

Abstract Submitted
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Hephaestus: Hardware Control for SeaQuest Trigger and Tracking Systems¹ RYAN CASTILLO, Abilene Christian University, SEAQUEST/E906 COLLABORATION — E906/SeaQuest is a fixed-target Drell-Yan experiment using Fermilab's 120 GeV Main Injector to measure cross sections for dimuon production in p+p and p+A collisions over a wide Bjorken-x range. Data from these collisions will be used to measure the d-bar/u-bar asymmetry in the proton sea, clarify the nature of parton energy loss in cold nuclear medium, and explore the shadowing/anti-shadowing effects observed by the European Muon Collaboration (EMC). In order to streamline operations, a hardware control program was developed for our hodoscope high voltage (HV) supply and level shifter boards (LSB), which control the front-end electronics for our wire chambers. This program has several advantages over the current software, including full integration into SeaQuest's software framework and a user-friendly command syntax. This presentation will focus on SeaQuest's physics motivations, as well as the motivation for and prominent features of the hardware control program, Hephaestus.

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