Evaluation of Hodoscope Rates and PMT Base Design at SeaQuest

KYLE BOWLING, Abilene Christian University, SEAQUEST COLLABORATION — SeaQuest, FNAL E-906, is a fixed target Drell-Yan experiment that collides a proton beam from Fermilab’s 120 GeV Main Injector with liquid hydrogen and liquid deuterium targets to study the antiquark structure of the light nucleon sea. We will also use solid targets of different elements to study other cold nuclear matter effects such as parton energy loss. SeaQuest has been constructed primarily of components from previous experiments that were optimized for different conditions. We are currently worried that our Photomultiplier tube (PMT) and base assemblies for the trigger hodoscopes will be unable to handle the high rates from our beam intensity. The 2012 data run is currently being analyzed to decide on any changes needed for full intensity running in 2013. This presentation will provide insight into the issues with our trigger hodoscopes, as well as discuss aspects of different PMT base designs.

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