

Abstract Submitted
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New Measurement of Nuclear Antiquark Distributions at E906/SeaQuest JOSHUA RUBIN, Argonne National Laboratory, E906/SEAQUEST COLLABORATION — The E906/SeaQuest experiment at Fermilab will make a new measurement of the modification of the parton distributions of the nucleus with respect to those of the nucleon, an effect first observed by the EMC collaboration. To accomplish this, the Drell-Yan cross sections for a variety of targets will be measured using a 120 GeV proton beam from the FNAL main injector. The majority of nuclear modification measurements have been performed using deep inelastic scattering, which is sensitive to the charge-weighted sums of the parton densities. The cross-section ratios to be measured by E906, in contrast, will be sensitive to modification of the sea quark densities which provides essential new model constraints. E906/SeaQuest will access the $x > 0.2$ regime, that is, the anti-shadowing region where the E772 Drell-Yan measurements were statistically limited and into the “EMC Effect” region. The results will also be valuable in revealing the nuclear corrections required to employ high luminosity neutrino data on nuclear targets in parton distribution fits. The experiment will begin in 2010 and run for two years.

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