

PHYSICS SEMINAR

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The study of chiral-odd GPDs using deeply virtual π^0 electroproduction at
Jefferson Lab

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The measurements of deeply virtual exclusive electroproduction processes are used to access and constrain the Generalized Parton Distributions from experimental observables. Among the variety of these exclusive reactions, π^0 electroproduction channel was shown to be particularly sensitive to the largely unknown chiral-odd GPDs \bar{E}_T and H_T which contain information on quark transverse spin densities in unpolarized and polarized nucleons.

In this presentation I will focus on the measurements of deeply virtual π^0 production (DV π^0 P) at JLab in a wide kinematic region and the planned analysis in terms of underlying chiral-odd Generalized Parton Distributions (GPD). I will highlight the continued efforts with recently upgraded CLAS12 detector and 10.6 GeV polarized electron beam with the kinematic range extending up to $Q^2=8 \text{ GeV}^2$. Additionally, I will present my contributions to the Ring Imaging CHerenkov (RICH) detector commissioning and CLAS12 monitoring software development.