

Abstract Submitted
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L/T separation in kaon electroproduction using CLAS at Jefferson Lab BRIAN A. RAUE, Florida International University, PAWEL AMBROZEWICZ, Florida International University/Jefferson Lab, DANIEL S. CARMAN, Ohio University, MAC D. MESTAYER, Jefferson Lab, AVTANDIL TKABLADZE, Ohio University, CLAS COLLABORATION — Measurements of the cross sections for the $p(e, e' K^+) \Lambda / \Sigma^0$ reaction have been performed using the CEBAF Large Acceptance Spectrometer (CLAS) at Jefferson Lab. This process was selected since the measured observables are sensitive to the resonant and non-resonant amplitudes of the underlying cross section. The data were taken with beam energies of 2.567, 4.056 and 4.247 GeV, and covered Q^2 from ~ 0.5 to 2.5 $(\text{GeV}/c)^2$ and W from threshold to ~ 2.5 GeV. A substantial overlap in the Q^2 range for the data sets with different energies allowed us to perform a separation of the longitudinal and transverse contributions to the unpolarized cross section. The separation was performed using two different approaches, the Rosenbluth technique and simultaneous $\epsilon - \phi$ fit to all of the data. We will present preliminary results on the extracted ratio, σ_L / σ_T , as a function of W and the center-of-momentum scattering angles. We will also discuss implications for the theoretical descriptions of these processes. This measurement is part of a larger CLAS program to measure cross sections and polarization observables for kaon electroproduction in the nucleon resonance region.

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