

Abstract Submitted
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TRIUMF Ultra-cold Neutron Source Facility YUN CHANG SHIN,
TRIUMF, JAPAN CANADA NEDM COLLABORATION — An ultra-cold neutron (UCN) source is planned for installation at TRIUMF, Canada, aiming to produce the world's highest density of UCNs using down-scattering of cold neutrons in superfluid helium. This project is a collaboration of Japan and Canada funded by JSPS (KEK) and CFI (University of Winnipeg). The first experiment using this UCN source will be the measurement of the electric dipole moment of the neutron (nEDM). Development of the UCN source and the prototype nEDM experiment will be done at RCNP, Japan in 2013-14. After that, the UCN source and the EDM apparatus will be moved and installed at TRIUMF. Beam commissioning is scheduled for 2015 and neutron EDM experiment is scheduled to start in 2016 at TRIUMF. The goal is to improve the current upper limit of nEDM of $d_n < 2.9 \times 10^{-26}$ e-cm by two order of magnitude at TRIUMF. An overview of the TRIUMF UCN facility including design of a new beam line, development of a spallation target, and re-configuring of the shielding arrangement will be presented in this talk.

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