

Abstract Submitted
for the NWS10 Meeting of
The American Physical Society

A Search for Non-Newtonian Gravity at the Human Scale RICCO BONICALZI, PAUL BOYNTON, University of Washington, RILEY NEWMAN, University of California at Irvine, MICHAEL MOORE, University of Washington, ERIC BERG, University of California at Irvine, UNIVERSITY OF WASHINGTON TEAM, UNIVERSITY OF CALIFORNIA AT IRVINE TEAM — Many attempts to unify gravity with the Standard Model entail a violation of the gravitational inverse-square law. A new null torsion-pendulum experiment, operating at the Battelle Gravitational Physics Laboratory on the DOE-Hanford site, looks for such a violation in the interaction between macroscopic bodies separated by approximately 10cm. Central to the design is the special configuration of the mass distributions of both the pendulum and source mass to provide high-sensitivity to the horizontal gradient of the Laplacian of the interaction potential (a uniquely non-Newtonian signature), while simultaneously suppressing coupling through Newtonian gravity. Recent progress will be reported.

Ricco Bonicalzi
University of Washington

Date submitted: 17 Aug 2010

Electronic form version 1.4