

Abstract Submitted  
for the APR10 Meeting of  
The American Physical Society

**Investigating CPT Conservation in Sterile Neutrino Fits**

CHRISTINA IGNARRA, MIT — We investigate compatibility between neutrino and antineutrino short-baseline oscillation experiments under a two-neutrino oscillation hypothesis due to a sterile neutrino at  $\Delta m^2 \sim 1eV^2$ . We explore the preliminary MINOS antineutrino disappearance results as well as antineutrino oscillation results from LSND, MiniBooNE, KARMEN, Bugey, and Chooz, and neutrino oscillation results from NOMAD, MiniBooNE, CCFR84, and CDHS. We find that a combined fit of the antineutrino data yields a high chi-squared probability, while the global fit including neutrino and antineutrino data yields high incompatibility. CPT-violating fits within this scenario are also explored.

Christina Ignarra  
MIT

Date submitted: 23 Oct 2009

Electronic form version 1.4