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Relativistic simulations of black hole-neutron star coalescence: the jet emerges I VASILEIOS PASCHALIDIS, Princeton University, MILTON RUIZ, STUART SHAPIRO, University of Illinois at Urbana-Champaign — The merger of binary black hole–neutron stars (BHNS) can form accretion disks, which are thought to support relativistic jets, thus providing the engine for a short-hard gamma-ray burst (sGRB). Until recently there existed no self-consistent calculation in full GR that starts from the late BHNS inspiral and demonstrates that jets can be launched after NS tidal disruption. This step is crucial to establishing BHNS systems as viable central engines for sGRBs and solidifying their role as multimessenger systems. In this talk I will provide the motivation for and review the fully relativistic simulations we have performed which, for the first time, show that BHNS mergers naturally give rise to jets.

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