

Design to Cryogenic System for Dilution Refrigerator with Cavity and Superconducting Magnet

Authors : Ki Woong Lee

Abstract : The Center for Axion and Precision Physics Research is studying the search for dark matter using 12 tesla superconducting magnets. A dilution refrigerator is being used for search experiments, and superconducting magnets, superconducting cavities. The dilution refrigerator requires a stable cryogenic environment using liquid helium. Accordingly, a cryogenic system for a stable supply of liquid helium is to be established. This cryogenic system includes the liquefying, supply, storage, and purification of liquid helium. This article presents the basic design, construction, and operation plans for building cryogenic systems.

Keywords : cryogenic system, dilution refrigerator, superconducting magnet, helium recovery system

Conference Title : ICCCE 2023 : International Conference on Cryogenics and Cryogenic Engineering

Conference Location : San Francisco, United States

Conference Dates : June 05-06, 2023