Towards a determination of the quark-chromo EDM with the gradient flow

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The quark-chrom EDM (qCEDM) is a dimension 5 operator parametrizing at low energy BSM contributions to a non-vanishing EDM.
We discuss the implementation of the qCEDM with the gradient flow and show preliminary results for the flow-time dependence of the CP-violating mixing angle α_N induced by the qCEDM between nucleon states. These results are computed on the $N_f = 2 + 1$ coarse lattice $16^3 \times 32$ with lattice spacing ($a \simeq 0.1215 fm$). We use Wilson-clover fermion with $\kappa = 0.13825$ and $c_{SW} = 1.761$.

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