

Abstract Submitted  
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**Beam asymmetry in  $\eta$  meson photoproduction from the proton<sup>1</sup>**

PATRICK COLLINS, Arizona State University, CLAS COLLABORATION — The excitation spectrum of the proton is comprised of many broad overlapping resonances. Due to this feature, investigations of individual resonances are challenging. One excellent tool in helping understand the spectrum is  $\eta$  meson photoproduction from the proton. Because this meson has isospin zero, it can be seen as an “isospin filter” for the nucleon resonance spectrum. Differential cross section data has been the primary tool used to study  $\eta$  meson photoproduction. There have been a comparatively smaller number of beam asymmetry measurements for  $\eta$  photoproduction. However, these beam asymmetries cover the energy range up to only about  $E_\gamma = 1.5$  GeV. I will present preliminary Jefferson Lab CLAS data on beam asymmetry for the  $\eta$  meson for energies up to about  $E_\gamma = 2.1$  GeV. I will also discuss how the new measurements will be useful in understanding the structure and excited states of the proton.

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