Abstract Submitted
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Absolute Energy Calibration in the ICARUS Detector[1] IZZY GINNETT, Michigan State University — Absolute energy calibration is a critical component in ensuring accurate data reconstruction in liquid argon time projection chamber (LArTPC) experiments. The purpose of this calibration procedure is to convert the signals outputted by the anode planes of the detector to units of electrons. In essence, the calibration procedure yields a calibration constant to make this conversion, and the constant itself is calculated by comparing the signals outputted by the detector to the theoretical signals of minimum ionizing particles (MIPs). The accuracy of this calibration constant is critical because the constant will impact higher levels of reconstructed data such as dE/dx, or energy loss per unit length. dE/dx is important in identifying particles that travel through LArTPC detectors, why calibration procedures such as absolute energy calibration are important. In this talk, I will address two different methods that were utilized to perform the absolute energy calibration, one which uses a technique originally developed in MicroBooNE and one originally developed in LArIAT. Specifically, I will focus on how these techniques were used to calibrate the ICARUS detector's anode planes, the far detector at the Short Baseline Neutrino (SBN) program at Fermilab.

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