

MicroBooNE Electronics: Triggering and Readout

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MicroBooNE is a neutrino experiment under construction at Fermi National Lab. It employs a 10m \times 2.6m(2.5m drift length) 86 ton liquid argon time projection chamber (TPC) active volume to record ionization signals from particles produced in neutrino interactions, and uses scintillation light detected by a PMT array to provide precise interaction timing information. The MicroBooNE readout electronics system includes both TPC and PMT readout electronics which digitize neutrino interaction signals at 2MHz and 64MHz, respectively. The TPC electronics readout system processes ionization signals from the three wire planes to two readout streams: one for triggered neutrino events, and a second one for continuous readout. The PMT readout system generates the trigger. Triggering schemes have been designed to study beam neutrino events as well as fully characterize background cosmic rays. In addition, exploration of important physics applications including “late” scintillation light in Argon and Michel electrons will be possible. This talk will describe the MicroBooNE readout system, its physics requirements, and specifications.

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