Phenomenology 2021 Symposium



Contribution ID: 1146

Type: Neutrinos

Leptogenesis from SU(5) GUT with \mathcal{T}_{13} Family Symmetry

Wednesday 26 May 2021 14:30 (15 minutes)

We investigate both resonant and non-resonant thermal leptogenesis in the context of the recently proposed "asymmetric texture" from SU(5) GUT with \mathcal{T}_{13} family symmetry. A single source of CP violation, originating from the vacuum alignment of the seesaw familons resulting in a complex tribimaximal mixing, is shown to yield Dirac CP violation in agreement with global fits, and successfully explains baryon asymmetry via leptogenesis. For the non-resonant case, the sign of the baryon asymmetry fixes the previously unresolved sign of the TBM phase. In the resonant scenario, right-handed neutrino masses can be as low as $\mathcal{O}(\text{GeV})$ and is within the sensitivity of experiments (e.g. SHiP, DUNE) searching for heavy neutral leptons.

Summary

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Session Classification: Neutrino II