

Abstract Submitted
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Deeply Virtual Compton Scattering off ^4He SYLVESTER JOOSTEN, Temple Univ, CLAS COLLABORATION — The European Muon Collaboration (EMC) observed the first signs of a modification of the partonic structure of the nucleon when present in a nuclear medium. The precise nature of these effects, as well as their underlying cause, is yet to be determined. The generalized parton distribution (GPD) framework provides a powerful tool to study the partonic structure of nucleons inside a nucleus. Hard exclusive lepton production of a real photon off a nucleon, deeply virtual Compton scattering (DVCS), is presently considered the cleanest experimental access to the GPDs, through the Compton form factors (CFFs). This is especially the case for scattering off the spin-zero helium nucleus, where only a single CFF contributes to the process. The real and imaginary parts of this CFF can be constrained through the beam-spin asymmetry (BSA). We will present the first measurements of the DVCS process off ^4He using the CEBAF 6 GeV polarized electron beam and the CLAS detector at JLab. The CLAS detector was supplemented with an inner electromagnetic calorimeter for photons produced at small angles, as well as a radial time projection chamber (RTPC) to detect low-energy recoil nuclei. This setup allowed for a clean measurement of the BSA in both the coherent and incoherent channels.

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