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High-performance Generic Neutrino Detection in MicroBooNE
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TION — MicroBooNE is a Liquid Argon Time Projection Chamber (LArTPC) op-
erating near the surface. The main physics goals of this experiment include studying
the nature of the low-energy excess events observed in MiniBooNE and measuring
the neutrino-Argon interaction cross section. With a large drift time, the cosmic
rays are a major background to the neutrino interaction events. In this talk, I will
describe a series of novel event reconstruction techniques that are used to reject
cosmic muon backgrounds. With these tools, high-performance neutrino detection
is achieved with a signal-to-background ratio above four while maintaining detection
efficiency above 80% for charge-current ν_μ interaction events.

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