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Nuclear dynamics with the Barcelona-Catania-Paris-Madrid functional

Wednesday, 10 July 2024 16:00 (30 minutes)

The Time Dependent Hartree-Fock (TDHF) approach is a microscopic self-consistent mean-field model to describe dynamical processes of many-body systems. We modify the open-source Sky3D code, which implements TDHF with a Skyrme functional, and repurpose it to employ the Barcelona-Catania-Paris-Madrid (BCPM) energy density functional. We present preliminary results for both static and dynamical simulations of different nuclei using the BCPM functional and compare them with results obtained with Sky3D. Our ultimately aim is the simulation of nuclear collisions and dynamical fission processes with BCPM.

session

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