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## Measurements of the polyethylene naphthalate performance as a wavelength shifter in ProtoDUNE-DP

ProtoDUNE Dual-Phase (DP) is a 300-ton active volume dual-phase liquid-argon TPC, the largest of its kind, being operated at the CERN Neutrino Platform. Since the scintillation light in liquid-argon (LAr) is in the vacuum ultraviolet region, where most photosensors are not sensitive, usually LAr experiments introduce a wavelength shifter. The photon detection system of ProtoDUNE-DP consists of a combination of PMTs coated with TPB, the most conventional and widely used wavelength shifter, and PMTs covered with polyethylene naphthalate (PEN) foils, a novel and promising wavelength shifter easy scalable for the next generation of kton-scale detectors like DUNE.

This poster compares the performance of both wavelength shifters, PEN and TPB, using the LAr scintillation light data from cosmic muons taken during the first year of operation of ProtoDUNE-DP.

### Mini-abstract

PEN and TPB as wavelength shifters of LAr scintillation light using ProtoDUNE-DP cosmic data.

### Experiment/Collaboration

DUNE

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