

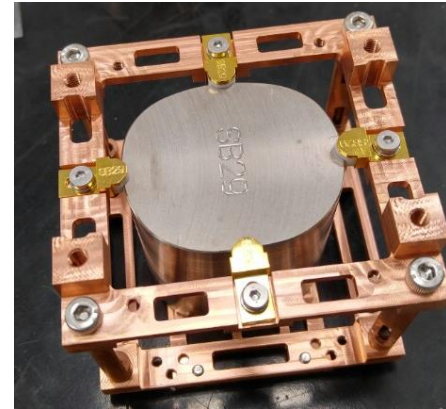
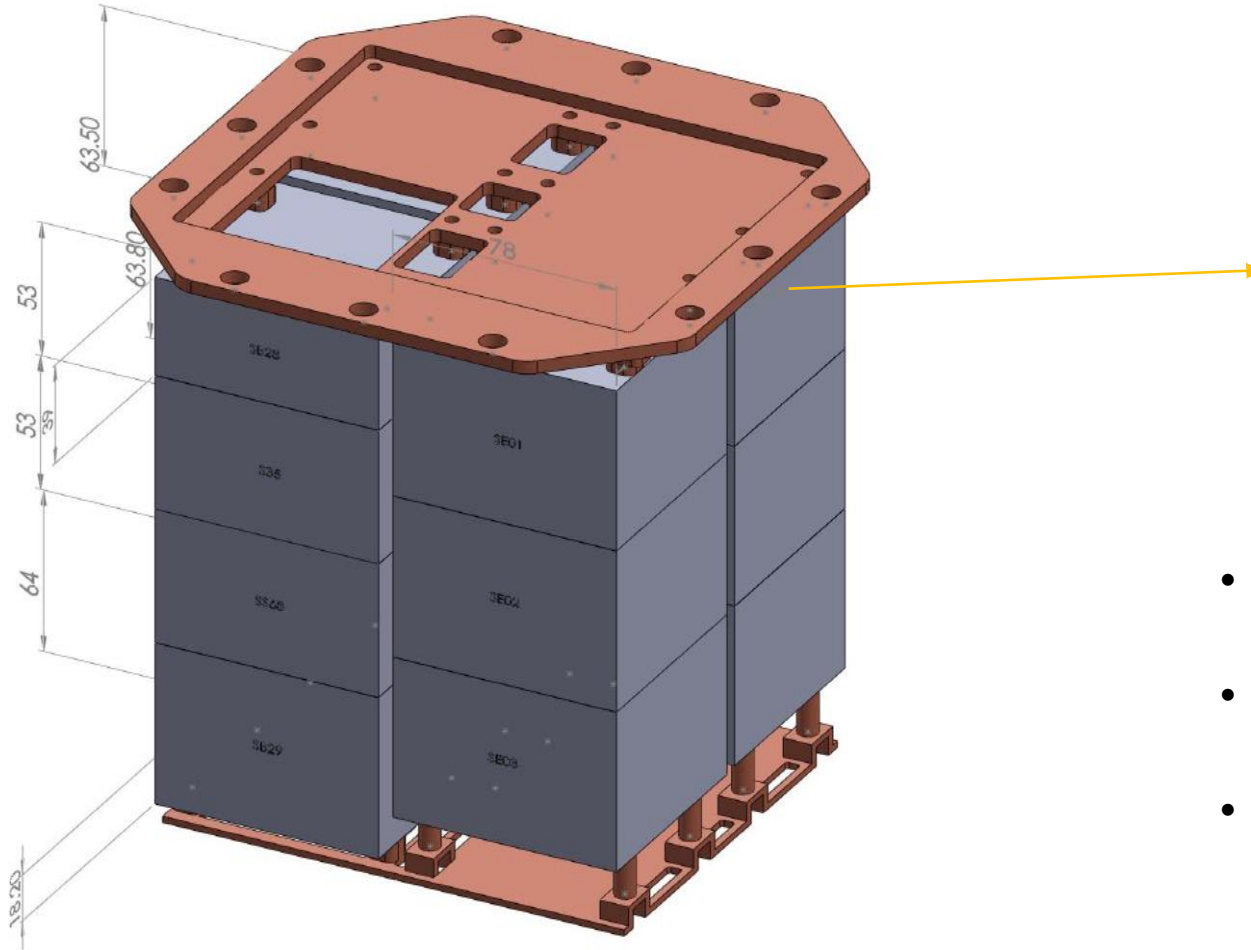
Weekly Report

