Preliminary Results of L/T Separations in Kaon Electroproduction

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Exclusive H(e,e'K)Y data (where "Y" is either a Λ^0 or Σ^0 hyperon) were taken in January, March and April of 2001 and March of 2002 in Hall A at the Thomas Jefferson National Accelerator Facility. The electrons and kaons were detected in coincidence in the hall's two High Resolution Spectrometers (HRS). The kaon arm of the pair had been specially outfitted with two aerogel Čerenkov threshold detectors, designed to separately provide pion and proton particle rejection thus allowing kaon identification.

A Rosenbluth separation has been done on the cross sections, to separate the longitudinal and transverse responses. Data were taken at $t = t_{min}$, or at an angle between the kaon and the virtual photon of $\theta_{CM}^{k\gamma} = 0$. Preliminary results will be shown on the responses' dependences on the invariant mass, W, and 4-momentum transfer, Q^2, along with results of systematic studies.

The data allow extrapolation of the longitudinal response in t to the constrain the kaon form factor, assuming t-channel dominance of the reaction. Additional information on the transverse and longitudinal-transverse interferece responses are sensitive to details of the reaction mechanism.

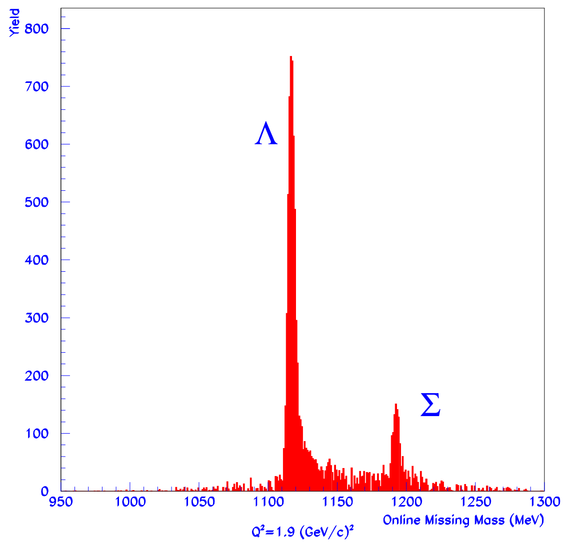

Figure 1: Typical online missing mass yields showing the excellent PID achieved.