Measurement of the Double-Polarisation Obervable G for the Reaction $\gamma(p, \pi^+)n$ Using Linearly Polarized Photons on a Polarized Frozen Spin Target

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I will present a detailed measurement of positive pion photoproduction in the 730-2300 MeV photon energy (1400-2280 MeV centre-of- mass energy) region with a linearly polarised photon beam and a longitudinally polarised proton target with a close-to-complete angular coverage in detection of the reaction products. This unique set up allows for the extraction of the double-polarisation observable, G. The data were taken as part of the g9 experiment at the Thomas Jefferson National Accelerator Facility in Virginia, using a tagged, polarised photon beam and the Frozen Proton Spin Target, FROST, in conjunction with the CEBAF Large Acceptance Spectrometer, CLAS. The results of the study presented here are compared to the existing data set for the G double-polarisation observable along with the current solutions of the the three main partial wave analyses: MAID, SAID and Bonn-Gatchina.