

Abstract Submitted
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Inspirals into Gargantua NIELS WARBURTON, Massachusetts Inst of Tech-MIT, SAMUEL GRALLA, University of Arizona, SCOTT HUGHES, Massachusetts Inst of Tech-MIT — We model the inspiral of a compact, stellar mass object into a massive black hole rotating at or just below the theoretical maximum. We find that once the compact object enters the near-horizon regime the gravitational radiation is characterized by a constant frequency, equal to the horizon frequency, with an exponentially damped profile. This contrasts with the usual ‘chirping’ behaviour of a black hole binary system and were such a waveform observed it would constitute a ‘smoking gun’ for a (near) extremal black hole in nature.

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