Studies of $\eta$ photo-production in the baryon resonance excitation region with CLAS\textsuperscript{1} IGOR SENDEROVICH, Arizona State University, CLAS COLLABORATION — Because the pseudoscalar $\eta$ meson has zero isospin, exclusive $\eta$ photo-production offers the feature of isolating $N^*$ (I=1/2) resonance states. This “isospin” filter property can be very useful in helping disentangle the broad and overlapping excitations that make up the nucleon resonance spectrum. For that reason, a program of measurements on $\eta$ photo-production for the reaction $\gamma p \rightarrow \eta p$ has been conducted using the Hall B CEBAF Large Acceptance Spectrometer at Jefferson Lab. Results for the differential cross-section and for single- and double-polarization observables will be summarized. The general outlook for the “complete experiment” program for disentangling nucleon resonances decaying to the $p\eta$ channel will be discussed.

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