

Abstract Submitted
for the APR14 Meeting of
The American Physical Society

Chaos in the general relativistic three-body problem DAVID NEILSEN, JARED JAY, TAYLOR MORGAN, Brigham Young University — The three-body problem in classical gravity is known to have chaotic solutions. We are investigating chaos in the three-body problem in general relativity using post-Newtonian equations. We model a binary system that interacts with an incoming star. We solve the post-Newtonian evolution equations in the Hamiltonian formalism to order 2.5. We present results of these interactions that display features of chaos, such as sensitivity to initial conditions and scale invariance.

David Neilsen
Brigham Young University

Date submitted: 10 Jan 2014

Electronic form version 1.4