ICHEP 2022 BOLOGNA
ICHEP 2022 XLI International Conference on High Energy Physics Bologna (Italy)
6 13 07 2022

Contribution ID: **1106** Type: **Poster**

Neutrino Phenomenology and Leptogenesis in type-III Seesaw under A_4 Modular symmetry

Friday, 8 July 2022 20:10 (20 minutes)

We utilize A_4 modular symmetry in supersymmetric context to explore type-III seesaw mechanism. Our work includes extra local $U(1)_{B-L}$ symmetry, which helps us to avoid some undesirable terms in the superpotential. As the seesaw being type-III, it involves fermion triplet superfields Σ and we have also included weighton singlet field (ρ), which gets VEV (v_ρ) after $U(1)_{B-L}$ symmetry breaking. Therefore a Z' comes into picture which participates in contribution to $(g-2)_\mu$. A crucial role here is played by modular symmetry that are expressed in preventing the use of excess fields. As well, the Yukawa couplings develop modular forms expressed interms of dedekind eta function $\eta(\tau)$, τ being a complex variable in the upper half plane. Therefore, matching of neutrino oscillation data with experiments in its 3σ range, predicts the validity of our model. Moreover, we have briefly discussed leptogenesis and muon anomalous magnetic moment.

In-person participation

Yes

Primary author: MISHRA, Priya (University of Hyderabad)

Co-authors: Mr BEHERA, Mitesh Kumar (University of Hydearabad); Ms PANDA, Papia (University of Hydearabad); Prof. MOHANTA, Rukmani (University of Hyderabad)

Presenter: MISHRA, Priya (University of Hyderabad)

Session Classification: Poster Session

Track Classification: Neutrino Physics