Contribution ID: **21** Type: **Parallel Sessions**

Deeply Virtual Compton Scattering at 11GeV in Jefferson Lab Hall A

Tuesday, 11 September 2018 15:05 (35 minutes)

Introduced in the mid 90's, Generalized Parton Distributions (GPDs) are now a key element in the study of the nucleon internal structure. Indeed, GPDs encapsulate both spatial and momentum distributions of partons inside a nucleon. Through the Ji sum rule, they also allow to derive the total orbital angular momentum of quarks, which is a crucial point to unravel the nucleon spin structure.
GPDs are experimentally accessible through Deeply Virtual Compton Scattering (DVCS) and its interference with the Bethe-Heitler process at high momentum transfer Q^2. A worldwide experimental program was started in the early 2000's to extract these GPDs. The subject of this presentation, a DVCS $ep \longrightarrow ep\gamma$ experiment performed at Jefferson Laboratory, Hall A (Virginia, USA) between 2014 and 2016, is encompassed in this program.
The aim of this experiment is to extract with high precision the DVCS helicity-dependent cross sections as a function of the momentum transfer Q^2, for fixed values of the Bjorken variable xB, on a proton target. The recent upgrade of the accelerator facility to 12 GeV allows to cover a larger Q^2 lever arm than for previous measurements and probe yet unexplored kinematic regions, while the polarized electron beam will allow the separation of the contributions from the real and imaginary parts of the DVCS amplitude to the total cross section.
This talk will present the preliminary results of this experiment.

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Session Classification: 3D Structure of the Nucleon: GPDs and Form Factors

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