

## Status of the Measurement of Neutrinos Elastically Scattering Off Electrons in the NOvA Near Detector

Friday 25 August 2023 09:18 (24 minutes)

Neutrinos elastically scattering off atomic electrons is a purely leptonic process whose cross section can be precisely calculated in the standard model. A measurement of this process can provide an *in-situ* constraint to the absolute neutrino flux in an accelerator-based  $\nu_\mu$  beam. NOvA is a long-baseline neutrino experiment optimized to observe the oscillation of  $\nu_\mu$  to  $\nu_e$ . It consists of a near detector located 1 km downstream of the neutrino production target at Fermilab and a far detector located 810 km away in Ash River, Minnesota. This talk presents the status of the neutrino-electron elastic scattering measurement using the NOvA near detector, including strategies for selecting the signal, as well as the prospect of reducing the flux uncertainty.

**Primary authors:** Prof. BIAN, Jianming (University of California Irvine (US)); XIAO, Yiwen

**Presenter:** Prof. BIAN, Jianming (University of California Irvine (US))

**Session Classification:** parallel (room#101)

**Track Classification:** WG1: Neutrino Oscillation Physics