

## **Estimating detector systematics at T2K's far detector: A neutrino oscillation adventure**

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T2K is a long-baseline neutrino experiment that measures neutrino oscillations. Oscillation of the muon (anti)neutrino beam to electron (anti)neutrinos is sensitive to the leptonic CP violating phase. In this talk, I will discuss the addition of a new electron neutrino signal sample at T2K's far detector, which can improve T2K's sensitivity to the CP-violating phase. I will also talk about how the systematic errors at T2K's far detector are estimated using Markov Chain Monte Carlo techniques, along with some outlook to future studies.

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