

Abstract Submitted
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Near equal mass black hole - neutron star mergers: General-relativistic magnetohydrodynamics simulations with realistic micro-physics ELIAS MOST, Princeton University, JENS PAPENFORT, SAMUEL TOOTLE, LUCIANO REZZOLLA, Goethe University Frankfurt am Main — Recent detections of high mass gravitational wave events in the upper neutron star mass range have raised the question, if near equal mass black hole –neutron star (BHNS) systems could form and merge, and how they would be distinct from a binary neutron star merger. In this talk, I will present general-relativistic magnetohydrodynamics (GRMHD) simulations of the merger and post-merger evolution of several near equal mass BHNS systems covering the first 100-200 ms after merger. These simulations are among the few to self-consistently include the magnetic field during the merger and use finite-temperature equations of state and neutrino cooling effects. Based on these simulations, I will comment on the general properties of the mass ejection, the magnetic field topology and the evolution of the remnant accretion disk.

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