## BEACH 2010 - IX International Conference on Hyperons, Charm and Beauty Hadrons



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## **Hyperon Resonance Photoproduction at CLAS**

The photoproduction of hyperons and hyperon resonances is studied with the CLAS detector at Jefferson Lab using beams of photons in the energy range of 1 to 4 GeV. Much has been learned about how to theoretically model the photoproduction of the ground-state hyperons, including surprisingly simple rules of spin-transfer from the photon to the hyperon, leading to the introduction of new nucleon resonances that are not strongly observed in pion-scattering partial wave analysis (PWA). In addition, data on *Kphotoproduction has extended the theoretical modeling to strange vector mesons and how their spin couples to the hyperon final state. Hyperon resonances are now being studied at CLAS, including the Lambda* resonances at 1405 MeV and 1520 MeV, and the Sigma\* resonance at 1385 MeV. New results from CLAS will be presented.

## Summary

The results on kaon-hyperon photoproduction suggest that a new nucleon resonance is seen at about 1900 MeV, which couples strongly to this production channel. Nearly complete spin-transfer from the photon to the hyperon is observed for few-GeV photons. In contrast, new data for K\* photoproduction shows a much smaller spin-transfer, suggesting that some of the spin is transferred to the vector meson. New data on the Lambda(1405) shows a marked deviation from expected isospin-symmetric decays, which suggests interference due to poles of dynamically-generated intermediate resonances. New results for the radiative decay of Sigma(1385) will also be presented.

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