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Non-Zero θ_{13} and δ_{CP} in a Neutrino Mass Model with A_4 Symmetry

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We consider a neutrino mass model based on A_4 symmetry. The spontaneous symmetry breaking in this model is chosen to obtain tribimaximal mixing in the neutrino sector. We introduce $Z_2 \times Z_2$ invariant perturbations in this model which can give rise to acceptable values of θ_{13} and δ_{CP}. Perturbation in the charged lepton sector alone can lead to viable values of θ_{13}, but cannot generate δ_{CP}. Perturbation in the neutrino sector alone can lead to acceptable θ_{13} and maximal CP violation. By adjusting the magnitudes of perturbations in both sectors, it is possible to obtain any value of δ_{CP}.

additional information

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