

Implication of A_4 modular symmetry on neutrino mass, mixing and Leptogenesis

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The present work is inspired to execute the A_4 modular symmetry in linear seesaw framework by limiting the use of multiple flavon fields. Linear seesaw is acknowledged by extending the Standard Model particle spectrum with six heavy fermions and a singlet scalar. The non-trivial transformation of Yukawa coupling under the A_4 modular symmetry helps to explore the neutrino phenomenology with a specific flavor structure of the mass matrix. We discuss the neutrino mixing and obtain the reactor mixing angle and CP violating phase compatible with the observed 3σ region of current oscillation data. Apart, we also collectively investigate the nonzero CP asymmetry from the decay of lightest heavy fermions to explain the preferred phenomena of baryogenesis through leptogenesis.

Summary

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