The SuperCDMS SNOLAB Detector Tower

Main author: ARAMAKI Tsuguo

Co-authors: Aramaki Tsuguo, SLAC National Accelerator Laboratory for the SuperCDMS collaboration

The SuperCDMS collaboration is moving forward with the design and construction of SuperCDMS SNOLAB, where the initial deployment will include 55 kg of Ge and 5 kg of Si detectors. Here, we will discuss the associated cryogenic cold hardware required for the detector readout. The phonon signals will be read out with SQUID arrays and the ionization signals will use HEMT amplifiers operating at 4 Kelvin. A number of design challenges exist regarding the required wiring complex impedance, noise pickup, vibration and thermal isolation. Our progress to date will be presented.