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Controlling residual chiral symmetry breaking effects of domain wall fermions in QCD thermodynamics

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Investigation of QCD thermodynamics for N_f=2+1 along the lines of constant physics with Möbius domain wall fermions is underway. At our coarsest lattice N_t=12, reweighting to overlap fermions is not successful. To use domain wall fermions with the residual mass larger than average physical ud quarks, careful treatments of the residual chiral symmetry breaking are necessary. One of the examples is the chiral condensate where a UV power divergence associated with the residual chiral symmetry breaking emerges with a coefficient not known a priori. In this presentation we introduce first the setup of the computations and then discuss methodologies to overcome potential problems towards the continuum limit in this setup.

Recording and publishing

yes

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