

Abstract Submitted
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Simulations of Black Hole-Neutron Star Binaries FRANCOIS FOU-CART, MATTHEW DUEZ, LAWRENCE KIDDER, Cornell University, HARALD PFEIFFER, MARK SCHEEL, California Institute of Technology, SAUL TEUKOLSKY, Cornell University — We present our latest simulations of the inspiral and merger of black hole-neutron star binaries. Our evolutions use the two-grid approach: the Einstein equations are solved in generalized harmonic coordinates using pseudospectral methods, while the relativistic fluid equations are evolved on a separate grid using shock-capturing finite difference techniques. We explore the effects of different mass ratios, black hole spins, and neutron star equations of state on the behavior of the binaries. We extract gravitational waveforms from the simulations and observe for some binary parameters the formation of a long-lived accretion disk.

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