

Abstract Submitted
for the APR10 Meeting of
The American Physical Society

Dynamics of Compact Binaries in Effective Field Theory Formalism DELPHINE PERRODIN, Franklin & Marshall College — Coalescing compact binaries are predicted to be powerful emitters of gravitational waves, and provide a strong gravity environment ideal for the testing of gravity theories. We study the gravitational dynamics in the early inspiral phase of coalescing compact binaries using Non-Relativistic General Relativity (NRGR) - an effective field theory formalism based on the Post-Newtonian approximation to General Relativity, but which provides a consistent lagrangian framework and a systematic way in which to study binary dynamics and gravitational wave emission. We calculate in this framework the spin-orbit correction to the newtonian potential at 2.5 PN.

Delphine Perrodin
Franklin & Marshall College

Date submitted: 26 Oct 2009

Electronic form version 1.4