Chaotic Scattering in the Post-Newtonian Three-body Problem\textsuperscript{1}

JARED JAY, DAVID NEILSEN, Brigham Young Univ - Provo — A general solution for the three-body problem in Newtonian gravity does not exist, and the system is known to be chaotic. We consider the three-body problem in general relativity using the Post-Newtonian equations of motion that include the first gravitational-wave emission terms. Using a model problem of a binary that interacts with a third object, we present evidence that this system also has chaotic solutions.

\textsuperscript{1}NSF PHY-0960811