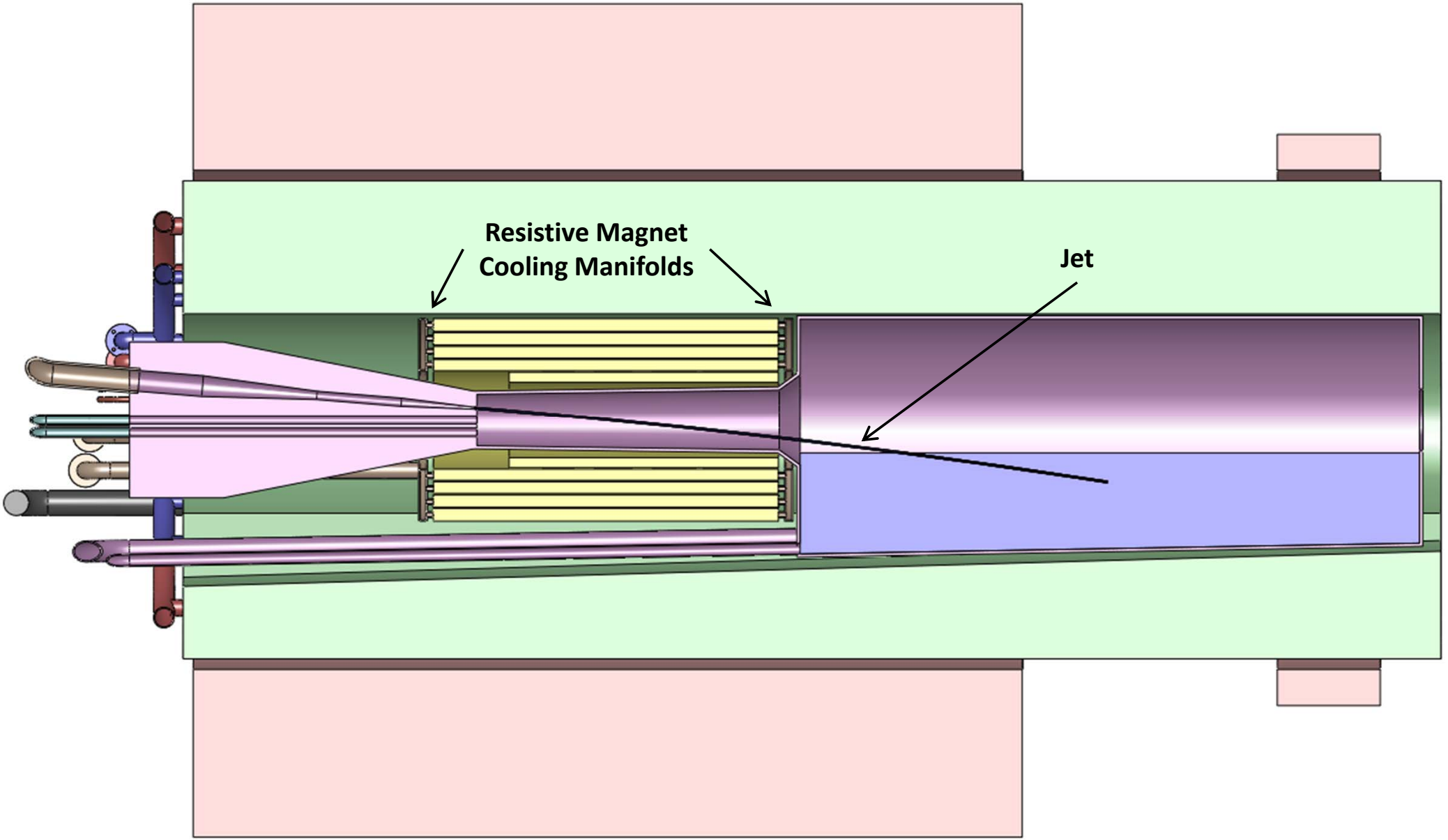


First Shielding Sections

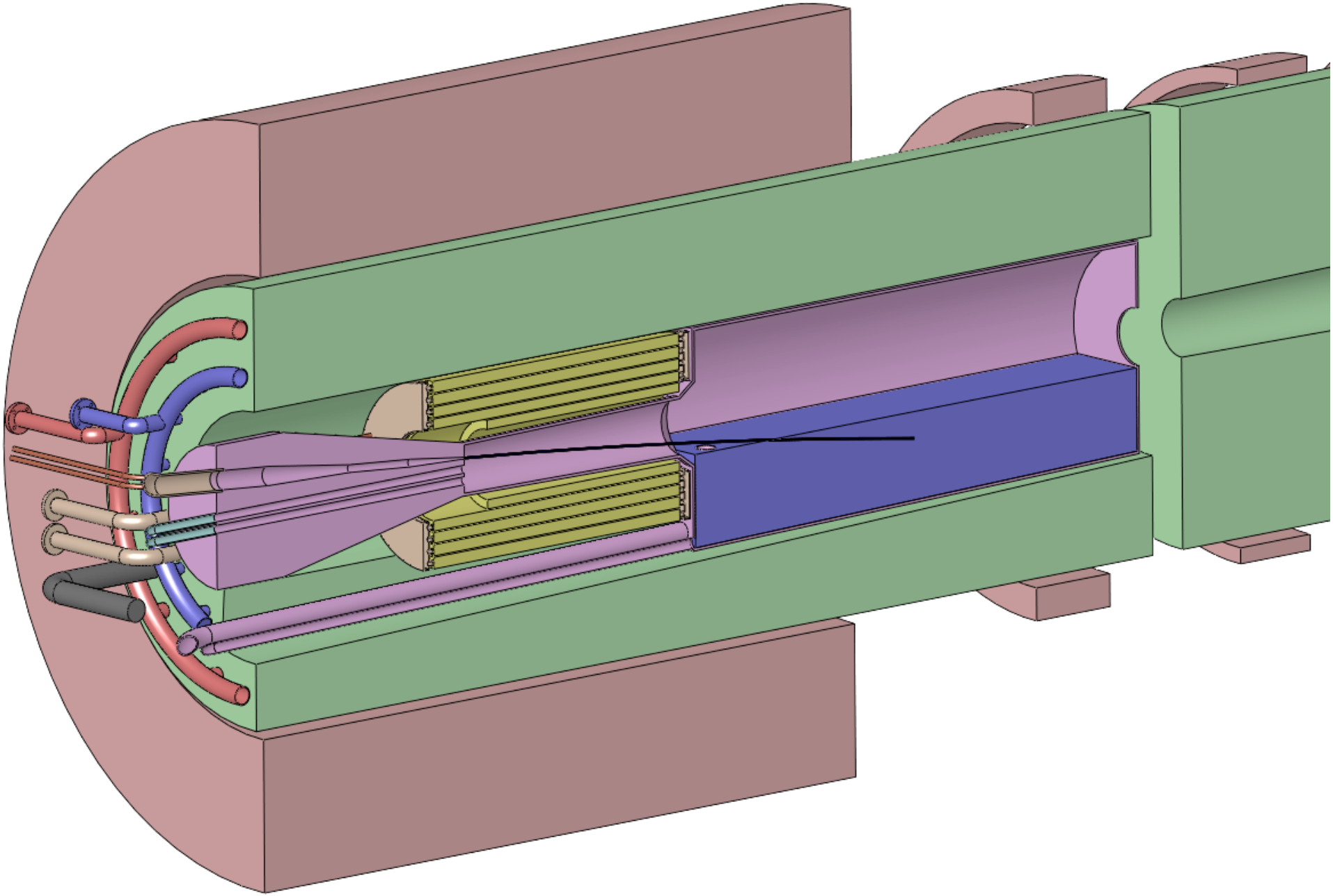


Note: no shielding inside mercury vessel

