

Isomers in nuclear astrophysics

Monday, June 10, 2024 11:40 AM (30 minutes)

Nuclear isomers are metastable states with long half lives compared to typical nuclear excited states. Given that the nuclear properties of isomers are usually very different from those of the ground state, isomers that remain metastable in astrophysical environments can play an important role in nuclear astrophysics. Nuclear reactions on isomers affect the energy release, nucleosynthesis path, and the rate of reactions in a specific isotope. The development of high-quality isomeric beams opens the possibility to probe the influence of nuclear isomers in stellar scenarios and provide experimentally constrained parameters to astrophysical reaction rates. In this talk, I will discuss some recent experimental efforts with isomeric beams and their relevance in astrophysical scenarios.

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