



Contribution ID: 1270

Type: **Oral (Non-Student) / orale (non-étudiant)**

Neutron EDM Experiment at TRIUMF

Thursday, 16 June 2016 13:15 (15 minutes)

I discuss plans and recent R&D progress for a new neutron electric dipole moment (nEDM) experiment to be conducted at TRIUMF. The nEDM is sensitive to CP violation arising from new physics beyond the standard model, and arising in the strong sector of the standard model (the strong CP problem). The experiment at TRIUMF will feature a new superfluid helium source of ultracold neutrons (UCN) so that the statistical sensitivity can be improved over previous experiments. We aim for a factor of 30 improvement in precision over the previous best nEDM experiment, resulting in a 1×10^{-27} e-cm uncertainty on the nEDM. At the new level of statistical precision to be reached by this experiment, a host of systematic effects must be handled to higher precision than ever before. This talk will provide an overview of our R&D efforts, aimed at improving the statistical precision and reducing systematic effects to an acceptable level. There will be some focus on our studies of magnetic field generation and characterization.

Primary author: Prof. MARTIN, Jeffery (The University of Winnipeg)

Presenter: Prof. MARTIN, Jeffery (The University of Winnipeg)

Session Classification: R2-3 Testing Fundamental Symmetries II (PPD-DNP-DTP) / Tests de symétries fondamentales II (PPD-DPN-DPT)

Track Classification: Nuclear Physics / Physique nucléaire (DNP-DPN)