Low Q^2 Kaon Electroproduction at W=2.2 GeV off Hydrogen

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A measurement of the H(e,e'K^+) reaction was performed at Hall A, TJNAF as part of hypernuclear experiment E94-107. Data was taken at very low Q^2 (~0.07 GeV^2) and W~2.2 GeV. Kaons were detected along the direction of **q**, the momentum transferred by the incident electron (Θ_{CM}~6°).

These measurements provide data about the Σ^0/Λ^0 ratio which drops rapidly with Q2, the angular dependence of the cross sections as $Q^2 \rightarrow 0$, and the dependence of the cross section with respect to Q^2, W and Θ_{CM}.

The dependence of the cross section at very forward angles has been poorly known. Available models are inadequate to describe the results.

The measurement of the elementary cross section will constrain models for the elementary reaction which are inadequate to describe these results. It is also a key ingredient in the hypernuclear spectroscopy studies performed at the same kinematics. Details of the calculations and results will be shown.