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## Analysis and simulation of low energy Michel electrons in ProtoDUNE

The Deep Underground Neutrino Experiment (DUNE) is a long-baseline neutrino-oscillation experiment aiming to measure CP-violation and the neutrino mass ordering. The far detector consists of four 17-kt modules based on Liquid Argon Time Projection Chamber (LArTPC) technology. The first and second DUNE modules technology are being tested with large scale prototypes (ProtoDUNE) at the CERN Neutrino Platform.

Measurements of low-energy electrons produced by electron-neutrino interactions and cosmic rays are important for neutrino oscillation measurements, the detection of supernova bursts and the search for physics beyond the Standard Model in neutrino experiments. In particular, the electrons produced by cosmic muons that decay at rest, known as Michel electrons, have well-known energy spectra below 50 MeV. They are therefore important for understanding the response of detectors to low-energy electrons.

The ProtoDUNE detectors have been taking beam and cosmic muons data in 2024 and 2025. This poster will focus on the simulation and analysis of Michel electrons in the vertical drift prototype of DUNE.

## Secondary track

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