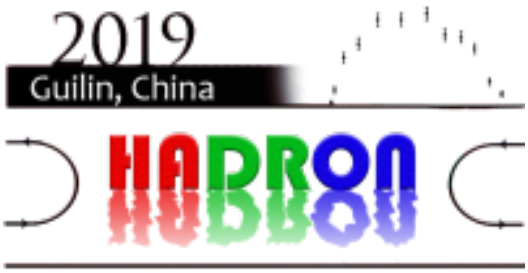

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Access to decoupled information of Generalized Parton Distributions (GPDs) via Double Deeply Virtual Compton Scattering (DDVCS)

Tuesday, 20 August 2019 09:15 (20 minutes)

The Generalized Parton Distributions (GPDs) are the appropriate framework for a universal description of the partonic structure of the nucleon. Encoding the correlations between the elementary constituents of the nucleon, GPDs allow a 3-dimensional imaging of the nucleon from the dynamical link between the transverse position and the longitudinal momentum of partons. Double Deeply Virtual Compton Scattering (DDVCS) corresponds to the scattering from the nucleon of a virtual photon that finally generates a lepton pair $eN \rightarrow eN\gamma^* \rightarrow eNl\bar{l}$ where the final leptons can be either an e^+e^- or a $\mu^+\mu^-$ pair. The virtuality of the final photon allows to investigate the dependences of the GPDs on the initial and transferred momentum in a decorrelated way [1,2]. This unique feature of DDVCS is of relevance, among others, for the determination of the transverse parton densities and the distribution of nuclear forces.

This presentation will discuss a future "full-scale" DDVCS experiment in the context of JLab 12 GeV, model-predicted pseudo-data, and extraction of the relevant GPDs information based on a fitter algorithm.

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