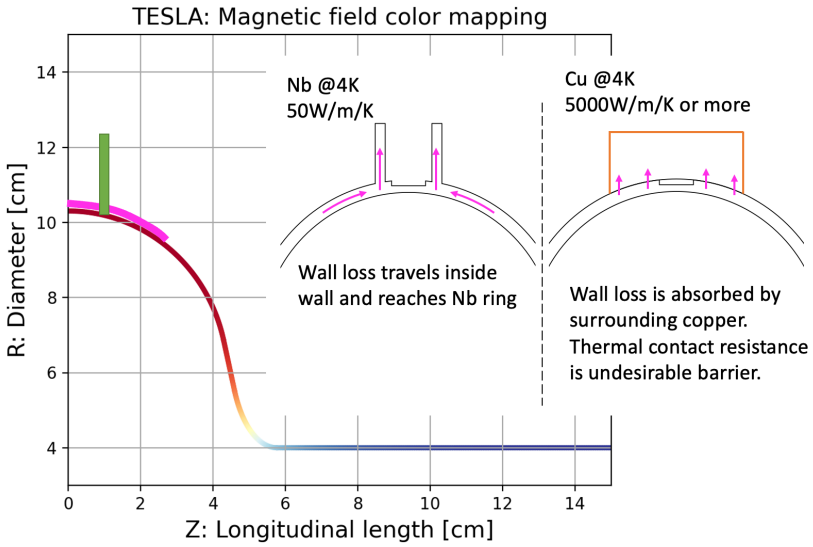
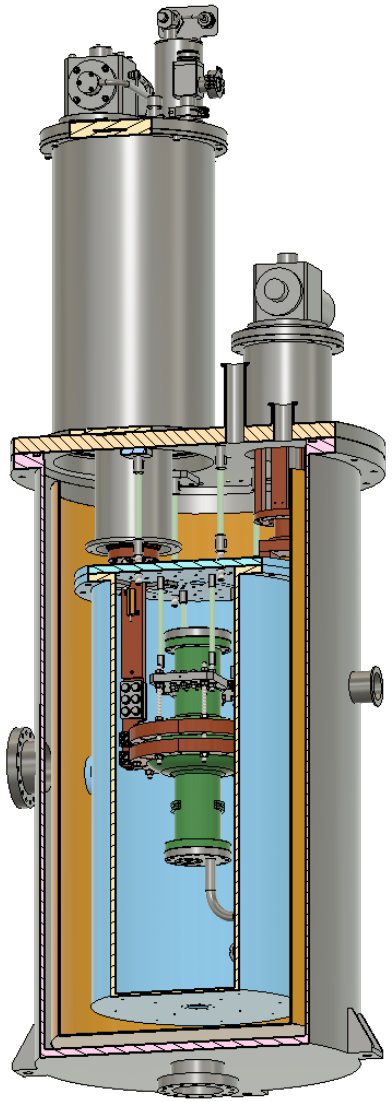
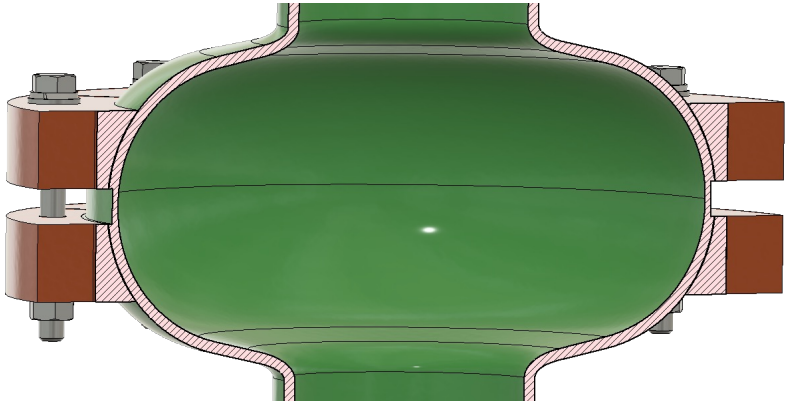
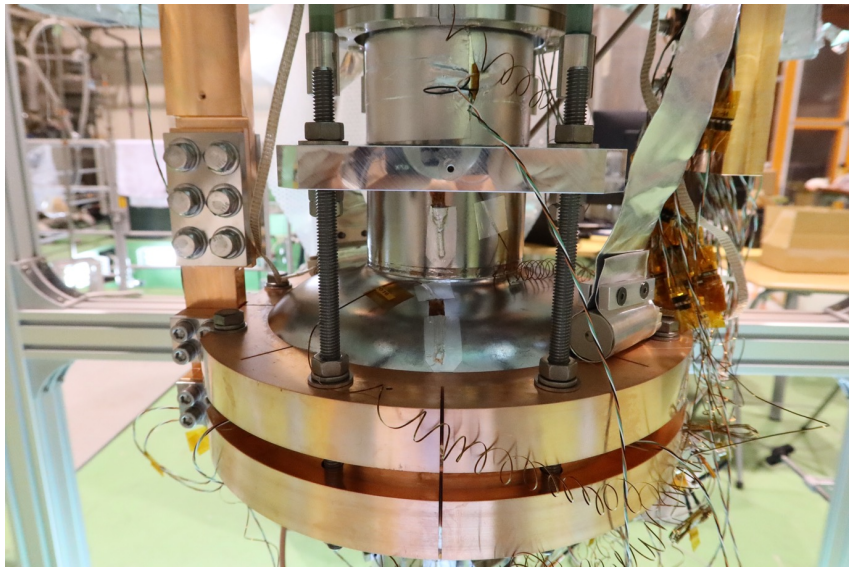
Cooper ring strategy

