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**Shape evolution in neutron-rich Te isotopes beyond the doubly-magic $^{132}$Sn** P.S. LEE, C.S. LEE, Department of Physics, Chung-Ang University, C.-B. MOON, Hoseo University, A. ODAHARA, Osaka University, EURICA COLLABORATION — We investigated the internal structure of very neutron-rich Te nuclei for evaluating the nuclear shell evolution above one of the doubly-magic shell closures; Z = 50 and N = 132, $^{132}$Sn. The very neutron-rich nuclides beyond Z >50 and N >132 were produced following the stopped beam formed by the fission fragmentation between an $^{238}$U beam with 375A MeV and a $^{9}$Be production target at the BigRIPS with a mono energetic degrader, allowing the selection of specific elemental residues in a position-sensitive, and a stack of double-sided silicon strip detectors (DSSD) as an active stopper. By using unambiguous channel selection based on the detection of subsequent beta decays of the neutron-rich reaction products correlated with the implanted ions, we made subsequent gamma-ray spectroscopic measurements in a daughter of interest with the EURICA array in its stopped-beam configuration. In the present work, we report the excited state in the $^{140}$Te isotope. This observation offers an important information on the shape evolution indicating a phase transition from a single-particle mode to collective modes of the Te isotopes. Besides, the beta decay half-lives of $^{138-140}$Sb were deduced with detecting beta particles and gamma rays from their daughter nuclides.

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