Abstract Submitted
for the APR11 Meeting of
The American Physical Society

Gravitational and Electromagnetic Signatures from the Tidal Disruption of a White Dwarf by an Intermediate Mass Black Hole ROLAND HAAS, TANJA BODE, Georgia Tech, ROMAN SHCHERBAKOV, Harvard-Smithsonian Cener for Astrophysics, PABLO LAGUNA, Georgia Tech — Observations of the gravitational and electromagnetic radiation from the tidal disruption of a white dwarf by an intermediate mass black hole (IMBH) could provide evidence for the existence of IMBHs. During the inspiral and violent disruption of the star, the system will emit both gravitational waves and possibly X-ray radiation from the remnant accretion disk around the IMBH, which together will allow both the system's location and internal parameters to be measured. We present results for fully general relativistic hydrodynamics simulations of these encounters focusing on the electromagnetic signatures during the disruption and subsequent accretion. We also present preliminary results for the disruption of a single main sequence star by a black hole binary.

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Date submitted: 13 Jan 2011 Electronic form version 1.4