

Deeply Virtual Compton Scattering off Helium

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on behalf of the CLAS Collaboration

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Deeply virtual Compton scattering (DVCS) is a privileged tool to access the partonic structure of hadrons encoded via the so-called generalized parton distributions (GPDs). Similarly to the scattering of light by a material, DVCS provides information about the dynamics and the spatial structure of hadrons. Whether the target nucleus remains intact or not after the reaction, DVCS off a nuclear target allows to address the partonic structure of the nucleus as well as the partonic structure of nucleons embedded in the nuclear medium. Adding transverse degrees of freedom to conventional deep inelastic scattering, these exclusive channels are expected to bring sensitive information about the origin of the EMC effect.

The eg6 experiment at the Jefferson Laboratory did explore nuclear DVCS off ^4He . The experimental asymmetry of the DVCS reaction with respect to the electron beam polarization was measured for the coherent and incoherent channels with the CLAS detector, complemented with a small angle electromagnetic calorimeter and a radial time projection chamber. This talk reviews the experimental methods and techniques of the eg6 run, and discusses the preliminary results of DVCS measurements.

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