2018-07-30

Kim, Hanbeom

1. Dilution Refrigerator for Crystal Holder Arrays

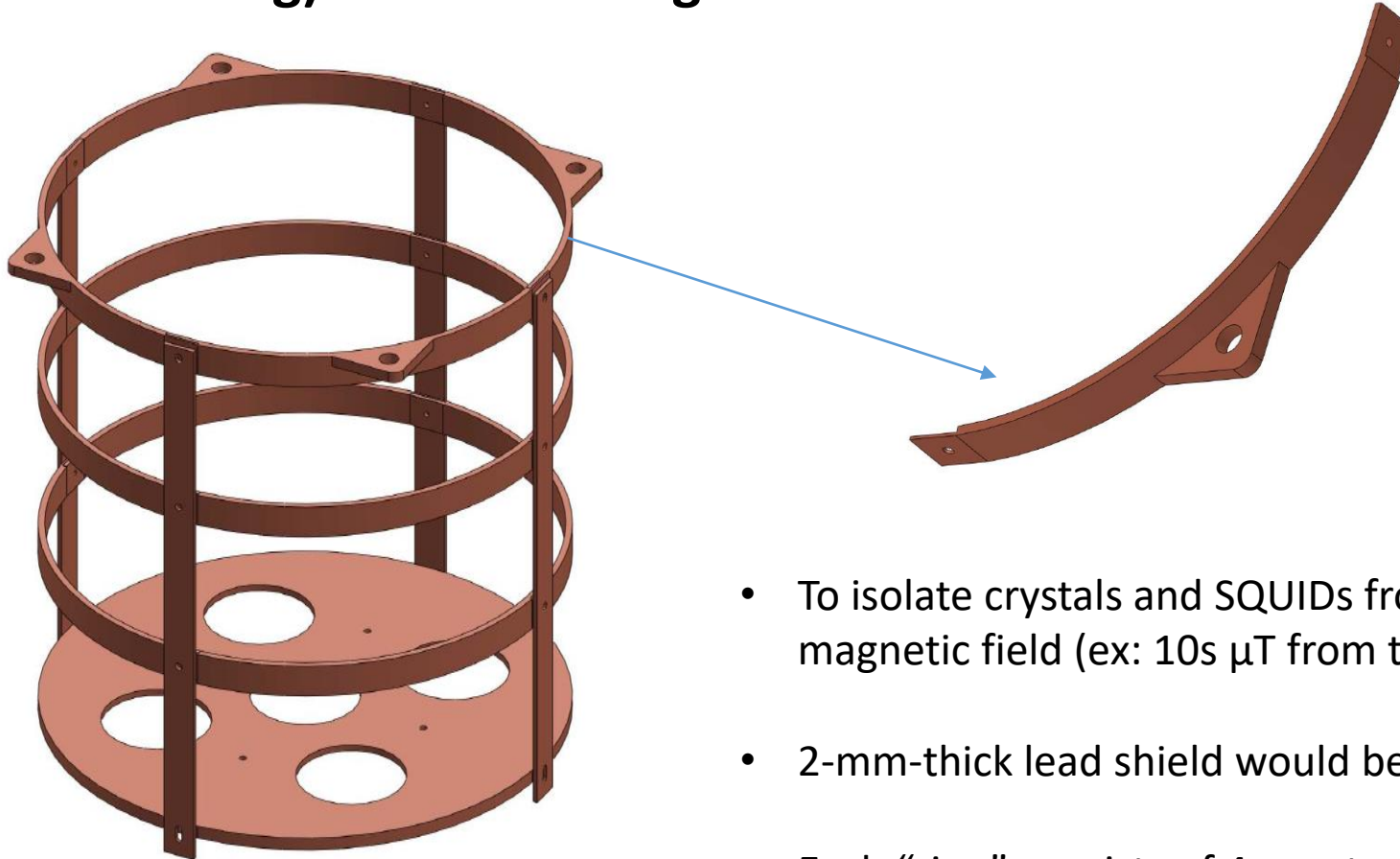
Crystal array holder



- 13 crystals
- 4 crystal holder arrays in plan
- Each crystal has different height.

