Abstract

The NOvA (NuMI Off-axis ν_e Appearance) experiment is a long-baseline neutrino oscillation experiment, looking primarily for $\nu_\mu \rightarrow \nu_e$ appearance and $\nu_\mu \rightarrow \nu_\mu$ disappearance. NOvA consists of two functionally identical detectors placed 14 mrad off-axis of the NuMI (Neutrinos at the Main Injector) beam line, with a near detector underground at Fermilab for constraining the flux and a far detector 810 km away at Ash River, MN. The ν_e appearance measurement at NOvA aims at resolving neutrino mass hierarchy and constraining the CP phase, while the ν_μ disappearance measurement is sensitive to the octant of the mixing angle θ_{23}. This talk will discuss NOvA's results which will lead the way to the next generation neutrino experiment, DUNE, at SURF.