



Cryogenics Operations 2018

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Reliability and management strategy of the cryogenic and utility systems for SRF test facility at the RISP

Superconducting radio frequency test facility, cryogenic system, cryomodule, cavity, maintenance, helium leak

Summary

The Rare Isotope Science Project (RISP) had completed the installation of the cryogenic system at the Superconducting Radio Frequency Test Facility (SRF TF) in June 2016. The commissioning was successfully completed for 6 months. The TF is being used in order to test SRF cavities, cryomodules and SC magnets which will be applied to RISP's accelerator. In 2017, the performance tests of cryomodules, superconducting cavities, superconducting magnet and SCL demo were conducted 18 times. We have experienced numerous trials and gotten the know-how at cryogenic systems for performance tests. This presentation introduces the problems that occurred in cryogenic and utility systems of the SRF TF during the performance tests and how the systems are modified and maintained. Causes of the problems are analyzed and solutions that we find out are applied to the SRF TF. The current status are presented and management process of the SRF TF are discussed in order to operate that efficiently and safely. In addition, helium inventory and management method are introduced. Our management process that we set up to increase reliability and maintainability will be applied to new SRF TF.

Primary author: Mr LEE, KI WOONG (Institute for Basic Science)

Co-authors: Dr PARK, HEE CHUL (Institute for Basic Science); Dr JO, HYUN CHUL (Institute for Basic Science); Dr JANG, HYUN MAN (Institute for Basic Science); Mr SHIN, JAE HEE (Institute for Basic Science); Mr YOON, SUNGWON (Institute for Basic Science); Dr KI, TAE KYUNG (Institute for Basic Science)

Presenter: Mr LEE, KI WOONG (Institute for Basic Science)