

An updated search for muon neutrino to electron neutrino transitions mediated by sterile neutrinos in MINOS+

The MINOS+ experiment is an on-axis neutrino oscillation search situated in the Fermilab NuMI beam. We utilize $\nu_\mu \rightarrow \nu_e$ appearance candidates to probe for exotic neutrino oscillation phenomena. Here we consider a 3+1 sterile neutrino model, where $\nu_\mu \rightarrow \nu_e$ oscillation could be further mediated by the presence of a sterile neutrino. Updated limits for $\sin^2 2\theta_{\mu e}$ at values of $\Delta m_{41}^2 < 1 \text{ eV}^2$ using a larger dataset are presented, and the results of this analysis are compared to those of LSND and MiniBooNE.

Authorship annotation

On behalf of the MINOS+ Collaboration

Session and Location

Wednesday Session, Poster Wall #63 (Auditorium Gallery Right)

Poster included in proceedings:

yes

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Track Classification: Poster (not participating in poster prize competition)