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Development of a Digital LLRF System for RAON SCL3

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Recently the test of superconducting cavities and the cryomodules of the low energy linear accelerator part (SCL3) of a heavy ion accelerator, RAON are have been finished. They are installed and the preparation process for the commissioning is ongoing in Daejeon, Korea by Rare Isotope Science Project (RISP) team in Institute of Basic Science (IBS). The purpose of this accelerator are 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. Recently the development, evaluation and installation of the digital LLRF based on the FPGA technology have been finished. 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 test result of RAON LLRF controller will be described

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