Contribution ID: **2102** Contribution code: **WEPM109** Type: **Poster Presentation**

Current status of beam dynamics study for RAON high energy linear accelerator (SCL2)

Wednesday 4 June 2025 16:00 (2 hours)

In 2023 the beam commissioning of low energy superconducting linear accelerator (SCL3) of a heavy ion accelerator, RAON have been finished 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. Also, the accelerator operation for first user service using SCL3 section has been performed in 2024. Nowadays a project to develop and construct the high energy superconducting linear accelerator are being ongoing. This section is planned to use two kinds of superconducting cavities. They are all single-spoke-resonator type cavities while the optimum beam betas(β_{opt}=0.32 and 0.53) are different. Due to the diversity of planned ions and isotopes, the research related with lattice design and beam dynamics optimization is one of the important for this project. In this presentation summary of linear accelerator lattice design and beam dynamics simulation results will be described.

Footnotes

Paper preparation format

LaTeX

Region represented

Asia

Funding Agency

This work was supported by the National Research Foundation (NRF) of South Korea funded by Ministry of Science and ICT (MSIT) (RS-2022-00214790).

Author: JANG, Hyojae (Institute for Basic Science)

Presenter: JANG, Hyojae (Institute for Basic Science)

Session Classification: Wednesday Poster Session

Track Classification: MC5: Beam Dynamics and EM Fields: MC5.D01 Beam Optics Lattices, Correction Schemes, Transport