Cross Sections for $\gamma p \rightarrow \eta \pi$ and $\gamma p \rightarrow \eta' \pi$ using data from CLAS at Jefferson Lab. MIKE WILLIAMS, Carnegie Mellon University, CLAS COLLABORATION — Studying $\eta$ and $\eta'$ photoproduction presents a good opportunity to search for missing $N^*$ states, since both mesons act as isospin filters. Previous searches for these states in $\gamma p \rightarrow \eta' \pi$ have been hindered by limited statistics in the available experimental data. I will present differential cross sections obtained from the CLAS g11a dataset. Measurements have been made in $\cos \theta_{CM}^{\eta(\eta')}$ bins of width 0.1 for $\eta$ photoproduction in 64 $\sqrt{s}$ bins over the energy range $1.68 \text{ GeV} < \sqrt{s} < 2.84 \text{ GeV}$ and for $\eta'$ photoproduction in 40 $\sqrt{s}$ bins over the energy range $1.92 \text{ GeV} < \sqrt{s} < 2.84 \text{ GeV}$. The width of the center-of-mass energy bins is from 10 MeV–50 MeV, depending on $\sqrt{s}$. In total, 1082 $\eta$ and 682 $\eta'$ cross section points are reported. These results represent a tremendous increase in the precision of the world’s $\eta'$ photoproduction data and extend the energy coverage by $\sim 500 \text{ MeV}$ in $\sqrt{s}$. 

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