

Abstract Submitted
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Systematic errors in the measurement of the permanent electric dipole moment (EDM) of the ^{199}Hg atom¹ YI CHEN, BRENT GRANER, ERIC LINDAHL, BLAYNE HECKEL, University of Washington — This talk provides a discussion of the systematic errors that were encountered in the ^{199}Hg experiment described earlier in this session. The dominant systematic error, unseen in previous ^{199}Hg EDM experiments, arose from small motions of the Hg vapor cells due to forces exerted by the applied electric field. Methods used to understand this effect, as well as the anticipated sources of systematic errors such as leakage currents, parameter correlations, and E^2 and $\mathbf{v} \times \mathbf{E}/c$ effects, will be presented. The total systematic error was found to be 72% as large as the statistical error of the EDM measurement.

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