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**Photoproduction of the $\phi$ meson on the neutron** ANNA MICHERDZINSKA, BARRY BERMAN, The George Washington University, CLAS COLLABORATION — The photoproduction of the $\phi$ meson has attracted a lot of interest in the past decade. Due to the dominant $s\bar{s}$ component in the $\phi$, quark-exchange mechanisms are expected to be strongly suppressed. This makes the photoproduction process an excellent tool to study gluon dynamics in its various manifestations. However, the mechanism of $\phi$ photoproduction on the nucleon is not yet well understood. In order to differentiate between the various mechanisms proposed for $\phi$ photoproduction, data for both differential cross sections and spin observables are needed. All existing experimental data come from $\phi$ photoproduction on the proton, and there is only one published result currently available using a linearly polarized photon beam. There are no experimental results at all for $\phi$ photoproduction on the neutron. Our g13 experiment, using the CLAS at Jefferson Lab, where both linearly and the circularly polarized photons were incident on a deuterium target, can provide such data. We are analyzing these large-kinematic-coverage data to extract both cross sections and angular distributions for the $\gamma + n \rightarrow K^+K^- + n$ reaction channel.

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