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Bayesian Fit for the NOvA Three Flavor Oscillation Analysis

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NOvA is a long baseline neutrino oscillation experiment, using Fermilab's NuMI beam and a functionally identical near and far detector. NOvA measures muon neutrino disappearance and electron neutrino appearance to probe neutrino oscillation parameters, including the large neutrino mixing angle, the mass ordering, and the CP-violating phase. NOvA has developed a Bayesian analysis in addition to its Frequentist analysis, using Markov Chain Monte Carlo. This Bayesian framework allows for measurements previously difficult to make with the Frequentist framework, such as the Jarlskog invariant and the reactor mixing angle. The details and status of the Bayesian Framework will be presented, as well as latest NOvA results on measurements of three-flavor oscillation parameters.

Poster prize

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