

Abstract Submitted  
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**Spin-Density Matrix Elements for Vector Meson Photoproduction at GlueX** MARK DALTON, Jefferson Lab, GLUEX COLLABORATION COLLABORATION — The GlueX experiment at Jefferson Lab aims to study the light meson spectrum with an emphasis on the search for hybrid mesons. A linearly-polarized, 9 GeV photon beam is incident on a hydrogen target inside a detector with near-complete neutral and charged particle coverage. The experiment completed its first phase of data taking in 2018, producing orders of magnitude more data than previous polarized photoproduction experiments in this energy regime. Polarization observables, such as spin-density matrix elements, are important input for the theoretical description of the production mechanism—which will be required for the interpretation of any potential signals for exotic mesons. We present new results for the photoproduction of vector mesons, focusing on spin-density matrix elements for the  $\omega(782)$  meson with dramatically improved statistical precision.

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