Search for Exotic Mesons in $\gamma p \to \Delta^{++}\pi^+\pi^-\pi^-$ with CLAS at Jefferson Lab

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Abstract.

Apart from the mesons that the constituent quark model predicts, QCD allows for additional states beyond the $q\bar{q}$ system. By studying the following reaction $\gamma p \to \Delta^{++}\pi^+\pi^-\pi^-$ we are analyzing a large data set of three charged pion system. An event selection has been made to this data set in order to search for the spin-parity exotic $\pi_1(1600)$ meson. Those events will be subject to PWA in search for this exotic meson. The experiment took place at Jefferson Lab using the CLAS spectrometer, a liquid hydrogen target was used and a tagged photon beam in a range of $4.4 - 5.5$ GeV. Preliminary results will be shown, describing the data quality, kinematics and Monte Carlo simulation of the reaction.