

Abstract Submitted
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Extraction of Twist-3 Observables from Deeply Virtual Compton Scattering BRANDON KRIESTEN, University of Virginia — Imaging the 3D partonic structure of the nucleon is a fundamental goal of every major nuclear experimental program, including the EIC. Ji first proposed Deeply Virtual Compton Scattering (DVCS) as a probe for understanding the spatial distribution of the partons by fourier transform of the exchanged momentum transfer between the initial and final proton. The extraction of observables from Deeply Virtual Exclusive Reactions in a clear and concise formalism, such that the various twist components and angular dependencies can be untangled, is key. We present a completely covariant description of the DVCS process that can be extended to any kinematics, either fixed target or collider. In our helicity formalism, we extract observables such that the dependence on Q^2 is clear and kinematic suppressions are not confused with higher twist observables. We have extended our formalism to other Exclusive Reactions, such as Timelike Compton Scattering (TCS), which we demonstrate is key in the extraction of Twist-3 observables used to study the orbital angular momentum of the proton.

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