Rescattering of the $\Sigma^-(1385)$ and the $K^+$ on the proton, R.M. Davis (GWU), for the CLAS Collaboration

REBECCA DAVIS, George Washington University, CLAS COLLABORATION — Due to the short lifetime of excited hyperons, studies on their scattering are lacking. Since neither beams nor targets can be created, the only possibility is to use final-state interactions. We studied the reaction $\gamma n \rightarrow K^+ \Sigma^-(1385)$, detecting the $K^+, \pi^-, \pi^-$, p in the final state. These data were obtained in the g10 experiment at Jefferson Lab, which used real photons and a deuterium target in the CLAS. The $\Sigma^-(1385)$ and the intermediate $\Lambda$ were identified from their invariant masses. The additional ‘spectator’ proton was either detected or identified by missing mass. Once all particles were identified, we were able to look for high-$t$ events with spectator proton momenta above 0.4 GeV/c. Though the statistics are limited, we plan to determine the quasifree and the rescattering cross sections.