SPECTROSCOPIC PROPERTIES AND COLLECTIVITY OF NEUTRON RICH NUCLEI BEYOND ¹³²SN CORE.

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Several theoretical interests have been carried out in the region around ¹³²Sn due to the new experiments progress, which open the door to the spectroscopic studies of this exotic region.

Within the shell model, special attention has been focused to the neutron rich nuclei beyond ¹³²Sn, where many studies have been achieved in [1, 2, 3] using NNS110P interaction, by the calculations of the low-lying state energies and isomeric transitions of tin isotopes ^{134,136,138}Sn, with the proof of no sub-shell closure in ¹⁴⁰Sn.

In the same context, making use of a realistic interaction derived from N3LO and including the model space above the closed core ¹³²Sn, the energy levels and the electromagnetic transitions of chain of even-even nuclei with $52 \le Z \le 60$ will be presented, which are reproduced nicely compared to the experimental data. I will mainly focus to the appearence of deformation and the evolution of the collectivity in this chain of nuclei, where several signatures support the presence of triaxial γ -band in the isotones N=86.

These applications constitute a stringent test of our effective interaction, and our predictions can be provide as benchmark for future experimental measurements.

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