

Abstract Submitted  
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**Ultra-sensitive force sensing using nanospheres in an optical lattice**<sup>1</sup> KIRSTEN CASEY, GAMBHIR RANJIT, MARK CUNNINGHAM, ANDREW GERACI, Univ of Nevada - Reno — Some theories suggest that at small length scales, Yukawa-type deviations from Newtonian gravity may exist. This poster details the progress of an experiment designed to test for these deviations using silica nanospheres levitated in an optical lattice. The nanospheres are used as ultrasensitive force sensors by measuring their displacement when subjected to a changing gravitational force due to the nearby oscillation of a microfabricated test mass.

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