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## Database of radioactive isotopes produced at the BigRIPS separator

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A new-generation radioactive isotope (RI) beam facility called the RI Beam Factory (RIBF) has been operating at the RIKEN Nishina Center since 2007. A wide variety of RI beams have been produced using the BigRIPS in-flight separator to perform various studies of exotic nuclei far from stability. Not only the projectile fragmentation of heavy-ion beams, such as  $^{14}\text{N}$ ,  $^{18}\text{O}$ ,  $^{48}\text{Ca}$ ,  $^{70}\text{Zn}$ ,  $^{78}\text{Kr}$ , and  $^{124}\text{Xe}$  beams, but also the in-flight fission of a  $^{238}\text{U}$  beam has been employed for the production of RI beams.

A total of 159 experiments using RI beams at the BigRIPS separator have been performed so far. The number of RI beams produced amounted to approximately 1600, and the number of new isotopes reached 132. Production cross sections for more than 1000 isotopes were obtained. In order to gather and manage a lot of experimental data we have been developing a database of RI beams produced at the BigRIPS separator. The RI database includes the production cross sections and yields together with detailed experimental conditions. The information of isomeric nucleus, such as gamma ray energy half life and sample of gamma ray energy spectrum is also included. The RI database is synchronized with a web site.

The RI database system is a powerful tool to make the RI beam setting quickly and exactly. During the BigRIPS tuning, we can obtain the production cross sections and gamma ray energy quickly and easily. In comparison with these values, we can confirm whether present measurement is carried out with success. The RI database system helps us to confirm the validity of the setting and to shorten the tuning time. Furthermore, this system assists on RIBF user to design RI beam experiments using the BigRIPS separator.

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