

Modelling issues for NOvA

Wednesday 8 September 2021 17:12 (18 minutes)

NOvA is a neutrino oscillation experiment that has the primary goal of measuring δ_{CP} , θ_{23} , and Δm_{32}^2 , with the potential to resolve the octant of θ_{23} and the mass ordering. NOvA seeks to achieve these goals by using a narrowband beam of muon neutrinos and muon antineutrinos with an energy peak near 2 GeV. Using this beam, NOvA observes both the disappearance of the muon neutrinos (antineutrinos) and the appearance of electron neutrinos (antineutrinos). The extraction of the oscillation parameters from these observations are dependent on the accurate modeling of neutrino cross sections. In this talk, I will discuss how NOvA constrains the cross section model used for the disappearance and appearance analyses and the impact of the model uncertainties on the extraction of the oscillation parameters.

Working group

WG2

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