

Abstract Submitted  
for the APR05 Meeting of  
The American Physical Society

**Astrophysical constraints on EMRIs** SHANE L. LARSON, CGWP, Penn State — Gravitational waves from the extreme mass ratio inspiral (EMRI) of stellar mass objects into supermassive black holes are an important prospective source in the LISA band. Orbits around the black hole which have small pericenter distances can exhibit non-Keplerian trajectories. In particular “zoom-whirl” orbits can cover multiple azimuthal periods for each radial period in the orbit, and produce interesting gravitational wave signals. This talk will examine the EMRI event rate and the importance of “zoom-whirl” orbits by coupling dynamical N-body simulations of stellar clusters with a semi-relativistic treatment of the orbits when they are near the black hole.

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Date submitted: 19 Jan 2005

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