

## Recent Experimental Results of Polarization Observables for Kaon Photoproduction at CLAS

N.K. Walford, F.J. Klein, S. Fegan, C. Paterson, D. Ireland, K. Livingston, and B. McKinnon (for the CLAS Collaboration)  
natalie@jlab.org

The search for undiscovered excited states of the nucleon continues to be a focus of experiments at Jefferson Lab. Recent LQCD calculations have confirmed the long standing quark model predictions of many more states than have so far been identified [1]. A large effort for the  $N^*$  program has been launched using the CEBAF Large Acceptance Spectrometer (CLAS) detector to provide the database that will allow nearly model-independent partial wave analyses to be carried out in the search for such states. Polarization observables play a crucial role in this effort, as they are essential in disentangling overlapping resonant and non-resonant amplitudes. Recent coupled-channel analyses [2] have found strong sensitivity of the  $K^+$   $\Lambda$  channel to several higher mass nucleon resonances. An overview of the collected experimental data from various experiments (unpolarized hydrogen or polarized butanol targets) using circularly and linearly polarized photon beams with comparisons to predictions of recent multipole analyses and the latest analysis results will be presented. Results from CLAS significantly broaden the world database in many regards and have an impact on multipole analyses.

[1] R.G. Edwards et al., Phys Rev D84 074508 (2011).

[2] A.V. Anisovich et al., Eur. Phys. J. A48 (2012) 15.