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Joint Appearance and Disappearance Analysis for the T2K Long-Baseline Neutrino Experiment

T2K oscillation physics results using an analysis which for the first time simultaneously fits the T2K dataset of νμ ⟶ νe appearance and νμ ⟶ νμ disappearance are shown. The precise T2K constraints on the four relevant oscillation parameters (sin^22θ_13, δ_CP , sin^2θ_23, and Δm^2_32) are all correctly accounted for in this fit. In this analysis, the systematic errors are implemented in a simple manner, where all errors are encoded in a single systematic error covariance matrix, and confidence intervals are evaluated either at constant levels of Δχ2 assuming Gaussian errors, or using frequentist methods.

Primary author: Dr FRIEND, Megan (High Energy Accelerator Research Organization (KEK))

Co-authors: Dr IKEDA, Motoyasu (University of Tokyo, ICRR); KIKAWA, Tatsuya (University of Kyoto)

Presenter: Dr FRIEND, Megan (High Energy Accelerator Research Organization (KEK))

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