Resummation, Evolution, Factorization 2022



Contribution ID: 81 Type: not specified

TMD Studies at the Upcoming Electron-Ion Collider

Tuesday 1 November 2022 14:30 (15 minutes)

The Electron-Ion Collider (EIC) will investigate the structure of nucleons and nuclei at an unprecedented level. This will be accomplished by performing precise measurements of deep-inelastic scattering and other processes over the complete relevant kinematic range, including the transition region from perturbative to non-perturbative QCD. High luminosity and highly polarized beams will allow probes of the spatial and spin structure of nucleons and nuclei, leading to high-precision determinations of TMDs and other quantum correlation functions. These investigations will require the development and validation of novel simulation and analysis tools. In my presentation, I will introduce the affinity tool to guide the analysis and interpretation of TMD observables and a new event-level approach for the extraction of TMDs. I will also review the status of MC event generators for the EIC.

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Session Classification: TMD in experiment: DIS