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A study of the $\vec{\gamma}p \to p\eta\pi^+\pi^-$ reaction in GlueX ALISON LADUKE, Carnegie Mellon University, GLUEX COLLABORATION — The search for exotic hybrid mesons is the primary goal of the GlueX experiment at Jefferson Lab. Possible decays of the η_1 and b_2 exotic hybrid mesons could occur through the $a_2^{\pm}(1320)\pi^{\mp}$, $f_2(1270)\eta$, and $\rho\eta$ intermediate states, where all of these can be detected in the $\eta\pi^+\pi^-$ final state. We will report on the reaction $\gamma p \to p\eta\pi^+\pi^-$ using 9 GeV linearly polarized photons in GlueX. Evidence for the $a_2\pi$, $f_2\eta$ and $\rho\eta$ intermediate states will be presented. We will also discuss other contributions to this final state and the path forward to the full analysis of this final state in GlueX.

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