

Commissioning, operation, and early results from the light collection system of the ICARUS T600 detector at the Short Baseline Neutrino (SBN) Experiment

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The proposed Short-Baseline Neutrino experiment (SBN) at Fermilab (USA) uses three Liquid-Argon Time Projection chambers (LArTPCs) located along the Booster Neutrino Beamline (BNB) to search for anomalies in low energy electron neutrino appearance signals. The ICARUS T600 detector, with its active volume of 760t of liquid Argon, will act as a far detector for the experiment. During 2021, the detector will transition from commissioning into stable operation using neutrinos from the BNB. The light collection system of ICARUS deploys 360 Hamamatsu R5912-MOD PMTs, covering one-third of the total internal surface of the detector, and will have a major role in identifying the neutrino signals and rejecting the cosmic background. This talk describes the commissioning and calibration of the light collection system and presents the first results obtained from the commissioning and early operation stages.

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