

Abstract Submitted
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Radiation reaction force on a particle in Schwarzschild spacetime

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— The mathematical modelling of the radiation reaction force experienced by a particle in curved spacetime is very important for calculations of the templates used in detection of gravitational waves with LIGO, LISA etc. In particular, extreme mass ratio inspirals are strong candidates for gravitational wave detection with LISA. We model these systems as a particle in Schwarzschild spacetime, and use the Quinn Wald axioms to regularize the self force. Mode by mode expansion techniques are used for calculating the selfforce. Recent progress in this work is being reported in this talk^{1 2 3}

¹A. G. Wiseman, Phys. Rev. D **61** (2000) arXiv.org:gr-qc/084014

²T.C. Quinn, Phys. Rev. D **62** (2000) arXiv.org:gr-qc/064029

³T.C. Quinn, R.M. Wald Phys. Rev. D **56** (1997) 3381

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