

Abstract Submitted
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E906 Experiment: Study of Background Rates with a Solid Magnet OBIAGELI AKINBULE, Abilene Christian University, E906 FERMILAB COLLABORATION — Fermilab (Fermi National Accelerator Laboratory) E906 is an experiment to determine the ratio of d-bar to u-bar quarks in the nucleon sea. The experiment measures the di-muon pairs that are produced via the Drell-Yan process, which is when a quark and anti-quark annihilate, creating a di-lepton pair. With a goal of extending the E866/NuSea measurements to higher Bjorken x , it will help reveal the structure of the proton. The results to be presented focus on using GEANT4 Monte Carlo simulations to investigate spectrometer acceptance and background rates if a solid iron magnet is used, as opposed to the original plan of an open magnet filled with hadron absorbers. A solid iron magnet would be relatively low cost, since the coils and iron can be taken from parts of the E866/NuSea detector apparatus. Results of these simulations will be shown to demonstrate that the solid iron magnet will give acceptable results. Results will also be shown on ideas to reduce the background from in-flight pion decays from the liquid hydrogen and deuterium targets.

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