

Abstract Submitted
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Candidate Molecular Ions for an Electron EDM Experiment E. MEYER, L. SINCLAIR, R. STUTZ, A. LEANHARDT, JILA, University of Colorado, E. CORNELL, JILA, NIST, University of Colorado, J. BOHN, JILA, University of Colorado — An experiment has been proposed to trap heteronuclear diatomic molecular ions to search for the electron's electric dipole moment (eEDM - see accompanying poster). In order to pick a suitable molecule many parameters must be considered, including the polarizability, rotational constant and nuclear charge of the heavy atom, as well as the expected size of the effective electric field inside the molecule. We have developed an expedient method to estimate these properties using standard molecular structure software. This method enables us to investigate a large number of possible molecules, and points us toward the most promising candidates. We have used this technique to identify as promising candidates the hydrides HfH^+ and PtH^+ .

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