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Methods to Determine Neutrino Flux at Low Energies: Investigation of the Low ν Method ULASCAN SARICA, ARIE BODEK, University of Rochester, DONNA NAPLES, LU REN, University of Pittsburg — We investigate the low ν method (developed by the CCFR/NuTeV collaborations) to determine the neutrino flux in a wide band neutrino beam at very low energies, a region of interest to neutrino oscillations experiments. Events with low hadronic final state energy $\nu < \nu_{cut}$ of 1, 2 and 5 GeV were used by the MINOS collaboration to determine the neutrino flux in their measurements of neutrino () and antineutrino () total cross sections. The lowest energy for which the method was applied is 3.5 GeV and the lowest energy was 6 GeV. At these energies, the cross sections are dominated by inelastic processes. We investigate the application of the method to determine the neutrino flux for and energies as low as 0.75 GeV, where the cross sections are dominated by quasielastic scattering and $\Delta(1232)$ resonance production. We find that the method can be extended to low energies by using ν_{cut} values of 0.5 and 0.25 GeV, which are feasible in fully active neutrino detectors such as MINER ν A.

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