

— 第897回九大原子核セミナー —

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演題 : Nuclear Incompressibility, the Asymmetry Term, and the MEM Effect

日時 : 3月21日(水) 16:00 ~

場所 : 理学部 物理大学院講義室 (理学部2号館2階2263室)

概要

The Nuclear Incompressibility parameter is one of three important components characterizing the nuclear equation of state. It has crucial 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. This term directly relates to properties of neutron stars. 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 superfluidity and the MEM (Mutual Enhancement of Magicity) Effect.

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平成 24 年 3 月 14 日