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Testing of the Light Readout System of a modular Liquid-Argon Time-Projection Chamber (LArTPC)

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DUNE is a long-baseline neutrino accelerator experiment planned for construction in the USA. To achieve its goals, DUNE employs two large-scale detectors: the Near Detector and the Far Detector. Far Detector will utilize a liquid argon time projection chamber (LArTPC). The Near Detector will use a similar approach in neutrino detection and thus a modular LArTPC is planned to be used.

Currently, a program is underway to test prototypes of modular liquid argon time projection chambers (LArTPC) at the University of Bern in Switzerland. We have developed a light readout system for registration scintillation light produced when charged particles interact with liquid argon. The report will present the results of launching and testing the light system of an additional LArTPC prototype in the cryogenic laboratory at the University of Bern.

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