

Decay spectroscopy of exotic nuclei at RIBF

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Decay spectroscopy is expected to provide a great chance to look inside the structure information of nuclei far from the stability. A new project EURICA (EUROBALL RIKEN Cluster Array) has been launched to perform experimental campaign of decay spectroscopy, utilizing gamma-rays detectors (EUROBALL Germanium Cluster detectors) and new generation radioactive beam facility (RIBF) at RIKEN[1,2].

A first EURICA campaign with U-beam was conducted in 2012 December to study isomeric and beta-delayed gamma-spectroscopy of very neutron-rich nuclei around doubly-magic nuclei ^{78}Ni and ^{128}Pd region. Highly segmented double-sided silicon-strip detectors (WAS3ABi)[3], located in the center of EURICA, was employed as an active stopper of produced isotopes transferred from the BigRIPS and ZeroDegree spectrometer. In this paper, we will report our preliminary results obtained by the EURICA spectrometer and future perspective of decay spectroscopy at RIBF.

[1] H.J.Wollersheim et al., Nucl. Instrum. Meth. A 537, 637 (2005).

[2] S.Nishimura, Nucl. Phys. News Vol. 22, 39 (2012); P-A. Soderstorm et al., submitted to Nucl. Instrum. Meth. B (EMIS Conference).

[3] S.Nishimura, submitted to RIKEN Accel. Prog. Report.

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