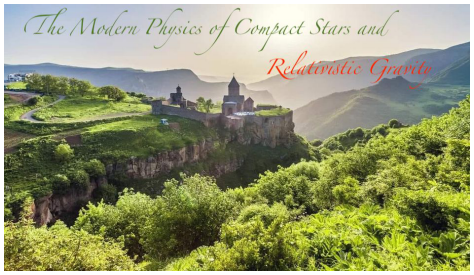

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Equation of State table with exotic matter for supernova and neutron star merger

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We develop a new equation of state (EoS) table involving thermal (anti)kaons, Bose-Einstein condensate of K^- mesons and Λ-hyperons for core-collapse supernova and neutron star merger simulations. This EoS table is based on a finite temperature density-dependent relativistic hadron field theory where baryon-baryon interaction is mediated by scalar σ, vector ω and
ρ mesons, using the parameter set DD2 for nucleons. The repulsive hyperon-hyperon interaction is mediated by an additional strange ϕ meson. The EoS for the K^- condensed matter is also calculated within the framework of relativistic mean field model, whereas the low-density, inhomogeneous matter is calculated in the extended Nuclear Statistical Equilibrium model (NSE). The EoS
table is generated for a wide range of values of three parameters - baryon
density (10^{-12} to $\sim$ 1 fm^{-3}), positive charge fraction(0.01 to 0.60) and temperature(0.1 to 158.48 MeV).

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