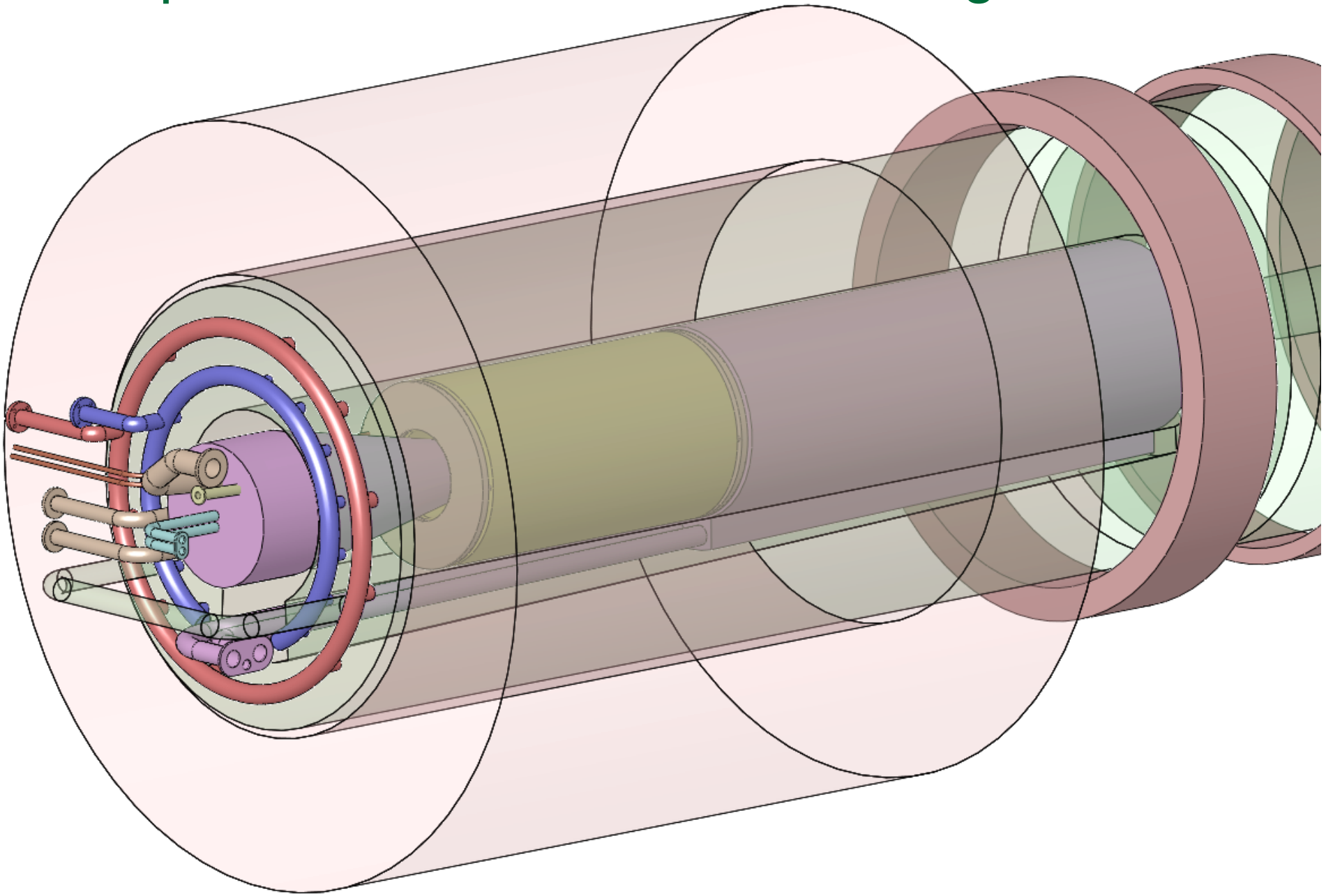
Mercury Module



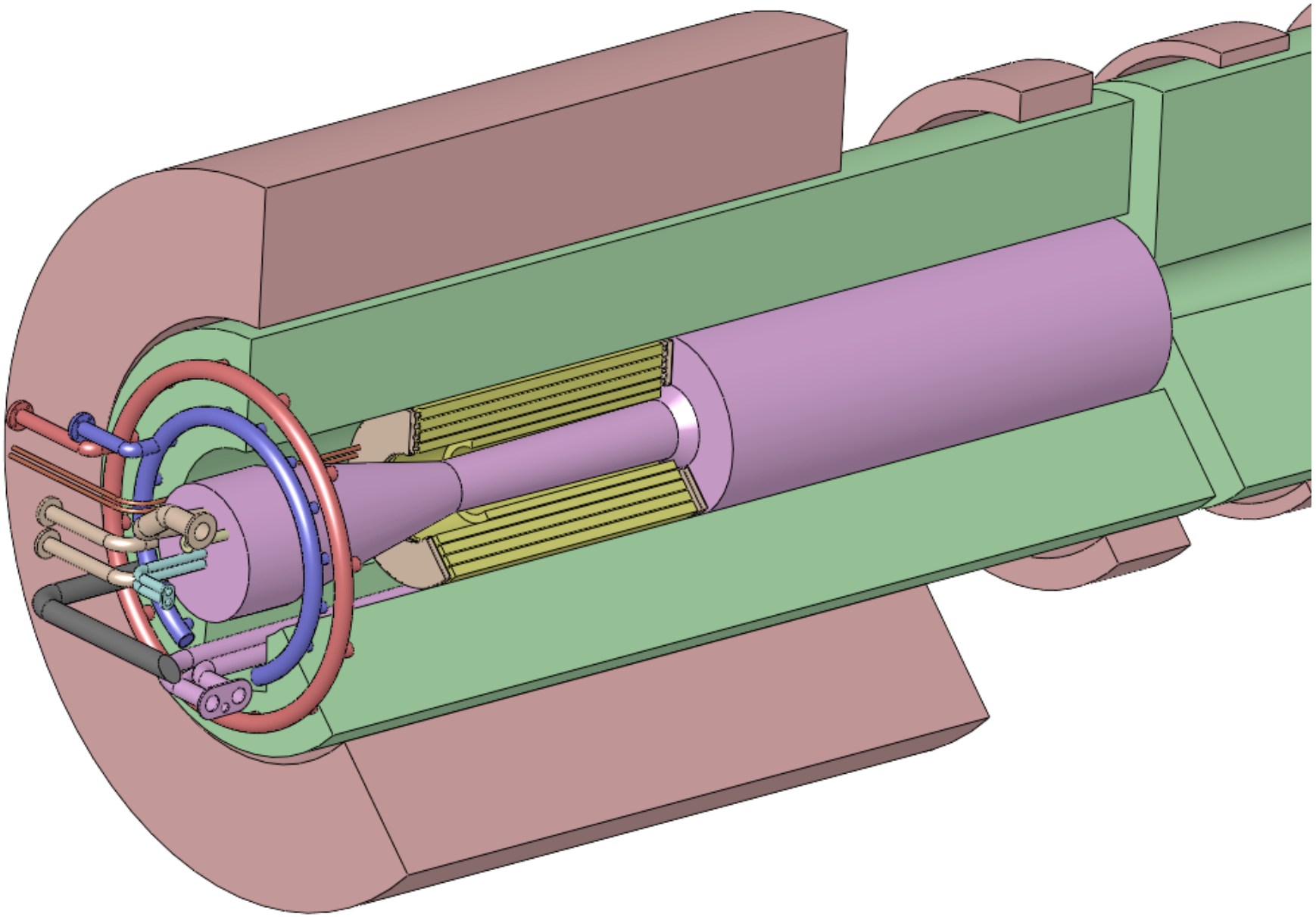
Isometric Cross Section



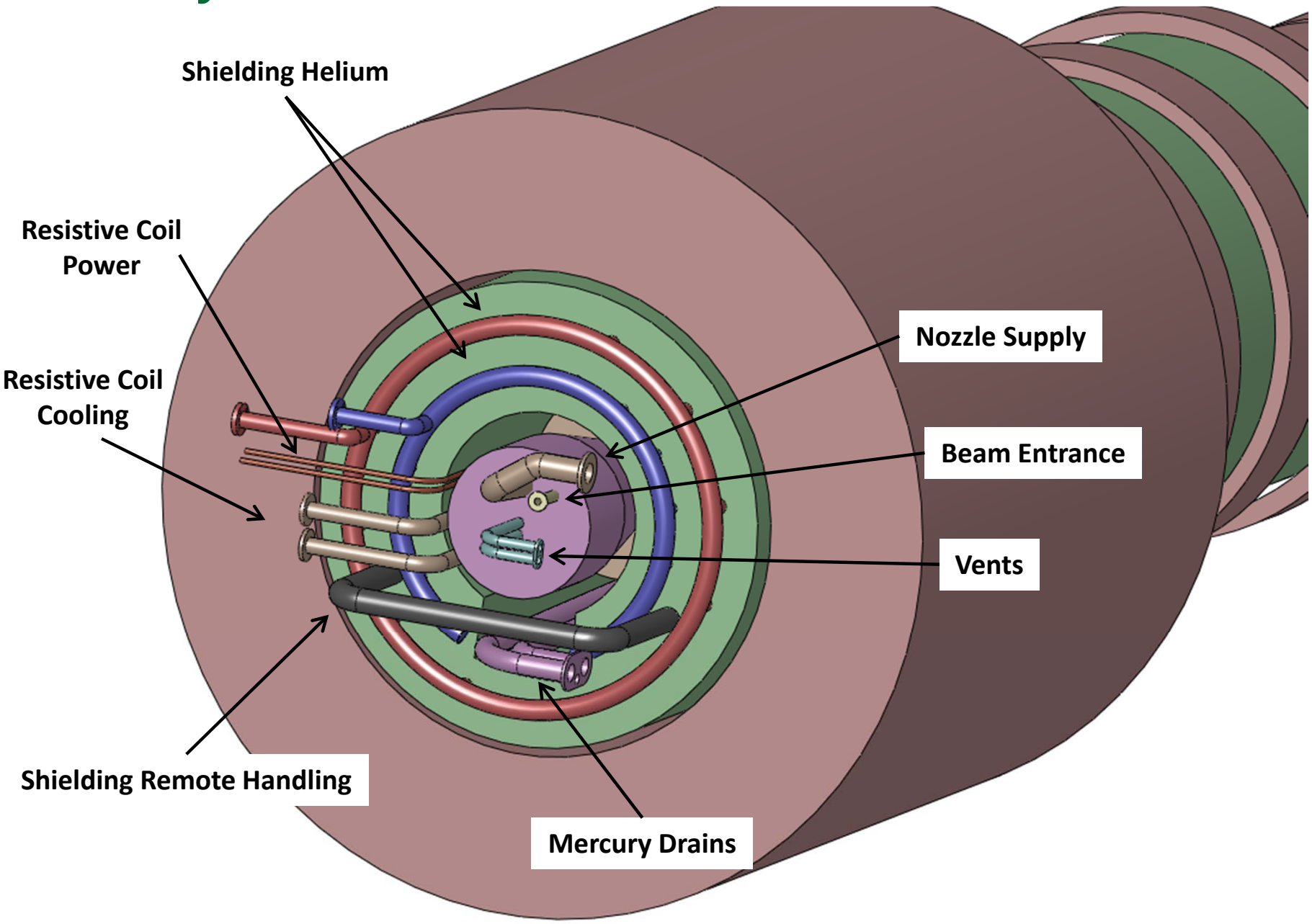
