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Gravitational and Electromagnetic Signatures from the Tidal Disruption of a White Dwarf by an Intermediate Mass Black Hole ROLAND HAAS, Georgia Insitute of Technology, TANJA BODE, PABLO LAGUNA, Georgia Institute of Technology — 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 the first fully general relativistic hydrodynamics simulations of these encounters focusing not only on the gravitational wave emission not but also the electromagnetic signatures during the disruption and subsequent accretion. Our code uses the successful puncture recipe as implemented in an enhanced version our vacuum MayaKranc code coupled to the hydrodynamics code Whisky.

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