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Charged-Current Muon Neutrino and neutral pion selection in MicroBooNE using Wire-Cell GIACOMO SCANAVINI, Yale University, MICROBOONE COLLABORATION — For surface detectors studying accelerator neutrinos like MicroBooNE, a Liquid Argon Time Projection Chamber (LArTPC), cosmic-ray rejection is just one of the initial challenges that need to be addressed to achieve high-purity neutrino selection. After cosmic-ray rejection, pattern recognition techniques are developed and implemented to select charged-current (CC) muon and electron neutrino events. LArTPCs allow the identification of unique final state particle topologies and provide the ability to break down these critical channels both as backgrounds for electron neutrino appearance searches and cross-section physics. One among these channels is the neutral pion production which is identified as the primary background source for the study of the MiniBooNE Low Energy Excess (LEE) search in MicroBooNE. In this talk, we describe our background rejection and selection strategies, taking advantage of the Wire-Cell reconstruction paradigm, that allows a CC muon neutrino selection with purity ¿90

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