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Type: **Invited presentation**

Experimental study of asymmetric nuclear matter EOS from heavy-ion reactions with RIBF-SPIRIT

mardi 26 septembre 2023 11:05 (25 minutes)

Neutron star (NS) is believed to be created as a remnant of supernova explosion. The property of neutron star can be described with the thermodynamical character (Equation of State, EoS) of nuclear matter.

For the determination of outer core NS-EoS, we have performed a series of measurements using heavy ion accelerator of RIKEN Radio Isotope Beam Factory (RIBF).

An international collaboration, named SPiRIT has been formed for the experimental study of the density dependence of symmetry energy term in nuclear EoS. One of the main devices of experimental setup is a Time Projection Chamber (TPC) which will be installed into the SAMURAI dipole magnet at RIBF. The TPC will measure charged pions, protons and light ions simultaneously in heavy RI collisions of neutron rich Sn reactions,

Sn-132 + Sn-124, and neutron deficient Sn reactions, Sn-108 + Sn-112, at $E_{\text{beam}}=270\text{MeV/u}$.

In this talk, highlights of experimental result will be presented in addition to overview of SPiRIT device.

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Classification de Session: Heavy ion collisions