

Abstract Submitted
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Electric Dipole Moment Experiment Systematic from Electric Field Discharge Current B. FEINBERG, HARVEY GOULD, LBNL — A magnetic field, in the direction of the electric field and synchronous with the electric field reversal, will mimic an EDM signal. One might expect a discharge across the electric field plates to produce magnetic fields with only small or vanishing components parallel to the electric field, minimizing its systematic effect. Our experimental model, using simulated discharge currents, found otherwise: the discharge current may be at an angle to the normal, and thus generate a normal magnetic field. Comparison of data from the experimental model with the results from calculations will be presented, along with estimates of the time-averaged normal magnetic field seen by atoms in an electron EDM experiment using a fountain of laser-cooled francium, as a function of discharge current.

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