Abstract Submitted
for the SES12 Meeting of
The American Physical Society

The Photoproduction of Strangeness in $\gamma p \rightarrow \Lambda K^+\pi^+\pi^-$ with CLAS at Jefferson Lab HUSSEIN AL GHOUL, Florida State University — Following the prediction of exotic states by Quantum Chromodynamics, the search for new and exotic mesons has become a priority in nuclear physics. The g12 Experiment, using the CEBAF Large Acceptance Spectrometer (CLAS) at Jefferson Lab, has provided a large photoproduction dataset. This experiment used a liquid hydrogen target, a 4 - 5.5 GeV tagged photon beam, and acquired 26 billion events. The reaction $\gamma p \rightarrow \Lambda K^+\pi^-\pi^+$ provides an opportunity for searching for excited strange mesons using the g12 dataset. In this reaction, the Λ is identified via the p π^- decay where π^- is identified using the energy-momentum conservation. Studies indicate two dominating decay modes: the $K^*(982)\pi$ mode, and the $K^+\rho$ mode. Preliminary results will be presented in this talk, along with the kinematics and dynamics of this reaction. Future plans, including partial wave analysis , will be discussed briefly.

Hussein Al Ghoul
Florida State University

Date submitted: 19 Sep 2012 Electronic form version 1.4