

2022 Meeting on Lattice Parton Physics from Large Momentum Effective Theory (LaMET2022)



Contribution ID: 16

Type: **not specified**

Connecting Euclidean to lightcone correlations: From forward to non-forward kinematics

Friday, December 2, 2022 10:15 AM (25 minutes)

According to large momentum effective theory (LaMET), the parton observables can be extracted from lattice calculations of quasi-observables through a perturbative matching relation. In this talk, I present a unified framework for the perturbative factorization connecting Euclidean correlations to light-cone correlations. We derive the flavor singlet and non-singlet matching kernel for the generalized distribution functions (GPDs), parton distribution functions (PDFs) and distribution amplitudes (DAs) at one-loop level, including the unpolarized, longitudinally and transversely polarized cases. Our results provide a manual of factorization approach for extracting all leading-twist GPDs, PDFs as well as DAs from lattice simulations of Euclidean correlations, following the state-of-the-art renormalization and matching strategy, either in coordinate, pseudo and momentum space.

Presenter: YAO, Fei (Beijing Normal University)

Session Classification: Session I