

Abstract Submitted
for the APR09 Meeting of
The American Physical Society

Evolutions of Magnetized Neutron Stars STEVEN LIEBLING, Long Island University, MATTHEW ANDERSON, ERIC HIRSCHMANN, Brigham Young University, LUIS LEHNER, Louisiana State University, PATRICK MOTL, Indiana University Kokomo, DAVID NEILSEN, Brigham Young University, CARLOS PALENZUELA, AEI, JOEL TOHLINE, Louisiana State University — Magnetized neutron stars, whether considered individually or within compact binary systems, demonstrate a number of interesting dynamical effects and may represent an important source of observable gravitational waves. In addition, isolated, rotating, magnetized stars serve as a good testbed for a necessarily complex, distributed adaptive mesh refinement (AMR) code. As initial data, we use fully consistent, magnetized, rotating stellar configurations generated with the Lorene toolkit. Here results are presented which (i) demonstrate convergence and stability of the code, (ii) show the evolution of stable and unstable magnetized stars, and (iii) study the effects of a scheme to track the leakage of neutrinos.

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Date submitted: 08 Jan 2009

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