Abstract Submitted
for the DAMOP12 Meeting of
The American Physical Society

Progress towards an electron EDM measurement using trapped hafnium fluoride ions MATT GRAU, HUANQIAN LOH, ERIC A. CORNELL, JILA, NIST and University of Colorado (Boulder), and Department of Physics, University of Colorado (Boulder) — Trapped molecular ions are an ideal platform for precision measurement of the electron electric dipole moment (eEDM). The low lying $^3\Delta_1$ electronic state of HfF^+ is predicted to contribute a large sensitivity enhancement to an eEDM measurement. We create HfF^+ by optically exciting a supersonic beam of HfF with two photons to an autoionizing state. We then load the HfF^+ into a novel Paul trap optimized for fluorescence collection and field uniformity. We report on recent experiments in the trap, and on our general progress towards the eEDM measurement. This work is funded by the National Science Foundation and the Marsico Endowed Chair.

Matt Grau
JILA, NIST and University of Colorado (Boulder), and
Dept of Physics, University of Colorado (Boulder)

Date submitted: 31 Jan 2012 Electronic form version 1.4