

Constraints on the neutrino extension of the Standard Model and baryon asymmetry of the Universe

Thursday 5 September 2024 08:55 (20 minutes)

Heavy neutral leptons (HNLs) leave behind effective interactions of Standard Model particles, leading in particular to charged lepton flavor violation (cLFV) processes. Non observation of cLFV processes puts therefore constraints on the parameters of the HNLs. We find the relations between the effective operators in the realistic case when neutrino masses are non-zero and the HNLs are non-degenerate. This allows us to strengthen the existing cLFV constraints. We also link the baryon asymmetry of the Universe to the same higher-dimensional effective operators, providing complementary bounds on these parameters. These results are presented in detail in arXiv:2408.02107.

The work of V.G. and O.Kh. was supported by the National Research Foundation of Ukraine under project No. 2023.03/0149.

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