RIKEN NISHINA CENTER

独立行政法人理化学研究所　仁科加速器研究センター
第61回 月例コロキウム
RIKEN Nishina Center for Accelerator Based Science
The 61st Monthly Colloquium

“Neutron Stars as a Laboratory for the Nuclear Symmetry Energy”

Prof. Andrew W. Steiner
(Institute for Nuclear Theory, University of Washington／JUSTIPEN)

Neutron stars provide an exciting laboratory for the physics of matter at extreme densities. I show how neutron star mass and radius measurements are providing a constraint on the equation of state of matter, moving us closer to the elusive answer to the question, ″What are neutron stars are made of？″ The first quantitative statistical analysis these equation of state constraints will be presented, and it will be shown that several oft-used theoretical models are ruled out by the data. The nuclear symmetry energy is a quantity of undamental importance for nuclear physics and astrophysics. Combining these mass and radius observations with recent quantum Monte Carlo calculations of pure neutron matter provides an exciting constraint on the nuclear symmetry energy.

Language: English
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於　理研 仁科ホール

Contact: RIBF Nuclear Physics Seminar Organizer
npsoc@ribf.riken.jp
http://ribf.riken.jp/~seminar/