Studies of $\eta(')\pi$ Final States Using GlueX Data

Colin Gleason

April 29, 2019

The primary goal of the GlueX experiment at Jefferson Lab is to search for and map the spectrum of light hybrid mesons. Many experiments have studied and reported evidence of exotic mesons decaying into $\eta\pi$ and $\eta'\pi$ final states. With our large acceptance to both charged and neutral particles, GlueX has access to both the neutral, $\gamma p \to \eta(')\pi^0$, and charged, $\gamma p \to \eta(')\pi^-\Delta^{++}$, exchanges. This presentation will give an overview of the current studies being performed at GlueX in $\eta(')\pi$ channels, with a focus on the $\eta(')\pi^-$ final states. It will discuss early physics goals, such as studying $a_0 \to \eta\pi$ and $a_2 \to \eta\pi$ as a function of t, and outline the strategy for an amplitude analysis as GlueX begins its quest to illuminate the light hybrid meson spectrum.