

The Physics Department Invites you to a: Seminar

Tuesday, February 10, 2009 705 Pupin 11:00 AM

Search for active neutrino disappearance in MINOS

MINOS is a long baseline neutrino oscillation experiment with two detectors that are separated by a distance of 735 km and exposed to a high power muon neutrino beam. The experiment has reported a significant deficit of muon neutrinos at its far detector relative to the near detector through measurement of the rate of charged-current interactions. If this deficit is due solely to conversions of muon neutrinos to electron and tau neutrinos, then the rate of neutral-current (NC) interactions at the far detector remains unchanged from the non-oscillation prediction. Alternatively, if any muon neutrinos convert to a sterile state, then the NC rate would be suppressed and the reconstructed energy spectrum would be distorted. In this talk I will describe the analysis of the NC interactions from an exposure of the MINOS detectors to 2.5×10^{20} protons on target.

Brian Rebel, Fermi National Accelerator Laboratory

