

ACCELERATOR SEMINAR

“Measuring the Electric Dipole Moment of the Neutron: The CryoEDM Experiment”

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The cryoEDM experiment at the Institut Laue-Langevin in Grenoble will measure the electric dipole moment (EDM) of the neutron with unparalleled precision. A neutron EDM arises due to CP violation. The cryoEDM experiment is sensitive to levels of CP violation predicted by many “beyond the standard model” theories and the result will therefore constrain or support these theories. By operating in superfluid helium below 0.9 K and collecting high densities of ultra cold neutrons, the cryoEDM experiment will improve on the existing limit or measure an EDM. High precision magnetometry is essential to reduce the systematic errors in the cryoEDM experiment originating from changes in the magnetic environment. We present the cryoEDM experiment, currently in commissioning phase, with a particular focus in the SQUID magnetometers and magnetic environments.

Wednesday, October 13, 2010

10:00 a.m. – 11:00 p.m.

Test Lab, Room 204