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Abstract for an Invited Paper for the SES14 Meeting of the American Physical Society

Searches for the neutron electric dipole moment (nEDM)¹ PAUL HUFFMAN, North Carolina State Univ

The discovery of a non-zero neutron electric dipole moment (nEDM) would provide evidence for a new type of CP violation. Such a discovery would shed light on the fundamental question of why there now more visible matter than antimatter in the universe. Failure to observe a non-zero nEDM however will still constrain many versions of beyond the Standard Model physics, including minimal supersymmetry. I will provide an overview of current experimental techniques, review the worldwide status of experimental searches, and focus on the specifics of an experiment that is being developed to run at the Spallation Neutron Source at ORNL that offers a factor of about 100 increase in sensitivity over existing measurements.

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