Contribution ID: **56** Type: **Parallel talk**

Using Stopping Cosmic Muons for Calibrations at DUNE

Tuesday 8 April 2025 13:45 (15 minutes)

The Deep Underground Neutrino Experiment (DUNE) is an upcoming Fermilab experiment that is expected to start taking data in the late 2020s. Consequently, a significant portion of the current work revolves around modelling, prototyping, and other forms of preparation, much of it using Monte-Carlo simulation before a full-scale dataset has been produced. One of the key contributions to this is detector calibration. Detector calibration provides analysts with the tools to map between detector observables and their corresponding physical qualities, which is necessary to produce accurate results. This talk will demonstrate methods of calibrating the energy deposited by stopping cosmic muons, by examining their charge depositions in a 10kt fiducial mass DUNE Far Detector module which makes use of LArTPC technology.

Author: MOOR, Alexandra (University of Sheffield (GB))

Presenter: MOOR, Alexandra (University of Sheffield (GB))

Session Classification: Neutrino Physics

Track Classification: Neutrino Physics