Transparent Coil and Shielding



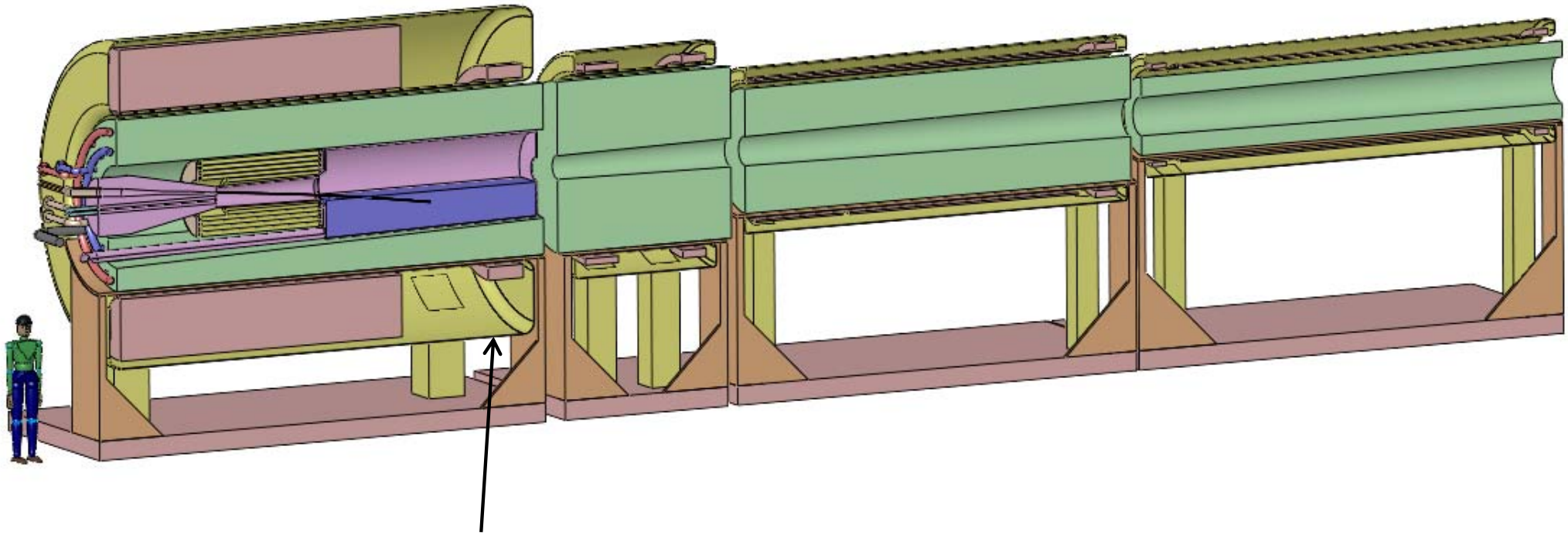
Mercury Vessel is Closed Container



Utility Connections

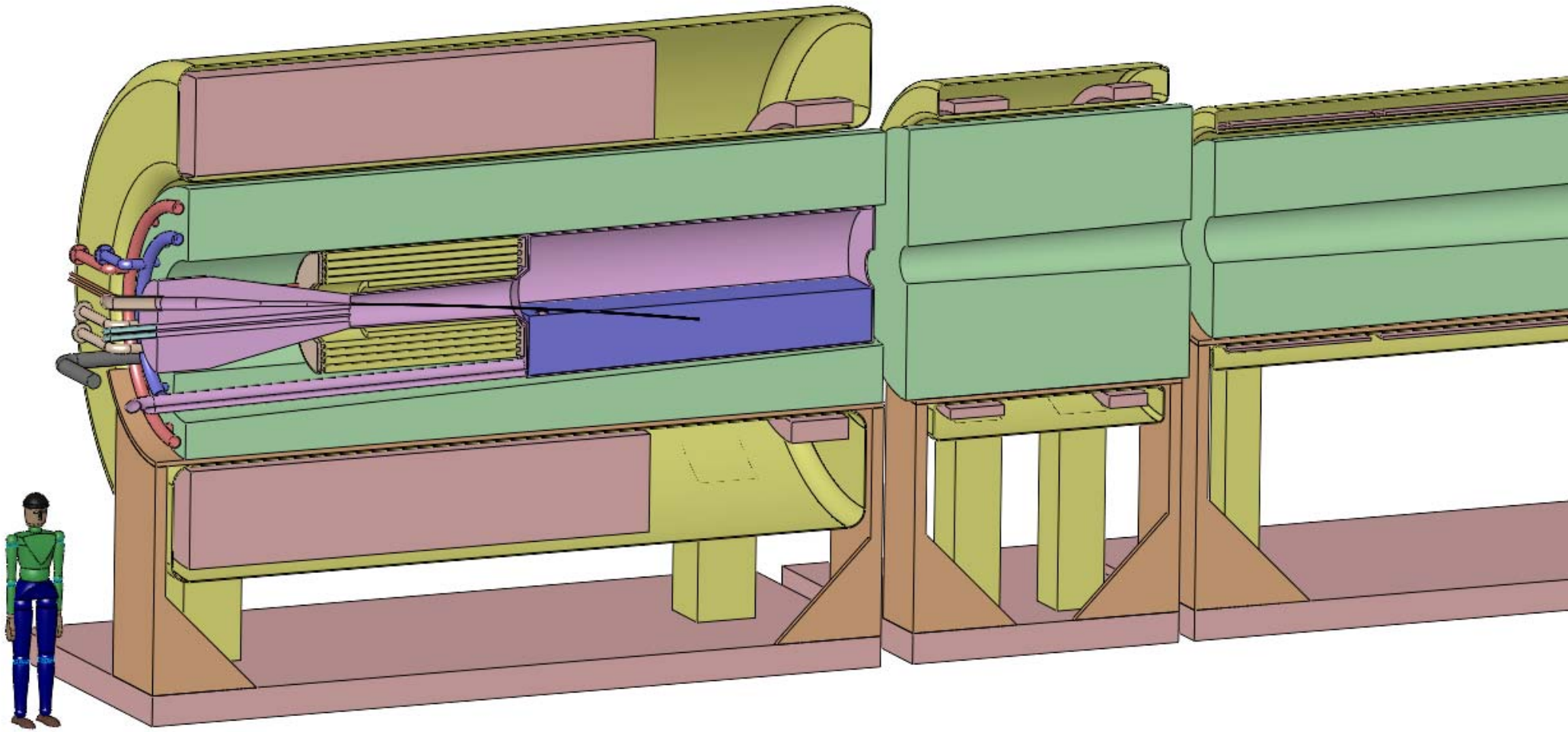


