



Contribution ID: 318

Type: Poster

Radiative origin of the Standard Model from trinification

In this work, we present a trinification-based Grand Unified Theory (GUT) incorporating a global $SU(3)$ flavour symmetry that after a spontaneous breaking leads to a Left-Right (LR) symmetric model. Already at the classical level, this model can accommodate the matter content and the quark Cabibbo mixing in the Standard Model (SM) with only one Yukawa coupling at the unification scale. Considering the minimal low-energy scenario with the least amount of light states, we show that the resulting effective theory enables dynamical breaking of its gauge group down to that of the SM by means of radiative corrections accounted for by the Renormalisation Group evolution at one loop. This result paves the way for a consistent explanation of the SM breaking scale and hierarchies.

Primary author: WESSÉN, Jonas (Lund University)

Co-authors: MORAIS, Antonio (Aveiro University); Dr CAMARGO MOLINA, José Eliel (Lund University); PASECHNIK, Roman (Lund University)

Presenter: WESSÉN, Jonas (Lund University)

Session Classification: Poster Session

Track Classification: New Exotic phenomena and Dark Matter searches