

Recoil proton polarization as a window to Compton Form Factor E in a DVCS measurement

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The proton structure can be parameterized through Generalized Parton Distributions (GPDs) - a formalism that describes exclusive processes and allows to perform tomography of the nucleon. Measurements of exclusive processes, such as Deeply Virtual Compton Scattering (DVCS), are sensitive to complex integrals of GPDs, known as Compton Form Factors (CFFs). To gain access to the elusive CFF E for the proton, the common approach is to perform a measurement using a transversely polarized hydrogen target. This study presents an alternative approach, based on the measurement of the DVCS recoil proton polarization from an unpolarized target. This method has the advantage of allowing for higher beam currents and thus higher luminosity. A feasibility study is performed in the context of Jefferson Lab.

Submitted on behalf of a Collaboration?

No

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