Cryostats 1-4

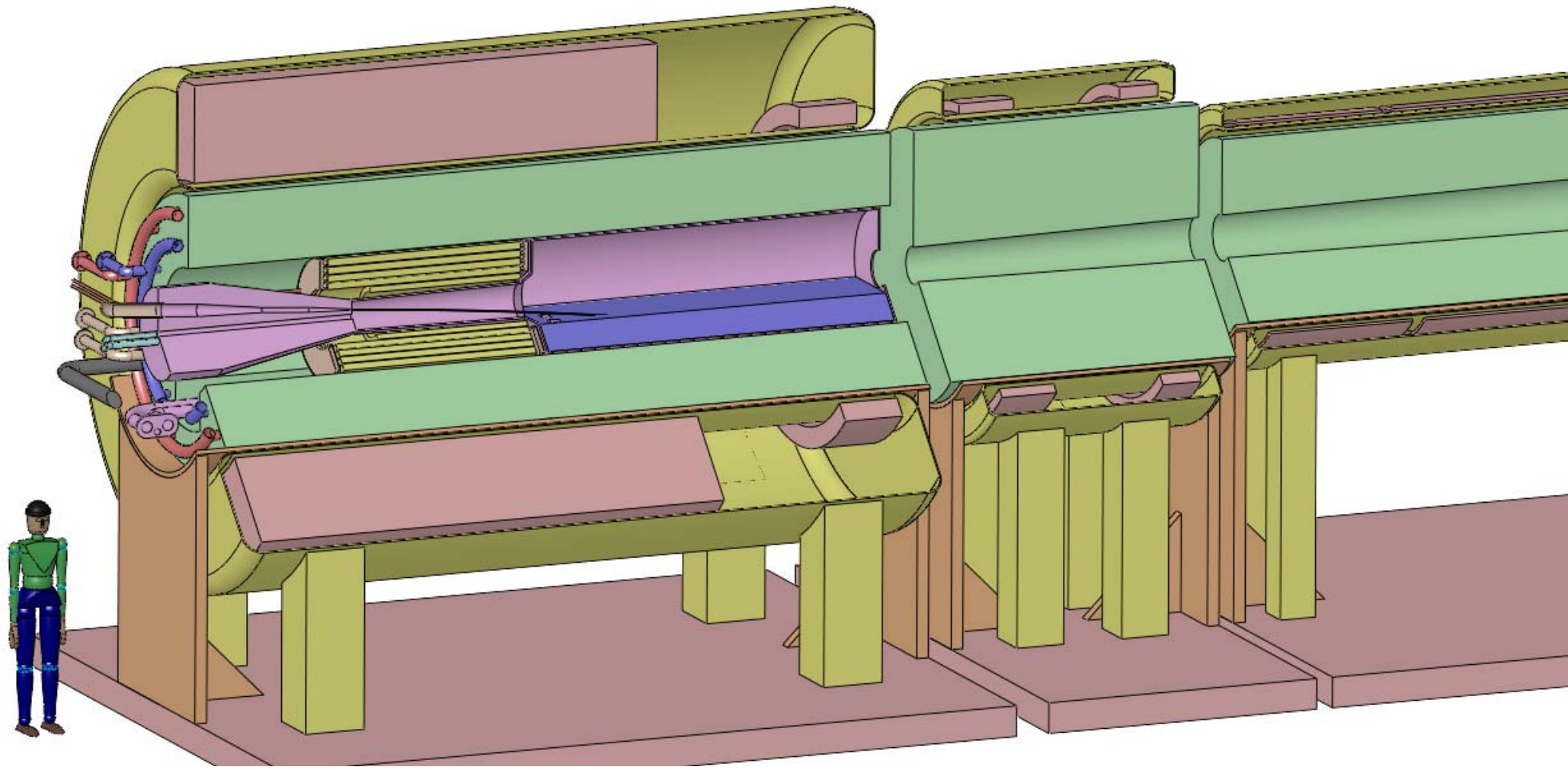


Note Cryostat 1 shape doesn't conform to the smaller coil

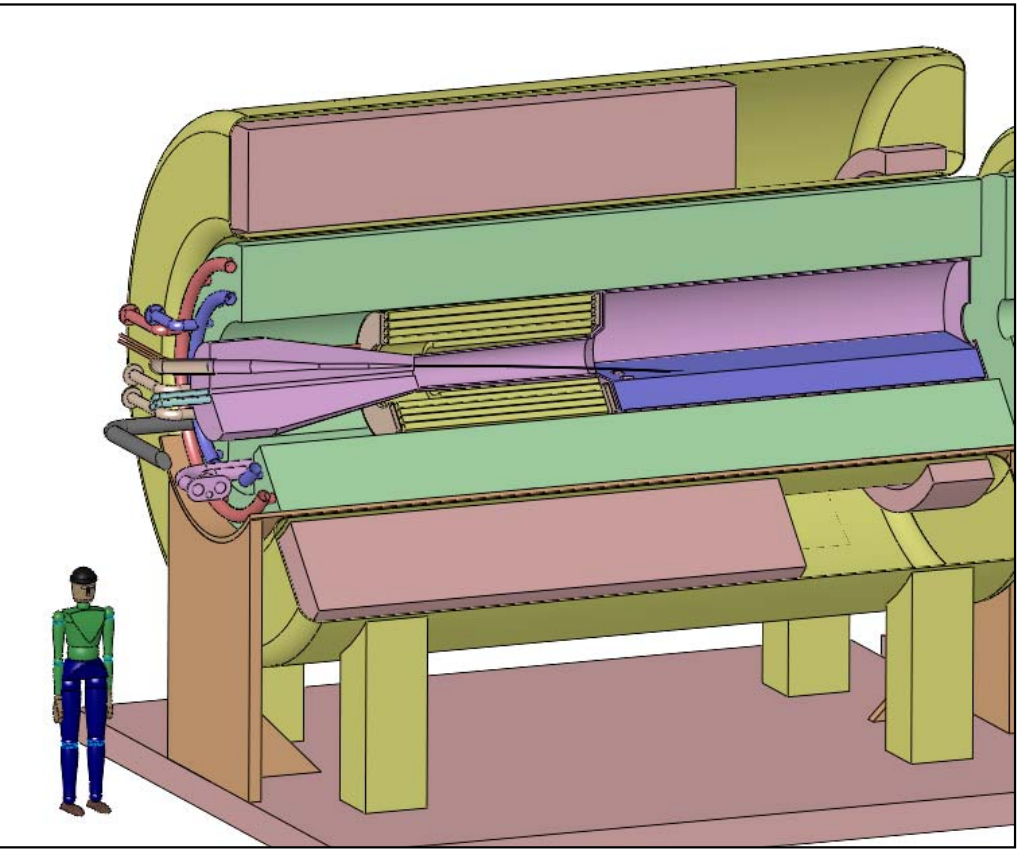
Cryostats 1-2



