

Abstract Submitted
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Measurement of the uniformity of a 1/2 scale prototype magnet for the SNS neutron electric dipole moment experiment¹ ADRIAN PEREZ GALVAN, BRAD FILIPPONE, JUSTIN CHEN², California Institute of Technology, BRAD PLASTER, University of Kentucky, NEDM COLLABORATION — An observation of a neutron electric dipole moment (nEDM) would constrain proposed extensions of the Standard Model and possibly explain the baryon asymmetry of the Universe. A new effort to measure the nEDM using ultra-cold neutrons (UCN) at the Spallation Neutron Source at Oak Ridge National Laboratory is currently underway. The experiment will require a uniform magnetic field as well as stringent control of the magnetic field environment to suppress systematic effects. The uniform magnetic field will be generated by a $\cos(\theta)$ coil inside a series of magnetic shields. We present measurements of the uniformity of the main magnetic field as well as the techniques used to achieve the required specifications of the coil.

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