Generalised Parton Distribution studies through Deeply Virtual Compton Scattering at Jefferson Lab

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Abstract

Generalised Parton Distributions (GPDs), which relate the longitudinal momentum fraction of quarks and gluons to their transverse position, enable 3D tomographic imaging of the nucleon and can provide information on its spin composition and distribution of pressure. The golden channel for accessing GPDs experimentally is the exclusive process of deeply virtual Compton scattering (DVCS), in which a high energy electron scatters from a parton within a nucleon and a high energy photon is produced as a result. We present DVCS highlights from Jefferson Lab in the 6 GeV era and an overview of the 12 GeV programme.