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# Toward a Continuum-Extrapolated Collins–Soper Kernel from Physical-Point Lattice QCD

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We present a preliminary lattice-QCD calculation of the Collins–Soper kernel from pion quasi-TMD wave functions toward the continuum limit. The calculation uses Coulomb-gauge-fixed quasi-TMDWFs without an explicit gauge link, computed with Clover valence fermions on physical-pion-mass HISQ ensembles with lattice spacings $a$=0.040–0.076 fm. After ratio-scheme renormalization and a Fourier transform to $x$ space, the Collins–Soper kernel is extracted from the momentum dependence of quasi-TMDWFs with next-to-leading logarithmic matching. The use of multiple lattice spacings, spatial volumes, and pion momenta enables an assessment of discretization, finite-volume, and large-momentum systematics.

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