The FROST experiment at Jefferson Lab used the CLAS detector in Hall B with the intention of performing a complete and over-determined measurement of the polarization observables associated with strangeness photoproduction, in combination with data from previous JLab experiments as part of the N* program. This was achieved by utilising the FROST polarized target in conjunction with polarized photon beams, allowing direct measurement of beam-target double polarisation observables.

Although sufficient observables have now been measured to enable the associated reaction amplitudes to be determined, facilitating a near model-independent partial wave analysis, remaining abiguities will only be resolved by measuring observables spanning combinations of beam, target and recoil polarization. This will shed new light on the baryon spectrum and enable competing quark models of the nucleon to be verified. With current data on the baryon spectrum dominated by studies of πN reactions, investigations on strangeness photoproduction reactions, such as $\gamma p \rightarrow K^+\Lambda$, may observe previously unseen resonances, due to the different coupling strengths of these states to different reaction channels.

The G asymmetry is one of the beam-target double polarization observables, associated with a longitudinally polarized target and a linearly polarized photon beam, and its measurement for the strangeness reaction $\gamma p \rightarrow K^+\Lambda$ in the energy range $E_\gamma = 1.1 – 2.1$ GeV is the focus of the work presented.