

LLRF integrated control system for continuous beam provision of RAON heavy ion accelerator

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RAON is Korea's heavy ion accelerator, which will begin its first test run in 2022, complete the test run in the SCL3 section in 2023, and is currently conducting experiments to provide beams to users in 2024.

LLRF, which controls the RF in the SCL3 section of the RAON heavy ion accelerator, was configured and 102 modules were installed, but there was a problem in that the control state of each device could not be maintained for more than a certain period of time, and maintenance of the control mode due to RF Down failed, resulting in beam loss of more than 5 minutes. A situation arose where provision was difficult. To solve this problem, we configured LLRF control logic using S/W techniques and created a system that integrated controls all LLRFs in the SCL3 section. The integrated control system controls the LLRF, improving quick recovery and response time to failure, and through this, it was possible to obtain a beam provision time of about 20 minutes or more.

Contribution track

ICABU WG1. Accelerator Systems

Paper submission Plan

Best Presentation

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