

Abstract Submitted
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Monte Carlo Neutrino Transport in Post-Merger Disks SHERWOOD RICHERS, Caltech, DOE CSGF, DANIEL KASEN, UC Berkeley, Lawrence Berkeley National Lab, EVAN O'CONNOR, North Carolina State University, RODRIGO FERNANDEZ, UC Berkeley, CHRISTIAN OTT, Caltech — The merger of two neutron stars or a neutron star and a black hole are the prime candidate models for short-duration gamma ray bursts and production of r-process elements. Neutrinos can carry away energy and change the ratio of neutrons to protons, in turn affecting the appearance and dynamics of the burst and the types of elements formed from the outflow. We simulate Monte Carlo transport of neutrinos through the accretion disk surrounding the post-merger black hole or hyper-massive neutron star to explore the influence of neutrinos on the disk composition and temperature profile.

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