

Abstract Submitted
for the DAMOP10 Meeting of
The American Physical Society

Sorting Category: 1.3 (E)

Experiment to measure the electric dipole moment (edm) of the electron using laser-cooled Cs atoms YONG-SUP IHN, DANIEL HEINZEN, The University of Texas — The electron edm d_e is known to be smaller in magnitude than $1.6 \times 10^{-27} e \cdot cm$ [1]. We will describe progress on an ongoing experiment designed to be sensitive to an electron EDM d_e as small as $10^{-29} e \cdot cm$. The experiment will search for the resulting edm of the Cs atom, proportional to d_e , using laser-cooled Cs atoms held in an optical dipole force trap. Important features of the experiment include resonant optical cavities to accurately define the trapping laser field, in-vacuum high voltage electrodes, and methods to reduce magnetic noise to low levels, including the use of a novel titanium vacuum chamber

[1] B. C. Regan *et al.* Phys. Rev. Lett. **88**, 071805 (2002)

Prefer Oral Session
 Prefer Poster Session

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Date submitted: 25 Jan 2010

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