

Abstract Submitted
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First measurement of neutrino oscillation parameters using neutrinos and antineutrinos by NOvA NITISH NAYAK, University of California, Irvine, NOVA COLLABORATION — NOvA is a long-baseline neutrino oscillation experiment that is designed to probe the neutrino mass hierarchy and mixing structure. It uses two functionally identical liquid scintillator detectors 14.6mrad off-axis from the NuMI beamline at Fermilab, allowing a tightly focused neutrino flux peaked at around 2 GeV. The Near Detector is located 100m underground and is used to characterize the neutrino and anti-neutrino beams before oscillations. The Far Detector is placed at a distance of 810 km from the beam source and is used to look for neutrino oscillations, primarily in the $\nu_\mu \rightarrow \nu_\mu$ and the $\nu_\mu \rightarrow \nu_e$ channels and their anti-neutrino counterparts. In this talk, I will present an overview of the latest results from the joint fit to the ν_μ ($\bar{\nu}_\mu$)-disappearance and ν_e ($\bar{\nu}_e$)-appearance analyses, utilizing an accumulated exposure of 8.85×10^{20} protons-on-target in the neutrino mode and 12.33×10^{20} protons-on-target in the anti-neutrino mode. A particular highlight of these results is the observation of $\bar{\nu}_e$ -appearance at a level of 4.4σ

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