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Dirt Neutrons in MicroBooNE

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The MicroBooNE detector will allow a measurement of neutral-current elastic interactions at an unprecedented low momentum transfer. The most problematic background to these low Q^2 interactions are from neutrons produced by interactions in the dirt surrounding MicroBooNE. A scintillator detector just upstream of MicroBooNE could provide us with a clean sample of dirt neutron events in MicroBooNE. From this sample, we can measure the energy and angular distributions of protons from dirt neutrons as a model of the background for the neutral-current elastic data. We present Monte Carlo predictions of the dirt neutron background in MicroBooNE as well as results from our current studies of the dirt event tagger capabilities.

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