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Partial Wave Analysis Results for $\gamma p \rightarrow p\omega$ using Data from CLAS at Jefferson Lab

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Relativistic quark models predict strong couplings to $p\omega$ — relative to $N\pi$ — for some of the *missing* N^* states. Previous searches for these states in $\gamma p \rightarrow p\omega$ have relied solely on differential cross section measurements. I will present final differential cross section and ω spin density matrix element measurements obtained from the CLAS *g11a* dataset. Measurements at ~ 20 points in each of 112 \sqrt{s} bins over the range $1.72 \text{ GeV} < \sqrt{s} < 2.84 \text{ GeV}$ have been made (~ 2000 total points). These are the first *high precision* polarization measurements made for ω photoproduction. I will also present partial wave analysis results for this channel. These results are the first to be constrained by precise polarization information. Strong evidence for resonance contributions to $\gamma p \rightarrow p\omega$ has been found.