

Exploring photoproduced meson states that decay $K^+K^-\pi^0$ with an emphasis on events where the K^+K^- pair are from a_0 decay

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Abstract

Mesons that have $K^+K^-\pi^0$ decay products are potentially interesting as exotic states, however many non-exotics have the same decay products. On the way towards uncovering exotic meson states, a major goal of the GlueX experiment is to map the non-exotic light mesons into their respective nonets. This endeavor requires that methods utilized can sufficiently measure well known states. As a step towards uncovering the richness possessed for mesons that have $K^+K^-\pi^0$ decay products is to search for low mass states decaying $a_0\pi^0$ that include $K^+K^-\pi^0$ non-resonant contributions. Utilizing GlueX data for $K^+K^-\pi^0$ photoproduction from the proton I will show a sharp peak in invariant mass of $K^+K^-\pi^0$ near the $f_1(1285)$ and $\eta(1295)$ mass along with angular distribution of the decay products.