

Abstract Submitted  
for the DNP16 Meeting of  
The American Physical Society

**Analysis of the  $\eta(548) \rightarrow \pi^+ \pi^- \pi^0$  and  $\eta'(958) \rightarrow \pi^+ \pi^- \eta$  channels using a 8-9 GeV tagged photon beam for the GlueX Experiment**<sup>1</sup> TEGAN BEATTIE, ZISIS PAPANDREOU, Univ of Regina, JUSTIN STEVENS, Jefferson Lab, GLUEX COLLABORATION — The primary goal of the GlueX experiment is to conduct a definitive mapping of states in the light meson sector with an emphasis on searching for exotic hybrid mesons as evidence of gluonic excitations. The experiment, housed in the Hall-D facility at Jefferson Lab following its accelerator upgrade to 12 GeV, is now entering the physics data taking phase. The  $\eta(548)$  and  $\eta'(958)$  mesons are two of the richest unflavoured light mesons readily available at GlueX energies for studying resonances. Many other light mesons have decay channels involving the  $\eta$  mesons with significant branching ratios, and  $\pi\eta/\pi\eta'$  resonances are among the top contenders for possibly-accessible exotic and hybrid resonances which GlueX aims to study. As such, the ability to reconstruct pure  $\eta/\eta'$  samples and analyze their decays is of utmost importance for understanding future work on more complicated analyses. Preliminary analysis results from commissioning data will be presented.

<sup>1</sup>This work was supported by NSERC grant SAPJ-326516 and Jefferson Science Associates, LLC, who operates Jefferson Lab under U.S. DOE Contract No. DE-AC05-06OR23177.

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Date submitted: 27 Jun 2016

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