Contribution ID: **186** Type: **Poster**

Going Beyond 132Sn for Nuclear Properties

Neutron-rich nuclei close to the r-process path and waiting-point nuclei give extremely essential information about intrinsic nuclear properties vital both for nuclear physics and for astrophysics. They reveal how structure effects are of importance for theoretical modeling and can be crucial to understanding deviations of microscopic-macroscopic self-consistent models treating both neutron and gamma emission from data [1,2].

Such studies are performed on long-lived excited and ground states, predominantly disintegrating by beta decay and/or beta-delayed neutron emission at the neutron-rich side of the stability line. Some of the nuclei in the neighborhood of 132Sn, although exotic and neutron-rich, have rather simple structures, dominated by shell effects, and the evolution of low-lying proton-neutron orbitals [3,4].

Studied in beta-decay coincidences with gamma-ray detection, we performed several investigations reporting on the structure and FF / GT rates by spectroscopy. Confronted with purely neutron-detection methods and T1/2 measurements [5,6], they provide complementary data and complete the experimental input for a better description of astrophysical scenarios away from the stability line. Examples will be given in this contribution.

[1] P. Möller et al., At. Dat. Nucl. Dat. Tabl. 125, 1 (2019).
[2] F. Minato et al., Phys. Rev. C 104, 044321 (2021).
[3] R. Lozeva et al., Phys.Rev. C 98, 024323 (2018).
[4] R. Lozeva et al., Phys. Rev. C 110, 064303 (2024).
[5] V. Phong et al., Phys. Rev. Lett. 129, 172701 (2022).
[6] J. Liang et al. Nucl Dat. Sh. 168, 1 (2020).

Author: LOZEVA, Radomira (CSNSM)

Presenter: LOZEVA, Radomira (CSNSM)

Session Classification: Poster session

Track Classification: Nuclear Structure, Spectroscopy and Dynamics