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Abstract for an Invited Paper for the SES06 Meeting of the American Physical Society

Results from the first year MINOS operations in the NuMI beam¹

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After a brief review of the current neutrino oscillation status, we present results from the MINOS experiment based on its initial exposure to neutrinos from the Fermilab NuMI beam. The rates and energy spectra of charged current muon neutrino interactions are compared in two detectors located along the beam axis at distances of 1 km and 735 km. With 1.2710^20 120 GeV protons incident on the NuMI target, 215 events with energies below 30 GeV are observed at the Far Detector, compared to an expectation of 336 with an error in the expectation of 14.4 events. The data are consistent with muon neutrino disappearance via two-flavor oscillations with $\Delta m_{23}^2 = 2.74^{+0.44}_{-0.26} \times 10^{-3} \text{ eV}^2$ and $\sin^2(2\theta_{23}) > 0.87$ (68% C.L.).

¹On behalf of the MINOS Collaboration.