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Decay studies of high-spin isomers in the mass 90 region

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There are a significant number of isomeric states in the region close to the $N=Z$ line and immediately below 100Sn , some of which may decay via particle emission. The study of these states yields vital experimental data on neutron-proton (np) pairing, provides a sensitive test for nuclear models, and input for understanding the astrophysical rp -process.

This presentation will report on results from the ribf83 experiment performed at RIKEN. Nuclei of interest were produced from a primary beam of ^{124}Xe and identified using BigRIPS. The active stopper SIMBA, a stack of 3 highly segmented double sided silicon detectors and beta-particle calorimeter, was used to identify β decays from implanted ions and extract Q values for the decay. Coincident gamma-rays were recorded by EURICA, an array of high purity germanium detectors.

The results of gamma-ray spectroscopy from the β -delayed proton decay of ^{96}Cd and ^{98}In will be presented and compared to shell model calculations and WKB estimates. Results of a gamma-ray decaying isomer identified in ^{96}Cd will also be presented and compared to r3gds shell-model calculations. The results of a Geant4 simulation, that was employed to extract the Q value of the β decay of ^{94}Ag , will also be presented, along with the results of conversion electron spectroscopy, used to measure the lifetimes of states in ^{95}Ag .

Summary

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