

Abstract Submitted
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A smoother effective source for scalar self-force simulations¹ PETER DIENER, Louisiana State Univ - Baton Rouge, IAN VEGA, SISSA, BARRY WARDELL, Cornell University — In recent years the effective source approach to the self-force problem has had remarkable success culminating with the first self-consistent evolutions of a scalar charge around a Schwarzschild black hole. However, due primarily to the limited smoothness of the effective source used so far (it is continuous but not differentiable) the simulations have limited accuracy, significantly affecting their usefulness when comparing with other approaches. We will present new simulations with a smoother effective source (now twice differentiable) and contrast the accuracy and computational cost with the previous simulations.

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