

# Challenges of the world-wide experimental search for the electric dipole moment of the neutron



Contribution ID: 50

Type: **not specified**

## Magnetic Field R&D for the nEDM experiment at TRIUMF

*Wednesday, 5 November 2014 09:30 (20 minutes)*

The TRIUMF neutron electric dipole moment (nEDM) experiment is the first experiment that will use the new spallation driven superfluid helium UCN source at TRIUMF. This experiment will employ a room temperature Ramsey Resonance based EDM apparatus and aims to constrain the nEDM by an order of magnitude. In this design, inhomogeneities and lack of stability of the applied magnetic fields are expected to be leading sources of systematic errors in the measurement. This presentation will discuss recent R&D efforts toward active and passive magnetic shielding, magnetic field generation inside shielded volumes, and precision magnetometry.

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**Session Classification:** Magnetic environment