- KEK adapted copper ring equator clamping as a first trial of conduction cooling.
- Reasons:
  - Cooling wide area of equator outside
  - Detachable system for Nb3Sn re-coating
  - (Short time implementation)

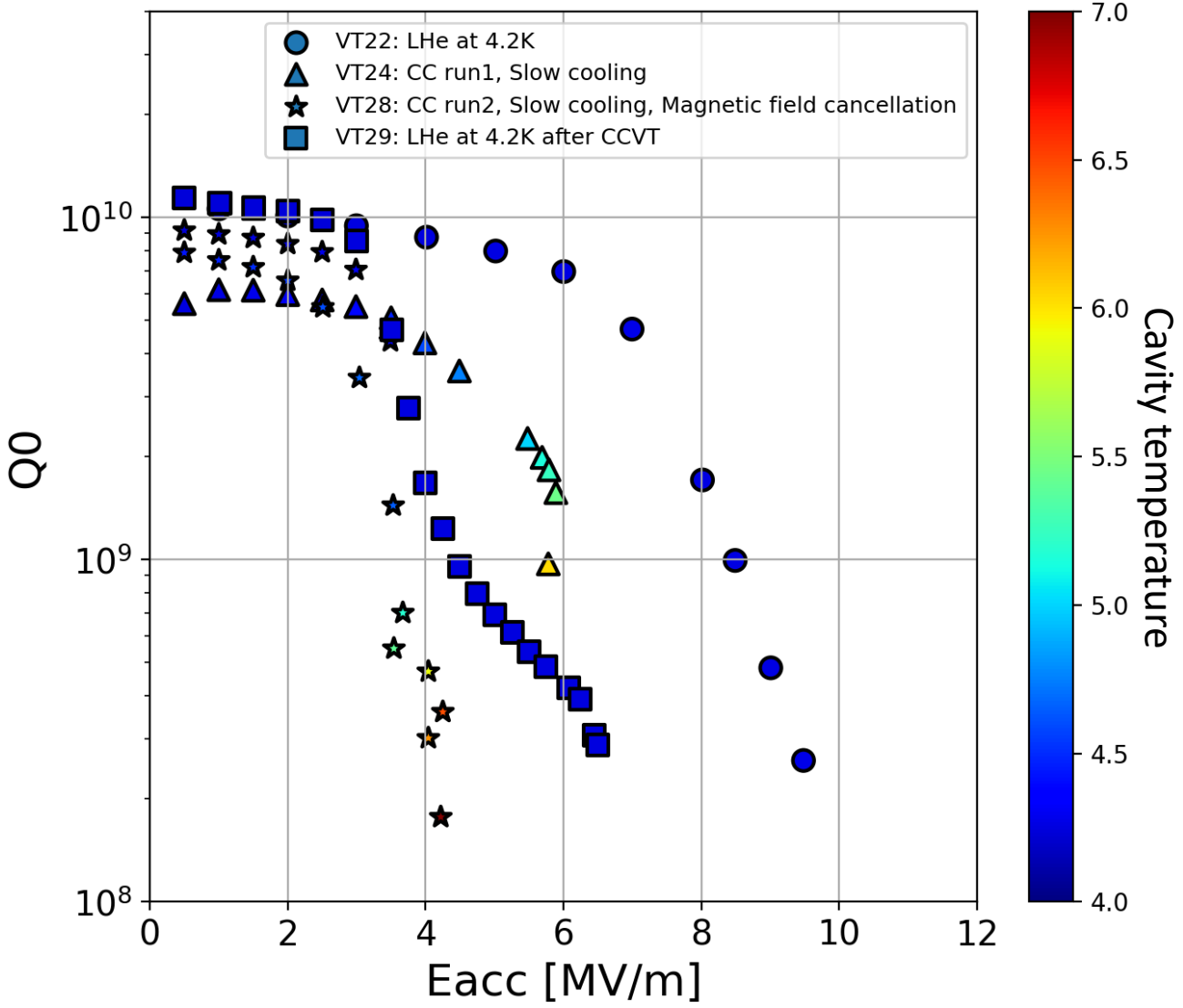








RF test with copper ring



Observation:

- Cooling speed (and temperature gradient) largely affected RF performance.
- Magnetic field was improved by cancelling magnetic field out.
- Nb3Sn film (~3um) was broken in the process of copper ring clamping. (It is possible to avoid film-breaking by assembly carefully.)

- The cavity was well cooled, however, the conduction cooling didn't show the QE curve as high as the LHe test. (Both residual magnetic field was almost same.)

Question:

- *Do we need to cover wider surface area of the cell?*