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Contribution of QCD theta-term to nEDM with Stabilized Wilson Fermions

The QCD theta term is a source of CP-violation that could potentially induce a non-vanishing neutron electric dipole moment (nEDM). Previous lattice calculations have had difficulties in extracting the nEDM, especially when close to the physical value of the pion mass. In this contribution we present first results obtained with Stabilized Wilson Fermions. We focus on SU(3) flavor-symmetric OpenLat ensembles at $\sim$ 400 MeV pion mass, and 3 different lattice spacings in the range of 0.065 fm $< a < 0.12$. We use O(100) stochastic source locations to improve the signal-to-noise ratio.

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