

Abstract Submitted  
for the APR07 Meeting of  
The American Physical Society

**Compact body interactions and boson stars** CARLOS PALENZUELA, IGNACIO OLABARRIETA, LUIS LEHNER, Department of Physics and Astronomy, Louisiana State University, 202 Nicholson Hall, Baton Rouge, Louisiana 70803-4001, USA, STEVE LIEBLING, Department of Physics, Long Island University - C.W. Post Campus, Brookville, New York 11548, USA — The two body problem in General Relativity is studied in this work by solving numerically Einstein Equations. The approach chosen consists of modeling (at least) one of the compact object by means of a boson star, which is a self-gravitating configuration of (complex) scalar field. We present studies of binary systems involving one of these boson stars with another companion compact object. The results illustrate rich phenomenology with interest consequences on the radiated gravitational waves.

Carlos Palenzuela  
Department of Physics and Astronomy, Louisiana State University,  
202 Nicholson Hall, Baton Rouge, Louisiana 70803-4001, USA

Date submitted: 02 Jan 2007

Electronic form version 1.4