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Neutron-rich nuclei and neutron skins from chiral low-resolution interactions

Wednesday, December 11, 2024 2:40 PM (20 minutes)

Neutron-rich nuclei provide important insights to nuclear forces and to the nuclear equation of state. Advances in ab initio methods combined with new opportunities with rare isotope beams enable unique explorations of their properties based on nuclear forces applicable over the entire nuclear chart. In this talk, I will present novel chiral low-resolution interactions that accurately describe bulk properties from 16O to 208Pb, including density distributions and neutron skins of neutron-rich nuclei. I will show how neutron skins are narrowly predicted over all nuclei with interesting sensitivities for the most extreme, experimentally unexplored cases.

Presenter: Dr ARTHUIS, Pierre (Technische Universität Darmstadt)

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