Contribution ID: **159** Type: **Parallel session talk**

Latest Three-Flavor Neutrino Oscillation Results from NOvA

Tuesday 22 August 2023 08:50 (20 minutes)

The NOvA experiment is a long-baseline, off-axis neutrino experiment that aims to study the mixing behavior of neutrinos and antineutrinos using the Fermilab NuMI neutrino beam near Chicago, IL. The experiment collects data at two functionally identical detectors, the Near Detector is near the neutrino production target at Fermilab; the 14 kt Far Detector is 810 km away in Ash River, MN. Both detectors are tracking calorimeters filled with liquid scintillator which can detect and identify muon and electron neutrino interactions with high efficiency. The physics goals of NOvA are to observe the oscillation of muon (anti)neutrinos to electron (anti)neutrinos, understand why matter dominates over antimatter in the universe, and to resolve the ordering of neutrino masses. To that end, NOvA measures the electron neutrino and antineutrino appearance rates, as well as the muon neutrino and antineutrino disappearance rates. In this talk I will give an overview of NOvA and present the latest results combining both neutrino and antineutrino data.

Collaboration / Activity

NOvA

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Session Classification: T04 Neutrino Physics

Track Classification: Neutrino Physics