

Neutrino mixing and Leptogenesis with modular S_3 symmetry in the framework of type III seesaw

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Discrete symmetries are being preferred to explain the neutrino phenomenology, we chose the simplest S_3 group and explore the implication of its modular form on neutrino masses and mixing. Non-trivial transformations of Yukawa couplings under this symmetry, make the model phenomenologically interesting by reducing the requirement of multiple scalar fields. This symmetry imposes a specific flavor structure to the neutrino mass matrix within the framework of less frequented type III seesaw mechanism and helps to explore the neutrino mixing consistent with the current observation. Apart, we also discuss the preferred scenario of leptogenesis to explain the baryon asymmetry of the universe by generating the lepton asymmetry from the decay of heavy fermion triplet at TeV scale.

What is your topic?

Neutrino Physics

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