Contribution ID: **118** Type: **Non-Invited Talk**

Froggatt-Nielsen mechanism in a model with 331-gauge group

Tuesday 27 November 2018 15:10 (25 minutes)

The models with the gauge group $SU(3)_c \times SU(3)_L \times U(1)_X$ (331-models) have been advocated to explain why there are three fermion generations in Nature. As such they provide partial understanding of the flavour sector. The hierarchy of fermion masses in the Standard Model is another puzzle which remains without compelling explanation. In this talk I present a model that incorporates Froggatt-Nielsen mechanism into a 331-model in order to explain both fundamental problems. It turns out that no new additional scalar representations are needed to take care of this. The 331-models thus naturally include explanations to both the number of fermion generations and their mass hierarchy. This talk is based on arXiv:1706.09463[hep-ph].

Content of the contribution

Theory

Author: Mr KOIVUNEN, Niko (University of Helsinki)

Co-author: Prof. HUITU, Katri (University of Helsinki)

Presenter: Mr KOIVUNEN, Niko (University of Helsinki)

Session Classification: Discrete symmetries and models of flavour mixing

Track Classification: [5] Discrete symmetries and models of flavour mixing