

Deeply Virtual Compton Scattering off the Neutron in Jlab Hall A (6 GeV experiments)

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Generalized Parton Distribution (GPDs) are considered as a suitable tools to study the structure of the hadron in term of quarks and gluons. Deeply virtual Compton Scattering (DVCS) is the simplest process that can be described in term of GPDs by measuring its cross section. DVCS on the neutron (nDVCS) is sensitive to the GPD “E”, the least constrained GPD, which allows access to the quark angular momentum via Ji’s sum rule. Our experiment was performed in the Hall A of Jefferson Lab to measure the unpolarized cross section off the neutron in the valence region ($x_B=0.36$) at $Q^2=1.75$ GeV² for two beam energies. The unpolarized cross section off quasi-free neutrons and coherent deuteron will be presented here. By combining proton and neutron data measurement, we will show an estimated flavor decomposition of the u and d quarks contributions to the photon electroproduction cross sections.

Primary author: Ms BENALI, meriem (LPC Caen)

Presenter: Ms BENALI, meriem (LPC Caen)

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