

Abstract Submitted
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Constructing the Hodoscope Arrays for the Fermilab E-906/SeaQuest Spectrometer¹ BRIANNA EDLUND, Abilene Christian University, FERMILAB SEAQUEST/E-906 COLLABORATION — SeaQuest is a fixed-target experiment designed to extract the light antiquark sea structure of the proton at high Bjorken- x . Using 120 GeV/ c protons from the Fermilab Main Injector, the experiment will measure the cross section ratio of di-muon pairs produced by the Drell-Yan process with liquid hydrogen and deuterium targets. From this ratio the light antiquark ratio will be extracted. The trigger for the di-muon pairs uses a set of 8 hodoscope planes, the final four of which are the topic of this work. The final four hodoscope planes consist of 128 scintillator paddles and 224 photomultiplier tubes (PMTs). Due to their size, three planes require PMTs on each scintillator end to avoid timing jitter. SeaQuest uses the old PMTs and tube bases from E866/NuSea, plus other experiments, so it was critical to verify the performance of each PMT and base. These tests included operating voltages, noise rates, and rate capability. The methods used will be presented as well as how the results were used to optimize efficiency in the spectrometer's expected high-rate regions.

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