

Abstract Submitted  
for the FWS14 Meeting of  
The American Physical Society

**Experimental Progress on Tests of Gravity at 20 microns**

MICHAEL ROSS, CRYSTAL CARDENAS, Humboldt State University — Due to the incompatibility of the Standard Model and General Relativity, tests of gravity remain at the forefront of experimental physics research. At Humboldt State University, undergraduates and faculty are developing an experiment that will test gravitational interactions at the twenty-micron distance scale. The experiment will measure the twist of a torsion pendulum as an attractor mass is oscillated nearby in a parallel-plate configuration which 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 talk will provide a general overview of the experiment, as well as address the measurement and characterization of environmental systematic effects that must be understood in order to achieve the required sensitivity.

Crystal Cardenas  
Undergraduate - Humboldt State University

Date submitted: 30 Sep 2014

Electronic form version 1.4