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The impact of the tensor interaction on the β -delayed neutron emission of the neutron-rich Ni isotopes

The neutron emission of the β -decay of $^{74,76,78,80}\text{Ni}$ are studied with the Skyrme interaction taking into account the tensor terms. Calculations are performed within the quasiparticle random phase approximation. The coupling between one- and two-phonon terms in the wave functions of the low-energy $1+$ states of the daughter nuclei is taken into account. It is shown that the strength decrease of the neutron-proton tensor interaction leads to the substantial increase of the half-life and the neutron-emission probability.

Primary author: SUSHENOK, Evgenii (International University Dubna)

Co-authors: Dr SEVERYUKHIN, Alexei (BLTP, JINR); Dr ARSENYEV, Nikolay (Bogoliubov Laboratory of Theoretical Physics, Joint Institute for Nuclear Research)

Presenter: SUSHENOK, Evgenii (International University Dubna)

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