CPAD Workshop 2022



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Capabilities of the SBND Trigger System

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The Short Baseline Neutrino program in Fermilab's Booster Neutrino Beam will search for eV-scale sterile neutrinos with multiple detectors at different baselines locations. Located 110 meters downstream from the neutrino target, the Short Baseline Near Detector (SBND) will have an unprecedented rate of ~5000 neutrino interactions per day enabling a broad physics program that includes detailed measurements of neutrino-argon interactions and searches for new physics beyond-the-standard model. The SBND trigger combines information from accelerator complex, the photon detection system and the cosmic ray tagger (CRT), the latter of which is available at the trigger level for the first time for a liquid argon time projection chamber (LArTPC) detector in a neutrino beam. The trigger system has many enhanced capabilities, beyond those typically available in neutrino experiments, including data streams customized for individual calibration measurements and low energy final states particles. Trigger commissioning data with beam and CRT signals in 2022 and preparations for the start of data taking in 2023 will be presented.

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