

Shape coexistence and neutrinoless double-beta decay

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Abstract

This presentation highlights recent theoretical studies of neutrinoless double-beta decay within an updated version of the interacting boson model that is based on the microscopic nuclear density functional theory [1, 2]. It allows for a consistent description of the intrinsic shapes, low-energy collective spectra, electromagnetic transition rates, and neutrinoless double-beta decay nuclear matrix elements. Impacts of essential nuclear correlations that include shape mixing and coexistence on the nuclear matrix elements are discussed.

References

- [1] K. Nomura, *Phys. Rev. C* **112** (2025) 054310.
- [2] K. Nomura, *Phys. Lett. B* **871** (2025) 139995.