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# The SBND TPC Readout System

The Short Baseline Near Detector (SBND) is a liquid argon time projection chamber (LArTPC) that works, effectively, as a high-resolution stereoscopic "video camera". The detector streams 3D images of ionization deposition from neutrino interactions within a large, uniform liquid argon volume. To achieve this, anode wire signals from these ionization electrons are turned into continuous digitized waveforms by cold electronics inside the detector. These waveforms are then passed to the (warm) TPC readout system outside the cryostat. The warm readout system was custom designed by Columbia University's Nevis Laboratories, based on the functionally identical and successful readout system for the MicroBooNE experiment. It responds to external triggers (e.g. beam triggers in coincidence with light information), to extract 1.8 ms'worth of waveform data that is losslessly compressed using Huffman encoding. This Huffman compressed data is then sent to the rest of the data acquisition system (DAQ) to be built into triggered "event records". The collection of high quality data during detector operation relies on thorough testing of the readout system under real data-taking conditions. In addition, understanding the performance of the readout system offers direction for future LArTPC readout and trigger development, facilitated by the integration of an independent stream of continuous data. In this poster, I will describe the SBND TPC readout system and present the status of readout commissioning, including testing of DAQ stability and the online TPC data-quality monitoring system.

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