Abstract Submitted
for the APR15 Meeting of
The American Physical Society

Development of a flexible trigger board for LBNE 35t prototype NUNO BARROS, University of Pennsylvania, LBNE COLLABORATION — Part of the LBNF program, a 35t LAr TPC prototype is being built at Fermilab to demonstrate the functioning of the different detector readout technologies planned for the full scale detector. The LBNE 35t prototype is planned to take cosmic muon data and thus make a proof of concept for the single phase LAr technology. This will contain prototypes of all detection systems planned to be used in the final detector design. Additionally, a series of refurbished scintillation panels will also be deployed for detection of passing muons. In order to combine and filter the data from all the detection systems, a trigger board was designed. Using a AVNET MicroZed FPGA board, a lot of flexibility is obtained in terms of the trigger logic, being easily adaptable to different applications. In LBNE 35t, it acts as a first stage trigger, collecting the inputs from all detection systems, applying the implemented logic and a first data filter, and passing the information downstream into the software DAQ cluster. In this talk a description of the board, along with its main features will be provided, along with its application in the 35t prototype.

Nuno Barros
University of Pennsylvania

Date submitted: 09 Jan 2015 Electronic form version 1.4