

Abstract Submitted
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Neutrino opacity for astrophysics GANG SHEN, Institute for Nuclear Theory, University of Washington, LUKE ROBERTS, California Institute of Technology, VINCENZO CIRIGLIANO, Los Alamos National Lab, SANJAY REDDY, Institute for Nuclear Theory, University of Washington, NEUTRINOS AND NUCLEOSYNTHESIS IN HOT AND DENSE MATTER COLLABORATION — Neutrino interactions with dense matter dictate the long time evolution of compact remnants in core-collapse supernova (CCSN) and binary neutron star mergers (BNS). In this talk I will describe our work on neutrino opacity in the hot dense matter, which is suitable for use in astrophysical simulations of compact remnants. We include the nuclear medium corrections to the neutrino opacity, which is consistent with underlying nuclear equation of state (EOS). We also include a relaxation time scheme to account for medium corrections beyond conventional one-particle-hole excitation, which is not constrained by EOS.

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