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## Restricting CP Violating Phases in Tribimaximal Mixing Limit

In this study, we perform a comprehensive analysis of the perturbed TBM scenario for deriving the numerical constraints on Leptonic CP phases from the parameter space, allowed by the neutrino mixing angle data. We investigate the corrections of the types  $U_{ij}^l \cdot U_{TBM} \cdot U_{kl}^r$ ,  $U_{ij}^l \cdot U_{TBM}^r$ , and  $U_{TBM} \cdot U_{ij}^l \cdot U_{kl}^r$  for normal and inverted hierarchy scenario. Here  $U_{TBM}$  is tribimaximal mixing matrix and U is a 2 dimensional unitary correction matrix that can be parametrized by a mixing angle and a phase parameter. This study investigates all the possible cases that are consistent with the neutrino mixing data in the vanishing rotation angle limit. We find the characteristics features of viable parameter space and evaluate the bounds on CP violating phases. We show that the allowed regions are tightly constrained by neutrinoless double beta decay and cosmological constraints.

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## Field of contribution

Phenomenology

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