

The role of leptonic CPV phases in cLFV observables

In models where the Standard Model is extended by Majorana fermions, interference effects due to the presence of

CP violating phases have been shown to play a crucial role in lepton number violating processes.

However, important interference effects can also arise in lepton number conserving, but charged lepton flavour violating (cLFV) transitions and decays.

In this work we show that in the presence of CP violating (Dirac and Majorana) phases important interference effects might arise, with a striking impact for the predicted rates of cLFV observables.

We explore the interference effects in several cLFV observables, carrying for the first time a thorough analysis of the different observables and the implications for future observation.

We show in this talk how the presence of leptonic CP violating phases might lead to a loss of correlation between observables (typically present in simple SM extensions via heavy sterile fermions), or even to the suppression of certain channels; these effects can be interpreted as suggestive of non-vanishing phases.

Working group

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