Abstract Submitted
for the DAMOP12 Meeting of
The American Physical Society

Towards an EDM Measurement in Radium-225 MATTHEW DIETRICH, K. BAILEY, J. GREENE, R. HOLT, Argonne National Lab, M. KALITA, W. KORSCH, University of Kentucky, Z.-T. LU, P. MUELLER, T. O'CONNOR, R. PARKER, J. SINGH, Argonne National Lab — The existence of an atomic electric dipole moment (EDM) would violate both the time and parity symmetries of nature, and so the measurement of one would give a valuable window into physics beyond the standard model. Here we describe recent progress towards measurement of the EDM of radium-225, which is expected to be abnormally large compared to other species. Neutral cold radium atoms are loaded from a magneto-optic trap into an optical dipole trap (ODT), which is mechanically translated to move the radium into the science region. We then transfer the atoms to a second, standing wave ODT suitable for the EDM measurement. In the near future, we plan to optically pump and observe nuclear spin precession. This research is supported by DOE, Office of Nuclear Physics contract No. DE-AC02-06CH11357.

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Date submitted: 01 Feb 2012 Electronic form version 1.4