CROSS SECTIONS FOR DEEPLY VIRTUAL COMPTON SCATTERING WITH CLAS

Hyon-Suk Jo[1], on behalf of the CLAS Collaboration
[1] Institute for Basic Science (South Korea)

Generalized parton distributions (GPDs) describe the complex internal structure of the nucleon in terms of quarks and gluons. Among other aspects, they allow us to unravel the correlation between the longitudinal momentum fraction and the transverse spatial distributions of partons inside the nucleon, with the prospect of accessing the angular momentum contribution of the partons to the nucleon's spin. Deeply virtual Compton scattering (DVCS), the electroproduction of a real photon on a single parton of the nucleon $eN \to eN\gamma$, is the most straightforward exclusive process allowing access to GPDs. A dedicated experiment to study DVCS with the CLAS detector of Jefferson Lab has been carried out using a 5.75 GeV polarized electron beam and an unpolarized hydrogen target, allowing us to collect DVCS events in the widest kinematic range ever explored in the valence region: $1 < Q^2 < 4.6$ GeV^2, $0.1 < x_B < 0.58$, $0.09 < -t < 2$ GeV^2. We will present the extraction of the DVCS $ep \to ep\gamma$ unpolarized cross section and beam-polarized cross-section difference from these data. We will also show the constraints on the GPDs which can be extracted from these results, using some of the latest fitting codes.