

Abstract Submitted  
for the DAMOP18 Meeting of  
The American Physical Society

**Proposed Measurement of tensor polarizability of ground state Cesium atoms**<sup>1</sup> TENG ZHANG, DAVID WEISS, The Pennsylvania State University — We propose a new way to measure the tensor polarizability of Cesium ground states. The measurement will take advantage of the apparatus we are using to search for the electron electric dipole moment (eEDM), with cold atoms trapped in optical lattices and in high electric fields. By independently measuring the population in each individual magnetic sublevel, we will simultaneously measure transitions between the  $m_F = 2$  states and the  $m_F = 3$  states. With this direct measurement of tensor energy shifts, we anticipate an order of magnitude improvement in precision over the current experimental value [S. Ulzega, et al, Phys. Rev. A 75, 042505 (2007)1], ultimately limited by our ability to account for tensor light shifts due to the optical lattice.

<sup>1</sup>National Science Foundation (NSF PHY-1607517)

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Date submitted: 26 Jan 2018

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