Study of η and η' Electroproduction with JLab's CLAS12 Detector[1] IZZY ILLARI, George Washington Univ, CLAS12 COLLABORATION — The CLAS12 physics program is involved in the studies of the nucleon resonance spectrum and structure in electroproduction of a large variety of final states. With new CLAS12 data, we can investigate the electroproduction of the η and η' mesons, which will provide a complementary tool to study nucleon resonances N*. Due to the fact that both η and η' have isospin I = 0 this provides an isospin filter that allows us to access nucleon resonances where I = 1/2. One of the primary steps for this work is the identification of η and η' in the 6.5 GeV data collected by Run Group K (center of mass energy W $\sim$ 1-3 GeV, photon virtuality $Q^2 \sim$ 0-6 GeV^2, and luminosity ~ 54 fb^{-1}) via their decays into γ's and π's. This will require the use of Monte Carlo simulations and the development of programs that filter the data for the relevant final states. Some channels pose unique issues of particle identification and complex combinatorics. To verify the detection of η and η', mass, momentum, angle and other plots will need to be produced and compared to MC simulations. This work is in contrast to the bulk of the current world database, which focuses on πN final states.

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