Abstract Submitted
for the FWS15 Meeting of
The American Physical Society

Testing the behavior of gravity at the 20-micron distance scale.[1] IAN GUERRERO, C.D. HOYLE, JEREMY JOHNSON, Humboldt State University — At Humboldt State University, faculty and undergraduates have been motivated by the incompatibility of the Standard Model and General Relativity (GR) to design an experiment that will test the behavior of gravity at the 20-micron distance scale. Any extensions of string theory which may help to unify GR and the Standard Model, also predict differences in the inverse square law of gravity. This provides many other interesting implications including the possibility of more spatial dimensions then we can currently discern. The experiment will measure the twist of a torsion pendulum as an attractor mass is oscillated nearby in a parallel-plate configuration that will provide a time varying torque on the pendulum. The size and distance dependence of the torque variation will provide means to determine deviations from accepted models of gravity on untested distance scales. This poster will include recent data taken by the lab, as well as several updates to our experiment.

[1]Testing the behavior of gravity at the 20-micron distance scale.

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Date submitted: 05 Oct 2015 Electronic form version 1.4