

Abstract Submitted
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Recent Results of Polarization Observables for Kaon Photoproduction at CLAS NATALIE WALFORD, FRANZ KLEIN, The Catholic University of America, STUART FEGAN, BRYAN MCKINNON, DAVID IRELAND, KEN LIVINGSTON, CRAIG PATERSON, University of Glasgow, CLAS COLLABORATION — The search for undiscovered excited states of the nucleon continues to be a focus of experiments at Jefferson Lab. Recent LQCD calculations are consistent with 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 CLAS detector to provide the database that will allow nearly model-independent extraction of the pseudo scalar meson production amplitudes 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.

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