乞掲示

理化学研究所原子核グループコロキウム　*2004. 3. 3*

講師 ： **Prof. William G. Lynch**

(Michigan State University)

題目 ： Towards the Equation of State of Dense Asymmetric Matter

∗ The seminar will be given in *English.*

日時 ： 2004年 3月 3日 (Wed.)　15:00 –

場所 ： RIKEN Main Bldg. 2F Seminar Room

Abstract

Collective flow measurements with stable beams have provided significant constraints on the equation of state of symmetric nuclear matter at densities r¡4r0. These constraints are relevant to matter compressed during a supernova collapse, but less so for neutron stars. The internal structure, the mass - radius relationship, and the moments of inertia of neutron stars, as well as the dynamics of neutron star mergers and cooling rates of proto-neutron stars, however, are in some respects more strongly influenced by the density dependence of the asymmetry term of the EOS. This term is poorly constrained by experiment. Powerful new facilities for producing energetic rare isotope beams are being developed that present unique opportunities for extracting this isospin dependence of the nuclear EOS. Calculations have identified some observables that can be used to probe the asymmetry term and first measurements of some of these observables have been performed. The present status of investigations and some prospects for future measurements in this area will be discussed.

∗ Host researcher : H. Sakurai (RIKEN)

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