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$\gamma p \rightarrow K^+ \Lambda$ Differential Cross Section and Recoil Polarization Measurements from the CLAS *g11a* Dataset MICHAEL MCCRACKEN, Washington & Jefferson College, CLAS COLLABORATION — We present measurements of $\gamma p \rightarrow K^+ \Lambda$ differential cross section and Λ recoil polarization from the CLAS *g11a* dataset. The measurements cover the center-of-mass energy range from 1.62 GeV to 2.84 GeV and a wide range of center-of-mass angles ($-0.90 \leq \cos \theta_{CM}^K \leq 0.90$). We have analyzed this reaction via both the $K^+ p \pi^-$ and $K^+ p$ (missing π^-) final-state topologies independently and found the results to be in excellent agreement. Previous $\gamma p \rightarrow K^+ \Lambda$ differential cross section results from the CLAS (Bradford, *et al.* 2005) and SAPHIR (Glander, *et al.*, 2004) Collaborations show discrepancies in magnitude at most energies and a discrepancy in scale and shape at $\sqrt{s} \approx 1.9$ GeV. These discrepancies have been problematic for interpretations of $K^+ \Lambda$ photoproduction mechanisms. These new *g11a* differential cross section results show excellent agreement with the previous CLAS result. The recoil polarization results show agreement with previous data from the CLAS, SAPHIR, and GRAAL experiments, and are a ≈ 500 MeV extension of the observed energy range.

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