

Effect of sterile phases on degeneracy resolution capabilities of NOvA

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In sterile neutrino(3+1) parameterisation, we observe that sterile phases (δ_{14}, δ_{24}) are always together in oscillation probability, even when the MSW effect is considered. We see that the difference between the sterile phases has a more dominating effect over event rates compared to small variations due to changes in individual values. In this work, we show the value of sterile phase difference ($\delta_{14} - \delta_{24}$), least effects the parameter degeneracy resolution of δ_{13}, θ_{23} at NOvA. We find the value of sterile phase difference that will give a greater chance at sterile neutrino discovery.

Summary

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