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## **The status of the g-2 measurement and the new deuteron EDM experiment**

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In my talk I will describe the current status of the muon g-2 experiment with the current apparent discrepancy of 3.5 sigma between the theory and experiment, pointing into new physics accessible at LHC.

Electric dipole moments (EDM) of fundamental particles violate both P and T symmetries. Through CPT conservation, CP is also violated. The deuteron EDM in storage rings experimental concept was developed to provide the next sensitivity level in hadronic EDMs. It will be the best experiment on  $\theta_{\text{QCD}}$ , quark, and quark-chromo EDMs over current and currently planned experiments. Its reach for SUSY type new physics will be 300 TeV, or if there is new physics at the LHC scale, it will have a sensitivity of  $10^{-5}$  rad on CP-violating phases. Both of those limits are much beyond the design sensitivity of LHC.

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**Lundi 7 juillet 2008 à 15 heures**

**Salle André Berthelot, bât. 141**

Le café sera servi 15 minutes avant

*NB : La présentation d'une carte d'identité ou d'un passeport est exigée à l'entrée du centre. Tous les auditeurs extérieurs sont priés de prévenir à l'avance de leur visite Emilie Chancrin, tél. 01 69 08 23 50 (U.E. : délai de 24 h, hors U.E. : délai de 4 jours).*