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Analysis of muon anti-neutrino disappearance with the MINOS Detectors and the NuMI Beamline R. BENTON PAHLKA, Fermilab, THE MINOS COLLABORATION — I will present an analysis of muon anti-neutrino ($\bar{\nu}_\mu$) disappearance using the MINOS detectors and a neutrino beam produced by the Fermilab Main Injector. The data were collected when the neutrino beamline was operated to produce muon neutrinos, with a 7% component of muon anti-neutrinos. MINOS has accumulated an exposure of 7.1e20 protons on target (POT) in muon neutrino (ν_μ) mode and we reported a preliminary analysis of $\bar{\nu}_\mu$ oscillations with that dataset. We have also reported an analysis of $\bar{\nu}_\mu$ oscillations after an exposure of 3.2e20 POT. An improved analysis of the full 7.1e20 POT dataset is now being finalized. I will describe the analysis procedure, including selection of $\bar{\nu}_\mu$ charged current interactions, treatment of background from ν_μ charged current interactions, prediction of event yields at the far detector, and the measurement of oscillation parameters.

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