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Strangeness Production in Electromagnetic Interactions off the Proton

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A program of strange particle production off the proton is currently underway with the CLAS spectrometer in Hall B at Jefferson Laboratory. Measurements have been carried out at energies up to 6 GeV with electron and real photon beams, both of which are available with high polarization. This talk will focus on a detailed overview of the results of our measurement program, which is designed to measure cross sections and polarization observables for $K^+\Lambda$ and $K^+\Sigma^0$ final states over a broad kinematic range in Q^2 from 0.5 to 3.5 $(\mathrm{GeV/c})^2$ and W from threshold to 3.0 GeV, while spanning nearly the full angular range of the kaon in the center-of-mass system. The main goals of this program are to better understand the reaction mechanism of open-strangeness production, specifically with respect to the different production mechanisms for Λ and Σ hyperons. Additionally these data have strong sensitivity to disentangle the different resonant and non-resonant amplitudes in the intermediate state. These studies are expected to provide insight into the nature of QCD in the confinement domain. The precision of our data has been demonstrated to be highly sensitive to different models of the production process.