

Abstract Submitted
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Accretion of the magnetized neutrino-cooled torus on a rotating black hole FATEMEH HOSSEIN NOURI, Washington State University, SXS COLLABORATION — Neutrino-cooled accretion flow around a black hole, produced by a compact binary merger, is a promising scenario for a short duration gamma ray burst central engine. The turbulence caused by magneto-rotational instability is expected to play an important role in driving accretion and thermal equilibrium of the disk. We study the magnetically-driven post-merger evolution of a black hole-neutron star binary system using results from a previous simulation and Einstein's Spectral Code's MHD module. We mostly focus on studying the effects of neutrino cooling and magnetic field on the structure of the disk and neutrino emission and neutrino-antineutrino energy deposition of the disk.

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