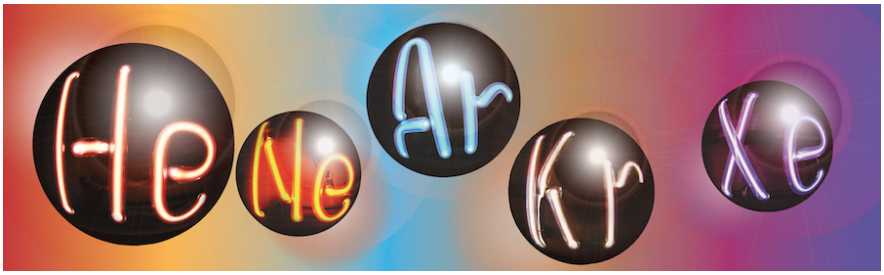

Contribution ID: **71** Type: **not specified**

Measurement of the Scintillation Light Triggering Efficiency in MicroBooNE

Wednesday, 15 September 2021 14:30 (15 minutes)

The MicroBooNE Liquid Argon Time Projection Chamber (LArTPC) has been collecting data since 2015 as part of the Short-Baseline Neutrino (SBN) program using the Booster Neutrino Beam (BNB) at Fermilab. Its primary physics goal is to contribute to addressing the elusive eV-scale sterile neutrino anomaly. MicroBooNE records and utilises both the ionisation charge and scintillation light produced inside the TPC to reconstruct its events. The latter is collected through a plane of PhotoMultiplier Tubes (PMTs) and is used for accurate event timing and cosmic muon rejection. A data-driven method to estimate the scintillation light triggering efficiency from prompt scintillation light for low energy cosmic muons will be presented. Results obtained from this method are crucial for many analyses that aim to measure low energy interactions, and inform triggering strategies in LArTPCs in the SBN and future DUNE programmes.

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Session Classification: Signal Reconstruction (2C)

Track Classification: Signal reconstruction and identification (analysis methods, simulations)