

DNP07-2007-000374

Abstract for an Invited Paper
for the DNP07 Meeting of
the American Physical Society

The Search for the Neutron Electric Dipole Moment

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A non-zero neutron Electric Dipole Moment (EDM) would indicate a violation of Time Reversal Symmetry and, via the CPT Theorem, also a violation of Charge Conjugation/Parity (CP) symmetry. New experiments are underway to increase the sensitivity to a neutron EDM to $\sim 1 \times 10^{-28}$ e-cm, representing an improvement over the existing limits of about two orders-of-magnitude. A positive result from these experiments would imply that new sources, beyond our present Standard Model, of CP violation must exist. I will discuss the progress and plans for a new neutron EDM experiment to be carried out at the Fundamental Neutron Physics Beamline at the Spallation Neutron Source.