

Abstract Submitted
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TMDs and GPDs observables extraction LILLET CALERO DIAZ,
Univ of Virginia — Over the last 20 years, an intense experimental activity has been dedicated to the measurement of observables towards a 3D description of the nucleon. Generalized parton distributions (GPDs) and transverse momentum dependent (TMD) parton distributions provide information about the partonic orbital angular momentum which is an important piece to the solution of the proton spin puzzle.

GPDs are accessed by comparing model predictions with data cross-sections of DVCS of the E00-110 experiment at Jefferson Lab Hall A. The formulation of the DVCS cross-section in terms of helicity amplitude is parametrized with Compton Form Factors (CFFs) which are given by the convolution of GPDs. The CFFs, $\Re\mathcal{H}$ and $\Re\mathcal{E}$, appear at twist 2 approximation in the unpolarized beam target configuration and they are extracted with a local fit, the Kriesten-Liuti separation methods and simultaneous fit.

Similar techniques will be applied to extract one of the 8 different TMDs that describes the correlation between the momentum direction of the struck quark and the spin of its parent nucleon; the *Sivers* functions. The future SpinQuest experiment, currently being constructed at Fermilab, will access the sea quark Sivers function using the Drell-Yan process.

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