

A search for baryon-number-violating decays of the Λ using CLAS at JLab

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We present the status of a search for baryon-number-violating decays of the Λ baryon using data from the CLAS detector for photoproduction off of the proton in liquid hydrogen. The dataset contains roughly 3.0×10^6 Λ production events that are reconstructable from three final state tracks (recoil K^+ and decay products). We investigated nine potential decay modes in which the Λ decays to a meson-lepton pair. We perform a blind analysis during the optimization of data selection criteria. We estimate that the analysis will be sensitive to branching fractions on the order of $\Gamma_{\text{BNV}}/\Gamma_{\text{tot}} \approx 6 \times 10^{-5}$, roughly an order of magnitude smaller than those of the currently known rare Λ decays.