

Operational Experiences and Further Plans for Improving Pressure Stability of SCL3 Cryomodule in RAON

Authors Jaehak HAN, Minki LEE, Inmyung PARK, Hyunchul JO, Junghyun YOO, Seojeong KIM, Jinwook KIM, Gyuho LEE, Jae Hee SHIN

¹ *Institute for Rare Isotope Science (IRIS) Institute for Basic Science (IBS), 1, Gukjegwahak-ro, Yuseong-gu, Daejeon, Republic of Korea*

Abstract

The SCL3 section of the Rare isotope Accelerator complex for ON-line experiments (RAON) at the Institute for Basic Science (IBS), Korea, resumed operation in June 2025 after scheduled maintenance. Stable operation of cryomodules and the cryogenic distribution system is critical for superconducting performance.

During early beam commissioning, efforts were made to minimize mechanical vibrations during the phase scan and to stabilize pressure in the cavities and helium reservoirs. These included optimization of heater control and reduction of helium supply pressure in the cryogenic plant.

As a result, beam operation became more stable and pressure fluctuations in helium reservoirs were reduced.

In this paper presents operational experiences from the recommissioning phase and discusses future strategies to further enhance system stability and SCL3 performance.

Keywaords: Cryomodule, Cavity, Vibrations, Heater control, Pressure stability