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Shape coexistence with Gogny EDF: recent results

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Gogny energy density functionals including beyond-mean field effects are the perfect theoretical tool to study the shape evolution and potential shape mixing and coexistence along isotopic/ isotonic chains. In this presentation I will discuss recent calculations within the symmetry conserving configuration mixing method (SCCM) performed in the cadmium isotopic chain, in particular, I will show the overall description of excitation energies and transition probabilities, as well as the detailed description of different collective bands in 110-112Cd isotopes.

References:

1. Lifetime Measurements in the even-even 102–108Cd Isotopes, M. Siciliano et al., Physical Review C 104, 034320 (2021).
2. Shape coexistence and multiparticle-multihole structures in 110, 112Cd, P. E. Garrett et al., Physical Review C 101, 044302 (2020).
3. Multiple Shape Coexistence in Cd 110,112, P. Garrett et al., Physical Review Letters 123, 142502 (2019).

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