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Isovector properties of Gogny interactions

Wednesday, December 11, 2024 5:20 PM (25 minutes)

The Gogny interaction has never been fully exploited for astrophysical calculations due to its typical poor isovector properties. Over the years several attempts have been made to improve these features, but only recently some success has been achieved. In my talk, I will discuss several properties of infinite nuclear matter with strong isospin asymmetry toillustrate how different Gogny interactions do perform in such a system. I will show that the most recent parametrisations are compatible with a fair reproduction of both systems: nuclei and neutron stars thus solving a long standing question related to the limitations of a finite range interaction.

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