

Photon and π^0 electroproduction in Jlab Hall A (6 GeV experiments)

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Generalized Parton Distribution (GPDs) are universal functions which provide a comprehensive description of hadron properties in terms of quarks and gluons. GPDs can be accessed experimentally with hard exclusive processes such as Deeply Virtual Compton Scattering (DVCS) and deeply virtual π^0 production. Two experiments were performed in the Hall A of Jefferson Lab to measure the unpolarized cross sections of these two processes off the proton and off the neutron in the valence region ($x_B=0,36$) at $Q^2=1,5-2$ GeV². After a brief description of the experimental setup, the p-DVCS results will be discussed and interpreted as being unexpectedly sensitive to gluons. Then, the longitudinal/transverse separation of the π^0 electroproduction cross sections, showing a dominance of the transverse terms, will be presented. Finally, an estimation of the quarks up and down contributions to the π^0 electroproduction cross sections, by combining the proton and the neutron measurements, will be shown.

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