E12-09-011 update: Studies of the L-T separated Kaon Electroproduction Cross Section from 5-11 GeV

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This is an update of the approved E12-09-011 experiment. To a large extent, the study of charged kaon electroproduction above the resonance region is inspired by the analogy with charged pion electroproduction. The theoretical motivation stands strong. In the meantime a few improvements to address deficiencies in model and QCD calculations compared to the scarce available data have been proposed, rendering the present experiment even more compelling.

- One of the renewed interests is to investigate whether there is a large longitudinal cross section due to the t-channel kaon pole. Should the t-channel pole dominate, new information about the K^+ charge form factor can be extracted. However, we are glad to see that the dominance of the t-channel pole is not taken for granted, for the kaon pole is not as close to the physical region as the pion. Therefore, we encourage the effort taken to understand the non-pole contributions, which should reduce the model dependence in interpreting the data.
- Studying Q^2 -scaling of the separated cross section is in connection with E12-07-105, where charged pion electroproduction is investigated. Since the original submission, the theoretical motivation is further strengthened by recent analysis of the ρ^0 and ω channels.