

## The rare-RI ring at RIKEN RI beam factory

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The rare-RI ring is an isochronous storage ring to measure masses of short-lived rare nuclei by using relative TOF measurement method. In June 2015, we conducted beam commissioning for the rare-RI ring by using a  $^{78}\text{Kr}$  primary beam with an energy of 168 MeV/u. At that time, we succeeded in injecting a particle, which was randomly produced from a DC beam from cyclotrons, into the ring individually with a fast kicker system; we extracted the particle from the ring less than 1 ms after the injection. We measured TOF of the particles between the entrance and the exit of the ring to check the isochronism. In addition, we confirmed that a resonance-type Schottky pick-up successfully acquired the revolution frequency information of one particle in a storage mode. In December 2015, we performed test experiment by using secondary particles, which masses are well-known, to verify the principle of mass determination. The secondary particles are produced via the projectile fragmentation of a 345 MeV/u  $^{48}\text{Ca}$  primary beam with a  $^9\text{Be}$  target. We eventually succeeded in extracting  $^{36}\text{Ar}$  and  $^{35}\text{Cl}$  from the ring simultaneously. Offline analysis is now in progress to discuss the accuracy of the mass determination. In this conference, the technical aspects of the rare-RI ring and the results of the beam commissioning will be discussed.