

Quantum phase transitions in microscopic nuclear structure calculations

Monday 11 July 2022 15:00 (30 minutes)

Studying the structure of the atomic nucleus from its constituent interacting particles is a difficult task. One of the most successful methods to tackle the nuclear many-body problem from a microscopic perspective is based on the definition of non-relativistic and/or relativistic energy density functionals (EDFs). In this contribution I will summarize some quantum phase transitions that could be identified with mean-field and beyond-mean-field EDFs, in particular, those related to shape and/or pairing degrees of freedom.

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Session Classification: Density functional and beyond-mean-field approaches to QPTs in nuclei

Track Classification: Density functional and beyond-mean-field approaches to QPTs in nuclei