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Density Functional Theory for atomic nuclei

Tuesday, 9 July 2024 09:00 (40 minutes)

In this contribution, I will present a short, personal overview of nuclear Density Functional Theory (DFT). Two specific aspects will be emphasised. Compared to so-called *ab initio* approaches, DFT is more phenomenological; however, it can be applied throughout the whole isotope chart and account for many observables that *ab initio* cannot handle so far like, for instance, the excited states of medium-heavy nuclei. Accordingly, I will focus on nuclear response calculations and discuss the status of collective and single-particle properties by using a few illustrative examples. Then,
I will advocate the need of grounding DFT on *ab initio* as has been done for Coulomb systems, and discuss the status and perspectives for this challenging task.

session

I. Nuclear Structure and Reactions

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