

## The study of the N-Delta Transition GPDs via Exclusive $\pi^-$ Delta $^{++}$ Electroproduction

Thursday, 19 October 2023 17:10 (20 minutes)

Generalized Parton Distributions (GPDs) are a well-established tool for exploring the 3D structure of the nucleon and mechanical properties such as the distributions of energy/momentum and forces in the system. While extensive studies have been performed for the ground-state nucleon, little is known about the 3D structure of resonances. The nucleon-to-resonance ( $N \rightarrow N^*$ ) transition GPDs provides a unique tool for exploring the 3D structure and mechanical properties of nucleon resonances. They can be measured in exclusive processes with  $N \rightarrow N^*$  transitions. First data on these reactions are becoming available from experiments with CLAS12 in Hall B at Jefferson Lab. The talk will present first beam spin asymmetry measurements for the hard exclusive  $\pi^- \Delta^{++}$  production and compare them to results from the hard exclusive  $\pi^+$  and  $\pi^0$  productions and will discuss the outlook on future experimental studies of transition GPDs.

### Parallel Session

Nucleon Structure in DIS

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**Session Classification:** Nucleon Structure in DIS