

Documents

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New parametrization of neutrino mixing matrix

(2011) *Modern Physics Letters A*, 26 (6), pp. 423-431.

Abstract

Global fits to neutrino oscillation data are compatible with tri-bimaximal mixing pattern, which predict $\theta_{23} = \pi/4$, $\theta_{12} = \sin^{-1}(1/\sqrt{3})$ and $\theta_{13} = 0$. We propose here to parametrize the tri-bimaximal mixing matrix V TBM by its hermitian generator HTBM using the exponential map. Then we use the exponential map to express the deviations from tri-bimaximal pattern by deriving the hermitian matrices $H_2 = 0$ and H_1 . These deviations might come from the symmetry breaking of the neutrino and charged lepton sectors. © 2011 World Scientific Publishing Company.

2-s2.0-79952155007

Document Type: Article

Publication Stage: Final

Source: Scopus