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Decay spectroscopy around ^{78}Ni

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A β -decay spectroscopy experiment in the closest vicinity of ^{78}Ni was performed at RIBF as a part of the EURICA campaign. The low-lying level structure in odd-mass isotonic chain along the neutron magic number of $N=50$ is determined by the neutron single-particle evolution with decreasing proton number. Some reduction of the neutron single-particle energy gap between $2d_{5/2}$ and $3s_{1/2}$ orbitals was already indicated by the β -decay studies on ^{83}Ge . Theoretical models, that have attempted to extend this evolution towards ^{78}Ni , are not yet in agreement. We have performed the β -decay measurement of neutron-rich Cu isotopes in order to determine the low-lying level structure in Zn isotopes which have only two valence protons above ^{78}Ni . In this contribution, the newly constructed level schemes of $^{79-81}\text{Zn}$ will be presented. The shell structure and its evolution based on the comparison with shell-model calculations will also be discussed.

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