

Abstract Submitted
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Measuring Antineutrino Oscillations in MINOS ZEYNEP ISVAN,
University of Pittsburgh, MINOS COLLABORATION — MINOS previously reported the first results of $\bar{\nu}_\mu$ disappearance from a direct observation of accelerator based muon antineutrinos in a long baseline experiment. The 7% antineutrino component of the NuMI beam was used and a high purity sample of antineutrinos was selected at both the Near and Far Detectors. Selection efficiency at the Far Detector was 83% and the purity of the selected $\bar{\nu}_\mu$ CC sample was 97%. With this sample MINOS excludes a previously allowed CPT violating region of $\Delta\bar{m}_{atm}^2$ at maximal mixing and constrains the fraction of ν_μ that disappear and reappear as $\bar{\nu}_\mu$. We present new measurements of $\bar{\nu}_\mu$ oscillation parameters and of the $\nu_\mu \rightarrow \bar{\nu}_\mu$ transition probability using the muon antineutrino spectra based on a larger data sample.

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