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The equation of state for neutron star using basic relativistic mean-field model

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Neutron stars are known to be one of the densest objects in the universe.
Information on condition in extreme dense matter, which is impossible to measure in the terrestrial experiments, can be obtained through astrophysical observation data.
In particular, the observation results from neutron stars are very useful to constraint the nuclear equation of state (E0S) at high densities.
There are several ways to obtain the EoS in the high-density region.
In our presentation, we use the basic relativistic mean-field model which includes the sigma, omega, and rho mesons, and calculate energy density and pressure of neutron-star matter.
We also study the properties on a neutron star such as a mass-radius relation by solving the TOV equation.

Presentation type

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