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SBND Trigger System: General status and the configuration of the Analog Master Trigger Card

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We present a brief description of the Short-Baseline Near Detector (SBND) hardware trigger system. The SBND experiment is a liquid argon neutrino detector that sits on the central axis of the Booster Neutrino Beam (BNB), located at Fermilab. The detector is currently being assembled and is expected to start operating in 2023. Neutrinos delivered by the BNB will interact with liquid argon inside the SBND, producing charge and scintillation light that will be collected, respectively, by the charge collection wires and the photon detection system. SBND will record over a million neutrino interaction events per year while simultaneously being exposed to a large flux of cosmic ray interactions. Thus it is imperative to determine which events in the detector are of interest for analysis. This is the work of the SBND trigger system which receives several prompt inputs, discriminates these inputs and qualifies them to form a so-called "trigger decision". In this work, we will focus on the general overview of the trigger system for SBND and, specifically, we describe the configuration of the Analog Master Trigger Card used in the photon detection trigger.

Attendance type

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