Planck 2018
 <h2>From the Planck Scale to the Electroweak Scale</h2>

Contribution ID: 99

Type: not specified

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

Wednesday 23 May 2018 17:10 (20 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].

Presenter: KOIVUNEN, Niko (University of Helsinki) **Session Classification:** Parallel Session on Flavor and EFTs