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β-decay of ^{77,75}Ni

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The evolution of the shell structure when moving away from the stability line is discussed in the present contribution. In particular, the effect of the tensor interaction in the appearance and disappearance of magic numbers and the specific case of ^{78}Ni. To contribute to the understanding of the case, the level structure of ^{75,77}Cu was studied in a β-delayed γ-spectroscopy experiment. The β-decay experiment was performed at the Radioactive Ion Beam Factory (RIBF) of the RIKEN Nishina Center. A secondary beam of nuclei in the region of ^{78}Ni was produced by the in-flight fission of ^{238}U projectiles on a ^{9}Be target. After being selected and identified in the BigRIPS fragment separator, the nuclei of interest were implanted in the WAS3ABi active stopper, where the β-decay events were detected. The EURICA array, consisting of 12 germanium cluster detectors, was surrounding the active stopper for the detection of the γ-rays. The level schemes of ^{75,77}Cu are presented together with the results of new shell model calculations.

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