

Abstract Submitted  
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**Progress in the Radium EDM Experiment** M.R. DIETRICH, K. BAILEY, J.P. GREENE, R.J. HOLT, Argonne National Lab, M.R. KALITA, W. KORSCH, University of Kentucky, Z.-T. LU, University of Chicago, P. MUELLER, T.P. O'CONNOR, Argonne National Lab, R.H. PARKER, University of Chicago, J. SINGH, Argonne National Lab — Ra-225 (half-life = 15 d, nuclear spin =  $1/2$ ) is a promising isotope for a measurement of the EDM of a diamagnetic atom or the Schiff moment of a nucleus. Due to its large nuclear octupole deformation and high atomic mass, the EDM of Ra-225 is expected to be 2-3 orders of magnitude larger than that of Hg-199. We demonstrate an efficient multiple-stage apparatus in which radium atoms are first loaded into a MOT, then loaded into a movable optical-dipole trap (ODT) that carries the atoms over 1 m of distance to a magnetically-shielded science chamber, and finally loaded into a standing-wave ODT for the measurement. We present the first observation of nuclear precession of trapped Ra-225 atoms, and discuss recent progress toward the first EDM measurement of Ra-225. This work is supported by DOE, Office of Nuclear Physics (DE-AC02-06CH11357 and DE-FG02-99ER41101).

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