

Abstract Submitted  
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**Measurement of nuclear effects in antiquark distributions<sup>1</sup>**

PAUL REIMER, Physics Division, Argonne National Laboratory, FERMILAB E-906/DRELL-YAN COLLABORATION — Parton distribution within a free nucleon differ from those of a bound nucleon, an effect first discovered by the EMC collaboration. Most of the data on nuclear dependence is from charged lepton scattering and is sensitive only to the charge-weighted sum of all quarks and antiquarks. Nuclear effects in the quark sea were observed to be different from those in the valence sector by Fermilab E-772; although, with limited statistics. In the context of nuclear convolution models, virtual pion contributions to nuclear structure functions were expected to lead to sizable increases in sea distributions of the nuclei compared with deuterium, an expectation that was convincingly shattered by the E-772 data, calling into question widely believed traditional meson-exchange models of the nucleus. A new experiment, Fermilab E-906/Drell-Yan, will be able to precisely measure nuclear effects in antiquark distributions with higher precision and to larger  $x$  than previous experiments. This talk will discuss the nuclear parton distribution measurements proposed by E-906/Drell-Yan. The experiment is being installed at Fermilab and anticipates data collection to begin in summer 2010.

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