

Abstract Submitted
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An Overview of the Search for the Electron Electric Dipole Moment Using Trapped Molecular Ions LAURA SINCLAIR, JOHN BOHN, AARON LEANHARDT, EDMUND MEYER, RUSSELL STUTZ, ERIC CORNELL, JILA, NIST, and the Department of Physics, University of Colorado, Boulder — The current limit on the electron electric dipole moment ($d_e < 1.6 * 10^{-27}$ e*cm) was set using an atomic beam of Tl¹. We have proposed the use of supersonically cooled molecular ions in an RF trap to improve this limit. This experiment should benefit from the large effective electric fields experienced by an electron in polarized molecules and the long spin coherence time of trapped ions. We will outline the motivation behind the two current candidate ions, HfH⁺ and PtH⁺. Recent experimental progress will also be discussed.

¹B.C. Regan et. al., Phys. Rev. Lett. 88, 718051 (2002).

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