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$\Delta(54)$ flavor model for Majorana neutrinos: Double Inverse Seesaw

We formulate and discuss the neutrino mass matrices for the present neutrino oscillation data. The matrices are discussed numerically in the framework of the $\Delta(54)$ flavor model with the double inverse seesaw mechanism for Majorana neutrinos. We introduced Vector like (VL) fermions which are all Standard Model gauge singlets. We use extra symmetry to constrain the unwanted terms in our Lagrangian. The exact tribimaximal neutrino mixing pattern undergoes a deviation as a result of the incorporation of extra flavons, leading to the emergence of a non-zero reactor angle θ_{13}. We tried to discuss all the neutrino oscillation parameters in terms of our model parameters and it agrees with the latest global fit to neutrino data.

Keywords—Majorana neutrinos, Double inverse seesaw, Vector like fermions, Mass matrices

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