

Magnetic field environment for the CryoEDM experiment

Tuesday 10 September 2013 18:00 (3 hours)

The CryoEDM experiment will carry out a precision measurement of the neutron electric dipole moment (EDM) at the ILL reactor facility in Grenoble. Neutron EDM is a parameter sensitive to a wide range of BSM theories addressing CP symmetry in the strong sector. EDM measurement on ultra-cold neutrons (UCN) is conditional on stringent magnetic field conditions, which present a range of hardware challenges, to be met in this case within a superthermal UCN source and Ramsey cell operating at a temperature of 0.5 K. The CryoEDM experiment aims to measure neutron EDM with a sensitivity better than $\sim 5 \times 10^{-27}$ ecm and is currently in a commissioning phase; hardware development and improvements to the magnetic field environment are discussed.

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