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Two texture zeros and neutrino mass matrix

The non-zero value of the reactor mixing angle θ_{13} has ruled out the possibility of μ - τ symmetry in neutrino mass matrix, there can still be a magic symmetry in neutrino mass matrix. In this context, we explore several classes of two texture zeros such as Class *A*, Class *B*, Class *C* and Class *D* in magic neutrino mass matrix and obtain the relation between one unknown phase ϕ and two known parameters: Δm_{23}^2 and ratio of two mass square difference ($r = \Delta m_{12}^2 / \Delta m_{23}^2$). We also analyse the variation of unknown phase ϕ with respect to mixing angles (θ_{13} and θ_{23}), Dirac CP violating phase δ , Majorana phases (α and β) and Jarlskog invariant CP violation parameter J and their experimental validity.

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