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## **The DUNE Photon Detection System**

The neutrino experiment DUNE, currently under construction in the US, has a broad physics program that covers oscillation physics at the GeV scale, the search for proton decay and the observation of supernova and solar neutrinos. The DUNE far detector is based on liquid argon time projection chamber (LArTPC) technology, that allows for a 3D real-time position reconstruction of the events and their energy. This is possible thanks to collection of both electrons and scintillation photons produced after an interaction. The light signal in particular is key to provide the timing of the interactions. To fully exploit the light signal, DUNE will be equipped with a Photon Detection System (PDS). The main element of the PDS is a novel device called X-Arapuca, a light trap that detect scintillation photons with SiPMs. The X-Arapuca will enhance significantly the potential of DUNE at the lowest energies by improving the overall energy resolution. Thanks to an intense R&D campaign conducted in several labs and at the two ProtoDUNEs at CERN, the PDS system has been optimized and validated. We describe here the DUNE PDS, the latest results from test facilities, the plans for the future installation in DUNE and its role in the physics goals of DUNE

## Secondary track

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