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**Single and double polarization asymmetries from deeply virtual  $\pi^0$  production with a longitudinally polarized proton target** ANDREY KIM, Kyungpook National University, CLAS COLLABORATION — Deeply virtual exclusive reactions such as  $\pi^0$  meson production with large  $\gamma$  virtuality  $Q^2$  offer an opportunity to explore the nucleon structure and access information about quark position and angular momentum distributions in nucleon, as described in terms of the Generalized Parton Distributions (GPDs). Cross-section measurements of  $\pi^0$  production recently have been carried out at Jefferson Lab in the DIS regime. Measurements of polarization observables provide additional information of the production mechanism due to interference effects. Preliminary results will be discussed on single and double polarization asymmetries from data recently obtained using the highly polarized CEBAF electron beam, a longitudinally polarized  $NH_3$  target, and the CEBAF Large Acceptance Spectrometer (CLAS) equipped with a high granularity electromagnetic calorimeter. The asymmetries are highly sensitive to the different kinematics covered in the measurement. Preliminary results for different  $Q^2$ ,  $x_B$  and  $t$  ranges will be presented.

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