

Abstract Submitted
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Beam Monitor Development for Fermilab E1039¹ CECILY TOWELL, Abilene Christian Univ, SEAQUEST COLLABORATION — Experiment 1039 at Fermi National Accelerator Laboratory is the approved follow-up experiment to SeaQuest/E906 that had the goal of determining the quark and antiquark distribution within nucleons. The SeaQuest detector was optimized to detect Drell-Yan muon pairs produced by quark-antiquark annihilations that occur when the 120 GeV proton beam impacts a series of targets. E1039 will utilize the same beam-line and hardware as SeaQuest, but replaces the unpolarized targets with polarized deuterium and hydrogen targets in order to study the spin contribution of the sea quarks to the collective spin of a nucleon. This measurement is extremely sensitive to asymmetries in the beam profile. Therefore, a new beam luminosity detector is desired to reduce error in the experiments primary measurements by providing details of the beam distribution. To test prototypes of this detector, a cosmic test stand was designed and is being built at Abilene Christian University. This stand uses the coincidence of double ended hodoscopes to trigger on the prototype detector. Such a test stand allows us to determine the rates and measure the efficiency of the beam monitor prototype. The development and testing of the beam monitor will be presented.

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Cecily Towell
Abilene Christian Univ

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