Abstract Submitted
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An Exploratory Study of $\gamma p \to \phi(K^+K^-)\omega(\pi^+\pi^-\pi^0)p$ in the GlueX Experiment at Jefferson Lab[1] CHRISTOPHER BANKS, Norfolk State University, CARLOS SALGADO, Norfolk State University/Thomas Jefferson National Accelerator Facility, GLUEX COLLABORATION — Mesons are subatomic particles that have intermediate masses between electrons and protons and manifest as quark-antiquark pairs kept together by the strong force (gluons). Quantum Chromodynamics (QCD) states the possibility for mesons manifested only as gluons (glueballs) or as quarks and gluons (hybrids). Some of those hybrid mesons could have quantum numbers that are inaccessible to conventional mesons (exotics). The GlueX detector at Jefferson Lab was built to search for exotic mesons at intermediate energies (2-3 GeV masses). The reaction $\gamma p \to \phi(K^+K^-)\omega(\pi^+\pi^-\pi^0)p$ is of interest for this study. By simulating the detector and the reconstruction acceptance and efficiency, and by using expected signals and backgrounds through a detailed Monte Carlo, we have studied the possibilities of observing this reaction with the present GlueX configuration.

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