

Abstract Submitted
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Neutrinos from a black hole-neutron star merger¹ REBECCA SURMAN, Union College, GAIL MCLAUGHLIN, North Carolina State University — A possible progenitor of short-duration gamma-ray bursts is the merger of a black hole and a neutron star in a binary system. The collision is thought to form a black hole surrounded by a rapidly accreting disk of debris. This accretion disk powers the burst, and its outflows are likely the site of interesting nucleosynthesis. If such a merger were to happen in our galaxy, the neutrinos from the accretion disk would be detectable on Earth. Here we examine the role of neutrinos in the black hole-neutron star merger scenario. We begin with the results of a three dimensional numerical model of a black hole-neutron star merger and calculate the neutrino and antineutrino fluxes emitted from the resulting accretion disk. We then discuss the impact of the neutrinos on the system, focusing on their influence on the outflow nucleosynthesis.

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