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Nuclear Incompressibility, the Asymmetry Term, and the MEM Effect

The Nuclear Incompressibility parameter is one of three important components characterizing the nuclear equation of state. It hascrucial bearing on diverse nuclear and astrophysical phenomena, including radii of neutron stars, strength of supernova collapse, emission of neutrinos in supernova explosions, and collective flow in medium- and high-energy nuclear collisions. In this talk I will review current status of the research on direct experimental determination of nuclear incompressibility via the compressional-mode giant resonances. In particular, recent measurements on a series of Sn and Cd isotopes have provided an "experimental" value for the asymmetry term of nuclear incompressibility. We also find that the GMR centroid energies of the in both Sn and Cd isotopes are significantly lower than the theoretical predictions, pointing to the role of superfluidityand the MEM (Mutual Enhancement of Magicity) Effect.

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