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Initial beam commissioning results of RAON linac

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The institute of rare isotope science (IRIS) developed a superconducting linac facility (called RAON, Rare isotope Accelerator complex for ON-line experiments) through the rare isotope science project (RISP). The superconducting linac (SCL) consists of two different type of cavities, QWR and HWR. It is designed to accelerate a variety of ions, from protons to uranium. Uranium beams can be accelerated to energies of up to 18.5 MeV/u. The input beams to the superconducting accelerator are generated by a 14.5 GHz ECR ion source and accelerated to the energy of 500 keV/u through RFQ. The linac installation was completed in December 2021 and a series of beam commissioning are in progress. The injector beam commissioning started from August 2020 with argon beams. The first SCL beam commissioning using argon beams began in October 2022 and was finished in May 2023. Afterwards, the beam commissioning has been expanded to include various ion beams such as neon, oxygen, and protons. This work summarizes the beam commissioning results.

Footnotes

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