

Abstract Submitted
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Upgrading PhotoMultiplier Tube bases for FNAL E1039¹ ROY SALINAS, Abilene Christian University , SEAQUEST COLLABORATION — Experiment 1039 at Fermilab National Laboratory is designed to study the spin structure within the nucleon. To effectively work towards a better understanding of the spin crisis concerning the quarks and gluons within the nucleon, E1039 will employ a polarized target and a 120 GeV proton beam. The E906/SeaQuest spectrometer will be reused for E1039 since it was designed to measure Drell-Yan events from interactions with quarks in the nucleon sea. The spectrometer consists of several detectors with multiple planes of scintillating hodoscopes, tracking chambers, and two large dipole magnets. An issue arose in the later stages of Experiment 906 regarding the scintillating PhotoMultiplier Tubes(PMTs) high current bases for the first two hodoscope stations. Heat produced in the PMT bases created damage to components on the primary circuit board resulting in failures after years of running. Multiple solutions focused on thermally connecting the daughter cards to the metal shielding pipe while also providing electrical isolation of the high voltages present. Comparisons of thermally conductive adhesive and epoxy were studied with several heat spreaders. This poster will cover the options considered and the chosen solution to the upgrade to the hodoscope PMT bases.

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