Abstract for an Invited Paper for the SES10 Meeting of The American Physical Society

The neutron EDM experiment at the SNS CHRISTOPHER CRAWFORD, University of Kentucky

A non-zero neutron electric dipole moment (EDM) would violate both parity and time reversal symmetry and measurement of this quantity will help to understand the source of baryon asymmetry in the universe. An effort is underway at the Spallation Neutron Source at Oak Ridge National Laboratory to measure the neutron EDM by detecting a modulation in the neutron spin precession frequency correlated with reversal of a strong electric field. In this experiment, ultra-cold neutrons are produced in liquid helium where the EDM is measured in situ. A trace amount of ³He is used as a co-magnetometer and as a detector of the neutron spin precession. Experimental details and projected results will be presented.