Measurement of Polarization Observables for Λ in the reaction $\gamma p \to K^+\Lambda$.

Shankar Adhikari
Florida International University, Miami, FL

Spin observables are important to understand the production mechanisms of hyperons, as well as the contribution of intermediate baryon resonances. Λ polarizations have been studied extensively in the recent decades using the reaction $\gamma + P \to K^+ + \Lambda$. This talk presents the measurement of transferred polarization coefficients C_x and C_z, and the induced polarization P, using a new set of high statistics data, obtained using the CEBAF Large Acceptance Spectrometer(CLAS) detector at the Jefferson lab. The photon beam energy range is 1.117 to 5.45 GeV. These results (Cx, Cz and P) are extracted simultaneously using Maximum Likelihood Method. The measurements for C_x and C_z represents nearly one order of magnitude increase in statistics. These results also extended the kinmatic range for $W > 2.46$ GeV, important for understanding the non-resonant contributions.