Abstract Submitted
for the DNP07 Meeting of
The American Physical Society

Deep Exclusive process of $\gamma^* p \rightarrow \pi^+ n$ channel from the CLAS data[1] KIJUN PARK, University of South Carolina, CLAS COLLABORATION[2] — Exclusive $\gamma^* N \rightarrow \pi N$ processes are essential probes to study the transition from meson-nucleon degree of freedom to quark-gluon degree of freedom. One of the simplest signatures for this transition is the scaling of the cross section with center-of-mass energy. Cross sections of these processes are also helpful to investigate the oscillatory behavior around the quark counting rule predictions, since they decrease slower with energy than other photon-induced processes. We have analyzed the $\gamma^* p \rightarrow \pi^+ n$ channel within 6 GeV electro-production data. CLAS has the distinct advantage of permitting a much finer energy scan and simultaneous coverage of a large angular range, which will help investigate the dramatic behavior observed in other experiments. We could verify the counting rule in the scaled differential cross section for different Q^2 at large hadron angle in center-of-mass system. The preliminary differential cross section will be presented and discussed.

[1]This iwork was supported by the Korea Research Foundation Grant funded by the Korean Government KRF-2006-352-C00012
[2]Thomas Jefferson National Accelerator Facility

Kijun Park
University of South Carolina

Date submitted: 02 Jul 2007 Electronic form version 1.4