Transitions of active neutrino flavors to sterile neutrinos would result in a deficit of neutral current events observed at the MINOS Far Detector.

Observed MINOS neutral current spectrum is shown on the right, along with spectra predicted from the Near Detector for oscillations among three active neutrinos with and without $\nu_e$ appearance (set at the MINOS 90% CL limit).

Agreement between the observed and predicted neutral-current spectra is quantified using the statistic $R$, tabulated on the right for different ranges of $E_{\text{reco}}$.

Fraction of disappearing $\nu_\mu$ that may convert to sterile neutrinos is limited to $< 0.22$ at 90% CL without $\nu_e$ appearance ($< 0.40$ at 90% CL with $\nu_e$ appearance).