Computing self-forces with the Quinn-Wald axioms ALAN G. WISEMAN, JOHN L. FRIEDMAN, TOBIAS S. KEIDL, SWAPNIL TRIPATHI, University of Wisconsin – Milwaukee, SAMUEL GRALLA, Yale University — A number of formal techniques have been developed for calculating the self-force, or radiation-reaction force, on small charges and masses moving in curved spacetimes. The difficulty has been putting these techniques to practical use in order to find the trajectory of falling charges (or masses) in a black hole spacetime. I will show how one of the formal techniques, the Quinn-Wald Axioms [1,2], can be used in practical calculations. [1] T.C. Quinn, Phys. Rev. D62 (2000) 064029 [2] T.C. Quinn, R.M. Wald Phys.Rev. D56 (1997) 3381

Alan G. Wiseman
University of Wisconsin – Milwaukee

Date submitted: 14 Jan 2005   Electronic form version 1.4