Phenomenology 2020 Symposium



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Type: Parallel Talk

A \mathcal{T}_{13} Family Symmetry Model for Quarks and Leptons

Monday 4 May 2020 17:15 (15 minutes)

I will propose a phenomenologically successful SU(5) Yukawa texture for both quarks and leptons that explains their GUT-scale mass ratios and mixing angles. Together with a complex-tribimaximal (TBM) seesaw mixing, this texture reproduces the neutrino mixing angles and predicts both Dirac and Majorana leptonic CP violation. I will show that this framework can be accommodated in a family symmetry model based on the Frobenius group \mathcal{T}_{13} , a subgroup of SU(3). The most important ingredient of the texture, asymmetry, singles out \mathcal{T}_{13} as the minimal discrete symmetry. I will discuss how to build a unified model of effective interactions that yields the nontrivial features of the asymmetric texture without any fine-tuning.

Summary

I will discuss an $SU(5) \times T_{13}$ gauge-family symmetry model for quarks and leptons.

Primary author: RAHAT, Moinul Hossain (University of Florida)Presenter: RAHAT, Moinul Hossain (University of Florida)Session Classification: Flavor I

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