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Holographic computation of the Neutron electric dipole moment

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We propose a computation of the Neutron electric dipole moment (NEDM), a well known quantity in QCD related to the “Strong CP problem”, by means of the AdS/CFT correspondence. In particular we will use a setting of D8-anti D8 branes in a Type IIA background that goes under the name of Sakai-Sugimoto model. After a brief explanation of the physical interest behind this computation in QCD, we introduce the model, which in the case of our interest reduces to a Yang Mills - Chern Simons action. Finally the numerical solution is presented to first order in the CP breaking parameter θ and the quark masses (in the case of two degenerate flavors).

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