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Present and Future of TMDs

Tuesday 25 October 2022 15:00 (30 minutes)

In the recent years, it has been realized that beyond the successful perturbative and collinear description of hard scatterings, a variety of polarization-dependent observables exists sensitive to the elusive quark-gluon interactions.
New parton distributions and fragmentation functions have been introduced that, besides the hard probe scale, explicitly depend on the parton transverse momentum at the scale of confinement (TMDs). They allow to describe the rich complexity of the hadron structure and formation, and to move towards a multi-dimensional imaging of the underlying parton correlations.
Their study promises to open a unprecedented gateway to the peculiar nature of the strong interaction. This work presents a selection of available observations, and upcoming measurements planned in particular at Jefferson Lab and at the future Electron-Ion Collider, to address the mysteries of the nucleon structure from a modern point of view.

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