

UV/IR flavour connection in axion models

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Flavour violation in axion models can be generated by choosing flavour non-universal Peccei-Quinn(PQ) charges. Such an axion is easily implemented in a UV completion with a DFSZ model: containing two Higgs doublets (PQ-2HDM) and the PQ scalar. This charge arrangement also produces flavour violation at tree level in the PQ-2HDM, which we will show it is directly correlated to the flavour violation of the axion. This general relation allows us to link flavour violating observables across the scales of the axion and the 2HDM, in such a way that information of one sector is directly related with the other. We will show in two examples how this can be done using flavour violating observables in the quark and lepton sector, finding an interesting interplay between astrophysical and LHC searches.

Alternate track

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Yes

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