

Nuclear decay studies of rare isotopes: Overview of decay spectroscopy at RIBF

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The Radioactive-Isotope Beam Factory (RIBF) [1] has come online in 2007 at RIKEN Nishina Center, Japan, as the first 3rd-generation in-flight separator facility [2]. The research territory on the chart of nuclides has been expanded dramatically both towards the proton-rich and neutron-rich frontiers with the advent of RIBF, which equips the large-acceptance in-flight separator BigRIPS [3] in operation with high-intensity primary heavy-ion beams including uranium. Taking advantage of the world's currently strongest RI beams for a broad range of proton and neutron numbers, in conjunction with newly developed experimental techniques and state-of-the-art detector systems, more than 400 species of rare isotopes have been explored in experimental programs dedicated to radioactive-decay measurements at RIBF in the last decade [4]. In this presentation, I will overview spectroscopic results of β and isomeric decays of rare isotopes obtained at RIBF, and their scientific impact on nuclear structure and nuclear astrophysics are also highlighted.

REFERENCES

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