Abstract Submitted
for the DNP17 Meeting of
The American Physical Society

Optimization and Modification of the SeaQuest Trigger Efficiency Program[1] NATTAPAT WHITE, Abilene Christian Univ — The primary purpose E906/SeaQuest is to examine the quark and antiquark distributions within the nucleon. This experiment uses the proton beam from the 120 GeV Fermi National Accelerator Laboratory Main Injector to collide with one of several fixed targets. From the collision, a pair of muons produced by the Drell-Yan process directly probes the nucleon sea antiquarks. The Seaquest spectrometer consists of two focusing magnets, several detectors, and multiple planes of scintillating hodoscopes that helped track and analyze the properties of particles. Hodoscope hits are compared to predetermined hit combinations that would result from a pair of muons that originated in the target. Understanding the trigger efficiency is part of the path to determine the probability of Drell Yan muon pair production in the experiment. Over the years of data taking, the trigger efficiency varied as individual scintillator detection efficiency changed. To accurately determine how the trigger efficiency varied over time, the trigger efficiency program needed to be upgraded to include the effects of inefficiencies in the 284 individual channels in the hodoscope systems. The optimization, modification, and results of the upgraded trigger efficiency program will be presented.

[1]Supported by U.S. D.O.E. Medium Energy Nuclear Physics under grant DE-FG02-03ER41243

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Date submitted: 31 Jul 2017 Electronic form version 1.4