

Abstract Submitted
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Machine Learning Background Reduction at E-906 SeaQuest

DANIEL MORTON, Univ of Michigan - Ann Arbor, SEAQUEST COLLABORATION — The Fermilab E906 SeaQuest experiment measures muons produced from a 120 GeV proton beam incident on liquid Hydrogen, Deuterium and solid C, Fe and W targets. Muons produced through the Drell-Yan process are used to measure nuclear effects, and measure the flavor asymmetry in the nucleon sea. However, the Drell-Yan dimuons have a low branching ratio and despite the spectrometer being optimized to measure dimuons, a large background is present. Therefore background removal is attempted through both designing a specialty trigger and event classification using machine learning techniques. This would improve the error bars and potentially the accuracy of results.

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