

Operation of a LLRF System for RAON Low Energy LINAC

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Recently the test and installation of superconducting cavities and the cryomodules of the low energy linear accelerator part (SCL3) of a heavy ion accelerator, RAON have been finished. The commissioning of the low energy linac had been proceeded from 2022 autumn in Daejeon, Korea by Institute for Rare Isotope Science (IRIS) in Institute of Basic Science (IBS). The purpose of this accelerator is the generation of rare isotope by ISOL (Isotope Separation On-Line) and its acceleration for the nuclear physics experiment. The operating RF frequency for SCL3 are 81.25 MHz and 162.5 MHz. Every cavity can be controlled independently for the flexibility to accelerate the various A/q ions. The development, evaluation and installation of the digital LLRF based on the FPGA technology have been finished in 2022. The self-excited loop (SEL) and the generator-driven-resonator (GDR) algorithm are implemented and they were tested in the SRF test facility. In this presentation the status and preliminary operation experience of RAON LLRF controller will be described.

Keyword

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