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Neutrino Transport in General Relativistic Neutron Star Evolutions PEDRO MARRONETTI, STEPHEN BRUENN, Florida Atlantic University — Binary neutron star and neutron star / black hole mergers will only be accurately modeled when all the key microphysics is included: magnetic fields, photon and neutrino radiation and nuclear networks, all of which should be implemented in a full GR algorithmic infrastructure. Great progress has been made recently with the addition of MHD to current numerical full-GR codes. On the other hand, the addition of neutrino transport to the simulations has yet to be explored. Neutrino radiation is an essential part of state-of-the-art core collapse supernovae simulations, where it has shown to have a preponderant role in the production of the corresponding explosions. While this seems to indicate that neutrino interactions might play an important role in compact object mergers too, this still remains poorly understood. I will report on progress made on the implementation of neutrino transport to our code GRHyd and the different approaches to the task.

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