

QCD Global Analysis of (Single-Hadron Fragmentation) Transverse Single-Spin Asymmetries: the Role of Lattice QCD in Phenomenology

Thursday, June 22, 2023 4:00 PM (30 minutes)

I will report on a recent QCD global analysis of single-spin asymmetries involving observables where single-hadron fragmentation is relevant. This includes measurements of the Sivers, Collins, and $\sin(\phi_S)$ effects in SIDIS, Collins effect in electron-positron annihilation, Sivers effect in Drell-Yan, and AN in single-inclusive proton-proton collisions, which are sensitive to important TMD and collinear twist-3 (quark-gluon-quark) functions. In particular, I will focus on the transversity function, which then can be used to calculate the tensor charges of the nucleon, and discuss the role of lattice QCD in the phenomenological analysis.

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