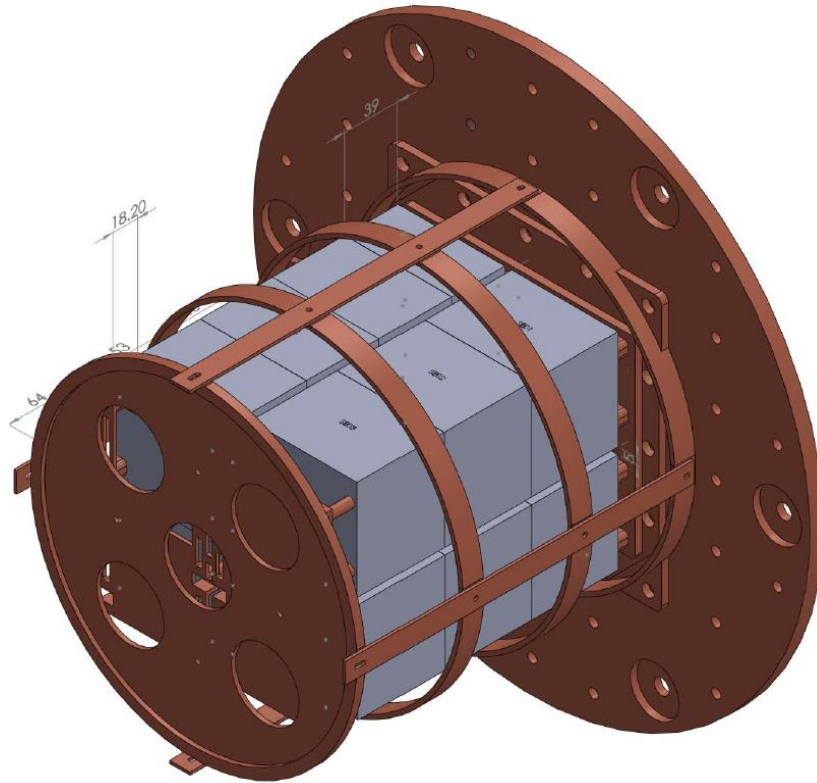
1. Dilution Refrigerator for Crystal Holder Arrays

(Superconducting) Lead Shielding

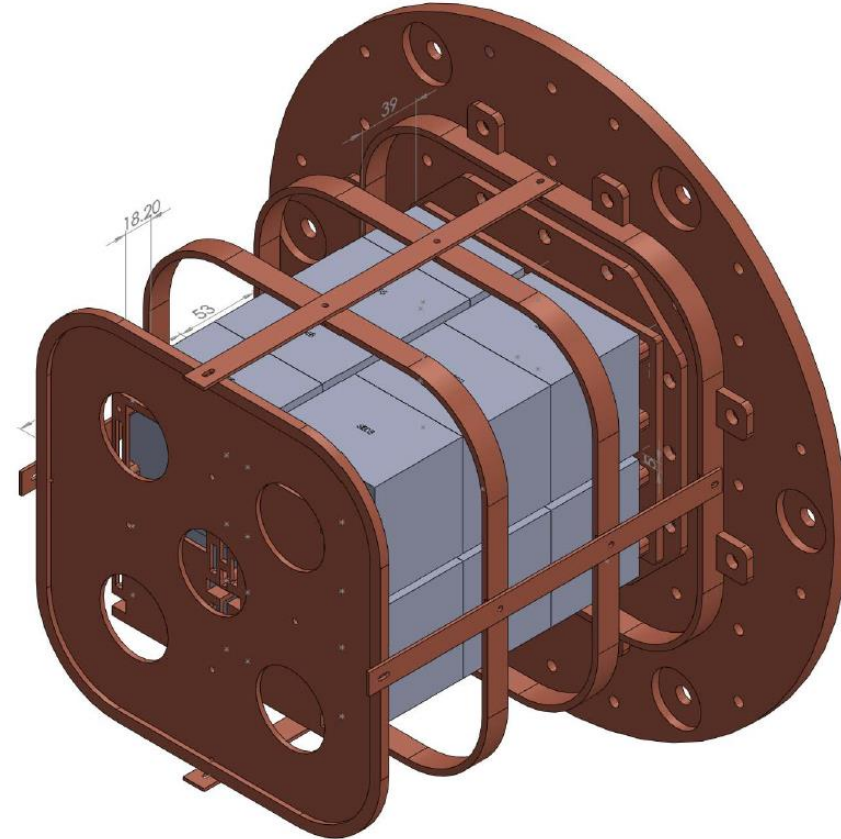


- To isolate crystals and SQUIDs from external magnetic field (ex: 10s μT from the Earth)
- 2-mm-thick lead shield would be soldered
- Each “ring” consists of 4 quarters (to save copper.)

1. Dilution Refrigerator for Crystal Holder Arrays



Design 1: round



Design 2: square with
rounded edges (preferred!)

1. Dilution Refrigerator for Crystal Holder Arrays

Further development plans:

- 5 more crystals – length modification
- Center of mass adjustment – method to attach additional weights
- Mass spring damper install?
 - Undetermined...
- Etc...

Else:

- Signal discrimination & detector studies