

Abstract Submitted  
for the DNP07 Meeting of  
The American Physical Society

**Fermilab E906: Extension to High-X of Measurement of the Anti-quark Distributions of Nuclei and Nucleons**<sup>1</sup> DONALD ISENHOWER, Abilene Christian University, FERMILAB E906 COLLABORATION — The quark-level structure of the nucleon has been studied by various methods. Fixed-target Drell-Yan scattering can kinematically select events that specifically probe the target's antiquark distributions and is ideally suited to study these effects. Fermilab E906, which was approved by Fermilab in 1999, after the completion of Fermilab E866/NuSea in 1997, has recently been given permission to proceed with construction of the experiment. E866/NuSea yielded a number of important physics results, including total proton-proton cross sections, energy loss measurements, and the first measurement of the cross section ratio of proton-proton to proton-deuterium collisions over a large kinematic range, allowing the extraction of the ratio of anti-down to anti-up quarks in the proton. E906 will take advantage of the lower energy of the Fermilab Main Injector to extend the range of the E866/NuSea measurements to larger Bjorken-x to further the search for changes in the sea quark distributions in nuclei. The apparatus to be used will be discussed, along with the many studies for optimizing the experiment.

<sup>1</sup>Supported in part by the U.S. Department of Energy

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Date submitted: 03 Jul 2007

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