Data-Driven Light Model for the MicroBooNE Experiment

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MicroBooNE is a short-baseline neutrino oscillation experiment that employs a Liquid Argon Time Projection Chamber (LArTPC) together with an array of Photomultiplier Tubes (PMTs) which detect scintillation light. This light detection provides a means to reject cosmic ray backgrounds and trigger on beam-related interactions. Thus, accurate modeling of the expected optical detector signal is critical. MicroBooNE has been performing several measurements of scintillation light yield in order to perform detector calibrations as well as improve LAr scintillation light modeling more broadly. This poster will present the status of these measurements and how they are being used to inform updates to the detector light yield simulation in a data-driven way.

Poster prize

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