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Data Acquisition & Reconstruction Efficiency with the SBND PDS

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The Short-Baseline Near Detector (SBND), a 112 ton active volume liquid argon time projection chamber, is one of three detectors in Fermilab's Short-Baseline Neutrino program. SBND's proximity to the target will allow for high statistics of neutrino events, but as a surface detector, it will also see a high background rate of cosmic rays. To extract the full physics potential of SBND, the data acquisition and reconstruction algorithms must be optimized across the experiment's sub-systems. SBND's photon detection system, a best-in-class light detection system for collecting scintillation photons produced by particle interactions in liquid argon, plays a crucial role in SBND's trigger and event reconstruction chain. In this talk, we give an overview of the essential steps of data acquisition and reconstruction that ultimately drives SBND's precision measurements of neutrino physics.

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