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β-γ spectroscopy of neutron-rich $_{60}$Nd isotopes MANA TANAKA, EIJI IDEGUCHI, RCNP, Osaka University, GARY SIMPSON, LPSC, RIN YOKOYAMA, CNS, The University of Tokyo, SHUNJI NISHIMURA, PIETER DOORNENBAL, PÄR-ANDERS SÖDERSTRÖM, GIUSEPPE LORUSSO, RIKEN, Nishina Center, ZHENGYU XU, Department of Physics, The University of Tokyo, JIN WU, RIKEN, Nishina Center, TOSHIYUKI SUMIKAMA, Department of Physics, Tohoku University, EURICA COLLABORATION — In the neutron-rich part of nuclear landscape around $Z = 60$ and beyond $N = 90$, evolution of the quadrupole deformations and more higher-order deformations have been predicted. A systematic study of excited states will allow us to elucidate such shape phenomena. This experimental work has been carried out utilizing neutron-rich $Z \sim 60$ RI beams available at RIKEN RIBF and a high-efficient γ-ray spectrometer, EURICA. Isomer and β-γ spectroscopy were performed using a passive stopper and the WAS3ABi active stopper. In our previous isomer spectroscopy of heavy $_{60}$Nd isotopes, K isomers and their decay to the ground state rotational bands were systematically observed, which indicate the development of axial-symmetric prolate deformation with increasing neutron numbers. In order to further understand the deformed structure, analysis of β-γ spectroscopy data is on going. By these analysis, spins and parities of ground states in odd-mass Nd isotopes will be examined and non-yrast levels will be elucidated, which reflect the deformation and configuration. In this presentation, latest results of our data analysis will be shown.

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