

Revealing the Majorana nature of neutrinos through a precision measurement of the CP phase

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We show that it is possible to reveal the nature of neutrino by measuring the Majorana phase at the DUNE experiment. The Majorana phase is activated in the neutrino oscillation framework ($\nu \rightarrow \nu$ and $\bar{\nu} \rightarrow \bar{\nu}$) due to the introduction of a decoherence environment. Being that depending on the value of the Majorana phase and the intensity of decoherence, the measurement of the Dirac CP violation phase δ_{CP} can be highly spoiled. We will notice the latter by comparing the measurements of the CP phases that will take place in DUNE and T2HK. Finally, we will also asses the possibility of the measurement of the Majorana phase at DUNE.

Reference to paper (DOI or arXiv)

<https://arxiv.org/abs/2011.01254>

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