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Impact of center vortex removal on the Landau gauge quark propagator in dynamical QCD

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The important role of center vortices in dynamical chiral symmetry breaking and corresponding dynamical mass generation has been demonstrated in quenched studies of the Landau gauge quark propagator. We present the results of our investigation into the impact of center vortex removal on the Landau gauge quark propagator computed with overlap fermions on dynamical gauge fields. Upon removal of vortices we find that dynamical mass generation essentially vanishes, and the quark renormalization function remains flat except in the infrared where it exhibits significant suppression.

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