

Abstract Submitted
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Performance of Drift Chambers for E906/SeaQuest Drell–Yan Experiment at Fermilab KEI NAGAI, Tokyo Institute of Technology, E906/SEAQUEST COLLABORATION — Naively, the parton distribution of the anti-u and anti-d quark were considered flavor symmetric. However, previous experiments showed that \bar{u} and \bar{d} are asymmetric. The E906/SeaQuest Collaboration at Fermilab is precisely measuring the x dependence of the flavor asymmetry in the nucleon at large x ($0.1 < x < 0.45$), where x is Bjorken's scaling variables. This measurement is being performed using targets of proton, deuteron, carbon, iron and tungsten. The Drell–Yan process, $q\bar{q} \rightarrow \gamma^* \rightarrow l^+l^-$, is suited for this measurement, because the process always involves an antiquark. Thus SeaQuest measures the momenta of Drell–Yan muon pairs with a magnetic spectrometer. SeaQuest began a two-year data taking run in the 120 GeV proton beam in November 2013. There are four drift chambers in the SeaQuest spectrometer for tracking of muons. We have checked the performance of the drift chambers using the data. The single-plane efficiency, position resolution and rate tolerance of the drift chambers have been evaluated. The requirements of one of the drift chambers are $> 95\%$ of efficiency, $< 400 \mu\text{m}$ of position resolution, and 1 kHz/wire/1 mm of rate tolerance. I will report on the results of the chamber performance investigations.

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