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Neutrino masses in left-right asymmetric model

This paper presents a comprehensive investigation into the construction of a neutrino mass model utilizing the $\Gamma(3)$ modular group, which exhibits an isomorphism with the A_4 symmetric group. The study focuses on developing a left-right asymmetric model by incorporating modular symmetry. An advantageous aspect of employing modular symmetry in our model is the elimination of need for additional particles, known as “flavons”. Our study investigates the impact of modular symmetry on neutrinoless double beta decay ($0\nu\beta\beta$) by considering both standard and non-standard contributions to the effective mass calculation. Additionally, we investigate the impact of the non-unitary matrix on CP-violation using modular symmetry.

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