

SeaQuest - Overview and Current status

The E906/SeaQuest experiment is a fixed target experiment that uses the 120 GeV proton beam extracted from the Main Injector at Fermilab. It is the newest Drell-Yan measurement that is aimed at enriching our knowledge about the sea structure of the nucleon. In a Drell-Yan process, a quark from a proton beam annihilates with an anti-quark from a proton target producing a virtual photon, which decays into a di-muon pair. The SeaQuest forward spectrometer is optimized for detecting the high rate oppositely charged muons and thus measures the Drell-Yan cross section with an improved luminosity. Comparison of the Drell-Yan cross section from proton-proton and proton-deuterium reactions is our tool for probing the anti-quark asymmetry in the nucleon sea. The current measurements were tuned to improve the previous \bar{d}/\bar{u} asymmetry measurements and extended them to high Bjorken- x . The Spectrometer was commissioned between March and April 2012, and hence finished the first period of data-taking before the scheduled Fermilab accelerator upgrade. In my poster, I will be presenting an overview of the experiment and the current status of the commissioning.

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