

Abstract Submitted  
for the DNP07 Meeting of  
The American Physical Society

**Inclusive Scattering from Nuclei at  $x > 1$  and high  $Q^2$  with a 6 GeV beam** NADIA FOMIN, University of Virginia — Inclusive electron scattering from nuclei at large  $x$  and  $Q^2$  is the result of a reaction mechanism that includes both quasi-elastic scattering from nucleons and deep inelastic scattering from the quark constituents of the nucleons. Consequently, it provides an opportunity to investigate the transition from a regime where nucleon degrees of freedom dominate to one where the more fundamental QCD interactions are exposed. Data in this regime can be used to study a wide variety of topics, including the extraction of nuclear momentum distributions, the influence of final state interactions and the approach to  $y$ -scaling, the strength of nucleon-nucleon correlations, and the approach to  $x$ -scaling, to name a few. We recently performed an experiment in Jefferson Lab's Hall C using a 6 GeV beam and a range of both light and heavy nuclei which was designed to significantly extend the kinematic region at high momentum transfer and large (negative)  $y$ , previously explored in SLAC experiment NE3 and Jefferson Lab experiment E89-008. After a brief statement of the physics goals of this experiment, we will present results and discuss possible interpretations.

Nadia Fomin  
University of Virginia

Date submitted: 02 Jul 2007

Electronic form version 1.4