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On the family discrimination in 331-models

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Content :

The so called 331-model is a SM extension based on $SU(3)_c \times SU(3)_L \times U(1)_X$ -gauge group. One of the interesting features of this model is its ability to explain the number of fermion generations in nature. This feature is due to different anomaly cancellation mechanism compared to SM: one of the quark generations have to be in a different representation than the other two, in order the gauge anomalies to cancel. The unequal treatment of quark generations unavoidably leads into quark flavour violation at tree-level. The question is: which generation is treated differently? The different quark generation assignments lead to nonidentical flavour violating structures. This can be used to distinguish which quark generation is the unequally treated one, once the quark flavour measurements become more accurate. This talk is based on work in progress, which is to be published soon.

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