

Hyperon Polarization in K^+Y Electroproduction Studies with CLAS12

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Studies of the spectrum and structure of excited nucleon N^* states is a cornerstone of the physics program at Jefferson Laboratory (JLab). Much of the world data on N^* s came from the CLAS experiment in Hall B with electron and photon beams up to 6 GeV. The next generation of electron scattering experiments is now underway in Hall B with the new CLAS12 spectrometer after completion of the JLab 12 GeV upgrade. One of the first CLAS12 results is based on data with 6.535 GeV and 7.546 GeV polarized electrons on an unpolarized hydrogen target, measuring exclusive $K^+\Lambda$ and $K^+\Sigma^0$ final states. These channels offer a promising way to explore new baryon states such as “missing” N^* s and gluonic-hybrids. The first observable from these studies is the beam-recoil polarization transfer spanning four-momentum transfer Q^2 from 0.3-4.5 GeV², invariant energy W from 1.6-2.4 GeV, and the full K^+ center-of-mass. These first data represent five times the available world data in these kinematics. These results will be discussed in comparison with available reaction models. An overview of other K^+Y studies from CLAS12 data at beam energies up to 11 GeV will also be reviewed.