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Detector performance and cosmic-ray reconstruction efficiency in MicroBooNE

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The MicroBooNE detector is a liquid argon time projection chamber at Fermilab designed for short-baseline neutrino oscillation physics and neutrino-argon interaction cross-section measurements. Due to its location near the surface, a good understanding of cosmic muons as a source of backgrounds is of fundamental importance for the experiment. This talk will show recent results on MicroBooNE detector performance from our first 18 months of running and a method to determine the cosmic-ray reconstruction efficiency using an external cosmic-ray counter, installed above the main detector.

The analysis represents a small-scale demonstration of the method that can be used with future data coming from a recently installed cosmic-ray tagger system, which is able to tag $\approx 80\%$ of the cosmic rays passing through the MicroBooNE detector.

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