

Isotope Separation On-Line facility for the Rare Isotope Science Project in Korea

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Rare Isotope Science Project (RISP) aims to construct world-class Rare Isotope Facility named “RAON” consisting of both Isotope Separation On-Line (ISOL) and In-flight Fragment (IF) facilities. The main goal of the ISOL facility is to deliver high quality intense neutron-rich beams to the experimental hall with a beam intensity of $\sim 10^5$ – 10^9 particles/sec in the mass range of $80 < A < 160$, using high power (>10 kW) direct fission target. Ion sources coupled with the fission target, such as a FEBIAD, a surface ionization, and a resonance ionization Laser ion sources, are being developed so as to produce various element ions. The ISOL facility consists of a RF-Cooler, a High Resolution Mass Separator (HRMS), charge breeders (ECR and EBIS types), and a charge state separator (A/q separator) for the beam purification. A current status of design of the ISOL facility for RISP is briefly introduced with an overview of RAON.

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