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Trigger Logic using memory bits for SeaQuest E - 906[1] PRAJWAL MOHANMURTHY, Mississippi State University, JIN-YUAN WU, Fermi National Accelerator Laboratory, SHIUAN-HAL SHIU, Academia Sinica — The SeaQuest $E-906$ at Fermi National Accelerator Laboratory is a fixed target Drell - Yan process experiment to measure the $\bar{u}\bar{d}$ asymmetry in proton quark sea using the proton beam from the main injector at $120GeV$. The SeaQuest trigger system consists of four hodoscope stations guided by a coincidence logic to select candidate Drell-Yan dimuon tracks. The trigger electronics involves a CAEN VME 1495 which is a FPGA implementation board. Two basic ways of implementing the trigger logic using FPGA are based either on the gate elements or on the memory bits. The feasibility of using digitized hodoscope signal output wires themselves to address the memory bits, in order to implement the SeaQuest $E-906$ trigger logic in the memory, was investigated.

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