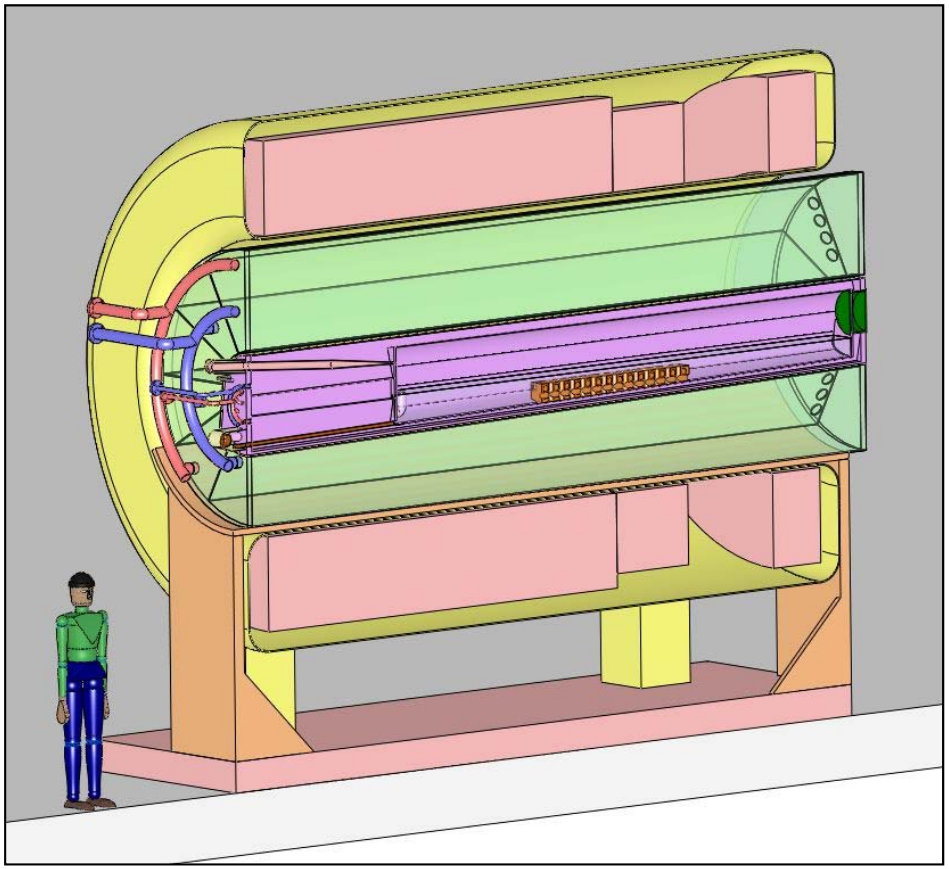
Angled Cross Section



20T vs 15T Concepts



IDS120_20to1.5T7m



IDS120J no resistive coils

Discussion

- Resistive coils necessitate more complex mercury vessel
  - Note that double mercury containment is NOT included in this model
  - Coil support NOT included
- Target module would consist of mercury vessel & resistive coils
  - Probably not repairable, so resistive coils would become waste for a mercury vessel failure (nozzle erosion, for instance)
- Concept breaks cryostats in an unintended location
- Fairly straightforward now to change to another coil / cryostat configuration
  - What version do we want to show?