

Abstract Submitted  
for the APR07 Meeting of  
The American Physical Society

**Electron Electric Dipole Moment Experiment as a Search for TeV Scale Particles**<sup>1</sup> HARVEY GOULD, LBNL, CHARLES T. MUNGER JR., SLAC  
— Experimentally observable electric dipole moments (EDMs) are predicted, by nearly all extensions of the Standard Model, to arise from CP-violating couplings to new undiscovered particles in the 0.1 TeV to  $> 10$  TeV range. EDMs are widely anticipated and not yet observed. Their discovery would motivate a new generation of particle accelerators. Steps towards a new Cs cold-atom fountain EDM experiment to discover or rule out an electron EDM a factor of 100 below the present limit will be described. Included are: glass electric field plates and vacuum chamber to suppress magnetic Johnson noise, electric field quantization to suppress motional magnetic field systematics, and multiple quantum transitions to enhance sensitivity.

<sup>1</sup>Work supported by NASA

Harvey Gould  
LBNL

Date submitted: 10 Jan 2007

Electronic form version 1.4