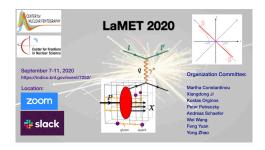Contribution ID: **30**   Type: **not specified**

Determining the Nonperturbative Collins-Soper Kernel From TMD Observables Using Lattice QCD

Friday, 11 September 2020 11:32 (12 minutes)

I present the lattice calculation and results for the nonpertrubative Collins-Soper (CS) kernel, which describes the energy-dependence of the transverse momentum-dependent parton distribution functions (TMDPDFs). The CS kernel is extracted from the ratios of the quasi-TMD taken at different momenta.

The analysis is done with dynamical fermions for different polarization cases of quasi-TMD observables with staple shaped Wilson lines, for three different CLS ensembles at different lattice spacing and fixed pion mass. The non-perturbative lattice CS kernel shows good agreement with an experimental extraction of the CS kernel. Furthermore a comparison with two previous explorative lattice studies is presented.

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