

Abstract Submitted
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E906/SeaQuest Trigger System and J/Psi Production with 120 GeV Proton Beam RANDALL MCCLELLAN, Univ of Illinois - Urbana, E906/SEAQUEST COLLABORATION — E906/SeaQuest is a fixed-target dimuon experiment currently taking data using Fermilab's 120 GeV proton beam and hydrogen, deuterium, carbon, iron, and tungsten targets. The primary goal of SeaQuest is the measurement of nucleon antiquark structure via the Drell-Yan process. A new trigger system has been developed, utilizing VME modules (v1495s) featuring 20,060 logic element FPGAs. Signals from fast scintillator detector arrays are digitized with 1 ns resolution by internal TDC blocks. The digitized signals are inputs to a muon-path lookup table implemented in the FPGA. The lookup table has been optimized for the high rates of candidate dimuon events experienced by SeaQuest. The track correlator, implemented in the final level of the v1495 system, has proven useful for separating broad categories of event types. The performance of the trigger system, based on data from the 2014 run, will be discussed. Preliminary results on forward J/Ψ production in proton-nucleus interactions will be presented.

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