

# Equation of State for Neutron Stars, Supernovae and Neutron Star Mergers

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Neutron stars and explosive astrophysical systems - such as supernovae or compact star binary mergers - represent natural laboratories where extreme states of baryonic matter are populated. Modeling such environments assumes, among others, good understanding of zero and finite temperature equations of state (EoS). In this talk I shall first discuss the relation between nuclear matter EoS and neutron star properties. Then I shall review thermal properties of a number of general purpose EoS. Properties of purely nucleonic EoS will be confronted with properties of EoS which account for hyperons, meson condensates, Delta resonances and quarks. Correlations with parameters of nuclear matter will be discussed along with the dependence on the theoretical framework.

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**Classifica Sessioni:** Hadrons in hot and nuclear environment

**Classificazione della track:** Hadrons in hot and nuclear environment