

Data Release for P. Adamson *et al.*, “Search for Sterile Neutrinos in MINOS and MINOS+ Using a Two-Detector Fit”, [Phys. Rev. Lett. 122, 091803](#), [arXiv:1710.06488 \[hep-ex\]](#)

Included in the dataRelease.root file (created with ROOT version 5.34/32) are:

- dm241vsth24
 - The χ^2 surface as a function of Δm_{41}^2 and θ_{24}
- dm241vsth24_UpValuesFC90CL
 - Feldman-Cousins 90% C.L. up values as a function of Δm_{41}^2 and θ_{24}
- dataNDCC_minos
 - The reconstructed energy distribution for muon neutrino (ν_μ) charged-current (CC) selected MINOS data events in the Near Detector (ND)
- dataNDNC_minos
 - The reconstructed energy distribution for neutral-current (NC) selected MINOS data events in the ND
- dataFDCC_minos
 - The reconstructed energy distribution for ν_μ CC selected MINOS data events in the Far Detector (FD)
- dataNDNC_minos
 - The reconstructed energy distribution for NC selected MINOS data events in the FD
- dataNDCC_minosPlus
 - The reconstructed energy distribution for ν_μ CC selected MINOS+ data events in the ND
- dataNDNC_minosPlus
 - The reconstructed energy distribution for NC selected MINOS+ data events in the ND
- dataFDCC_minosPlus
 - The reconstructed energy distribution for ν_μ CC selected MINOS+ data events in the FD
- dataNDNC_minosPlus
 - The reconstructed energy distribution for NC selected MINOS+ data events in the FD
- TotalCCcovar
 - The covariance matrix for ν_μ CC selected MINOS/MINOS+ events
 - The covariance matrix has four quadrants corresponding to the FD covariance matrix, the ND covariance matrix, and cross-term matrices encoding the covariance between the detectors
- TotalNCCcovar
 - The covariance matrix for NC selected MINOS/MINOS+ events
 - The covariance matrix has four quadrants corresponding to the FD covariance matrix, the ND covariance matrix, and cross-term matrices encoding the covariance between the detectors

- Matrices relating reconstructed energy to true baseline-over-energy (L/E) for MINOS ND simulation

	ν_{μ} CC selected	NC selected
True NC	hRecoToTrueNDCCSelectedTrueNC_minos	hRecoToTrueNDNCSelectedTrueNC_minos
True ν_{μ} CC	hRecoToTrueNDCCSelectedNuMu_minos	hRecoToTrueNDNCSelectedNuMu_minos
True beam ν_e CC	hRecoToTrueNDCCSelectedBeamNue_minos	hRecoToTrueNDNCSelectedBeamNue_minos
True appeared ν_e CC	hRecoToTrueNDCCSelectedAppNue_minos	hRecoToTrueNDNCSelectedAppNue_minos
True appeared ν_{τ} CC	hRecoToTrueNDCCSelectedAppNuTau_minos	hRecoToTrueNDNCSelectedAppNuTau_minos

- Matrices relating reconstructed energy to true L/E for MINOS FD simulation

	ν_{μ} CC selected	NC selected
True NC	hRecoToTrueFDCCSelectedTrueNC_minos	hRecoToTrueFDNCSelectedTrueNC_minos
True ν_{μ} CC	hRecoToTrueFDCCSelectedNuMu_minos	hRecoToTrueFDNCSelectedNuMu_minos
True beam ν_e CC	hRecoToTrueFDCCSelectedBeamNue_minos	hRecoToTrueFDNCSelectedBeamNue_minos
True appeared ν_e CC	hRecoToTrueFDCCSelectedAppNue_minos	hRecoToTrueFDNCSelectedAppNue_minos
True appeared ν_{τ} CC	hRecoToTrueFDCCSelectedAppNuTau_minos	hRecoToTrueFDNCSelectedAppNuTau_minos

- Matrices relating reconstructed energy to true L/E for MINOS+ ND simulation

	ν_{μ} CC selected	NC selected
True NC	hRecoToTrueNDCCSelectedTrueNC_minusPlus	hRecoToTrueNDNCSelectedTrueNC_minusPlus
True ν_{μ} CC	hRecoToTrueNDCCSelectedNuMu_minusPlus	hRecoToTrueNDNCSelectedNuMu_minusPlus
True beam ν_e CC	hRecoToTrueNDCCSelectedBeamNue_minusPlus	hRecoToTrueNDNCSelectedBeamNue_minusPlus
True appeared ν_e CC	hRecoToTrueNDCCSelectedAppNue_minusPlus	hRecoToTrueNDNCSelectedAppNue_minusPlus
True appeared ν_{τ} CC	hRecoToTrueNDCCSelectedAppNuTau_minusPlus	hRecoToTrueNDNCSelectedAppNuTau_minusPlus

- Matrices relating reconstructed energy to true L/E for MINOS+ FD simulation

	ν_{μ} CC selected	NC selected
True NC	hRecoToTrueFDCCSelectedTrueNC_minusPlus	hRecoToTrueFDNCSelectedTrueNC_minusPlus
True ν_{μ} CC	hRecoToTrueFDCCSelectedNuMu_minusPlus	hRecoToTrueFDNCSelectedNuMu_minusPlus
True beam ν_e CC	hRecoToTrueFDCCSelectedBeamNue_minusPlus	hRecoToTrueFDNCSelectedBeamNue_minusPlus
True appeared ν_e CC	hRecoToTrueFDCCSelectedAppNue_minusPlus	hRecoToTrueFDNCSelectedAppNue_minusPlus
True appeared ν_{τ} CC	hRecoToTrueFDCCSelectedAppNuTau_minusPlus	hRecoToTrueFDNCSelectedAppNuTau_minusPlus