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Storage Ring Electric Dipole Moment Methods: The road to the next sensitivity level of hadronic EDMs.

Sensitive electric dipole moment (EDM) experiments can probe new physics at very high scales of order 10ˆ3 TeV; much larger than the current reach of accelerators. The storage ring EDM method with its large statistical power could push the sensitivities of the proton EDM to the 10ˆ-29 to 10ˆ-30 e*cm range, several orders of magnitude better than the neutron EDM experiments. The method can be applied to deuteron and ˆ3He with similar sensitivities providing enough information to decipher the CP-violating source should one is found to be non-zero.

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