

Abstract Submitted
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Systematics and Operational Studies for the SNS nEDM Experiment¹ ROBERT DIPERT, Arizona State University, SNS NEDM COLLABORATION COLLABORATION — The Systematic and Operational Studies (SOS) apparatus, being designed for the PULSTAR reactor at NC State University, is a test bed for the Neutron Electric Dipole Moment (nEDM) experiment at the Spallation Neutron Source (SNS) at Oak Ridge National Laboratory. The PULSTAR-SOS apparatus and SNS-nEDM experiment will have many physically similar conditions, including (a) temperature near 400 mK, (b) the same measurement cell design, size, and wavelength shifter, (c) use of a Superconducting QUantum Interference Device (SQUID) magnetic detection system, and (d) the use of helium-3 as a co-magnetometer, polarization analyzer, and detector. The major difference is that the PULSTAR-SOS apparatus will not have an electric field. However, it is possible to study the major false edm effect by means of relaxation and frequency shift measurements. Construction of the PULSTAR-SOS cryostat has begun at the Triangle Universities Nuclear Laboratory (TUNL). I will report on the systems which have been installed and tested.

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