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Dimuon Tracking and Triggering at SeaQuest[1] MICHAEL DAUGHERITY, Abilene Christian University, SEAQUEST COLLABORATION — The Fermilab E906/SeaQuest experiment measures 120 GeV protons from the Main Injector incident on fixed Hydrogen and Deuterium liquid targets and W, C, and Fe solid targets. Dimuons produced in these interactions from the Drell-Yan process and charmonia states are extremely sensitive probes of nuclear structure, particularly the light quark sea. Therefore the primary goal of SeaQuest is to measure muon pairs to study antiquarks in the nucleon. The spectrometer is optimized to select and analyze dimuons through a 25-m path with two dipole magnets, four detector stations, and multiple layers of hadron shielding. Each of the first three detector stations are instrumented with 6 planes of wire chambers and 2 planes of scintillators, while the fourth station uses scintillators and proportional tubes. SeaQuest has two primary methods for tracking reconstruction using sagitta ratios and Hough Transforms to identify muon tracks. The dimuon trigger is based on scintillator hodoscopes perpendicular to the bend plane at each of the four stations. This talk will report on performance of the tracking and trigger systems in the recent run and plans for future improvements.

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