The 38th International Symposium on Lattice Field Theory

LATTICE 21

JULY 26-30 2021, ZOOM/GATHER@MIT

Contribution ID: **363** Type: **Oral presentation**

Determination of the Collins-Soper Kernel from Lattice QCD

Wednesday 28 July 2021 07:00 (15 minutes)

We present lattice results for the non-perturbative Collins-Soper (CS) kernel, which describes the energy-dependence of transverse momentum-dependent parton distributions (TMDs). The CS kernel is extracted from the ratios of first Mellin moments of quasi-TMDs evaluated at different nucleon momenta.The analysis is done with dynamical $N_f = 2 + 1$ clover fermions for the CLS ensemble H101 ($a = 0.0854\,\mathrm{fm}$, $m_\pi = m_K = 422\,\mathrm{MeV}$). The computed CS kernel is in good agreement with experimental extractions and previous lattice studies.

Primary author: SCHLEMMER, Maximilian (University of Regensburg)

Co-authors: VLADIMIROV, Alexey; ZIMMERMANN, Christian (University of Regensburg); ENGELHARDT, Michael; SCHAEFER, Andreas (Regensburg University)

Presenter: SCHLEMMER, Maximilian (University of Regensburg)

Session Classification: Hadron Structure

Track Classification: Hadron Structure