

Neutrino Oscillation Results from NOvA Experiment

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Abstract

Neutrino oscillation is caused by the mixing of mass eigenstates. Neutrino mixing parameters are rapidly being measured to a higher precision by many experiments, however key questions such as mass hierarchy of neutrinos and CP violation in the lepton sector are still unanswered. NOvA is a long-baseline neutrino experiment that measures oscillation using the muon neutrinos and antineutrinos delivered by the NuMI beam at Fermilab. Neutrino oscillation is detected by observing appearance of electron (anti)neutrinos and disappearance of muon (anti)neutrinos at the Far Detector located near Ash River, MN, as compared to the Near Detector at Fermilab.

This talk will focus on the latest results from the joint analysis of neutrino and anti-neutrino oscillation by NOvA and highlight its current sensitivity to neutrino mixing and CP violating parameters. It will also outline the future upgrades and plans for the experiment.