

Seminatural Gauge Mediation from Product Group Unification

Thursday 1 October 2015 16:50 (15 minutes)

We propose a focus point gauge mediation model based on the product group unification (PGU), which solves the double-triplet splitting problem of the Higgs multiplets. In the focus point gauge mediation, the electroweak symmetry breaking scale can be naturally explained even for multi-TeV stops. It is known that the focus point behavior appears if a ratio of the number of SU(2) doublet messengers to that of SU(3) triplet messengers is close to 2.5. Importantly, this ratio (effectively) appears in our scenario based on the PGU, if the messenger field is an adjoint representation of SU(5) gauge group. Therefore, our focus point scenario is very predictive. It is also pointed out the gravitino can be dark matter without spoiling the success of the thermal leptogenesis.

Primary author: Dr YOKOZAKI, Norimi (INFN, Rome)

Co-authors: Mr FUKUDA, Hajime (Kavli IPMU); Prof. MURAYAMA, Hitoshi (Kavli IPMU, University of California, Berkeley); Prof. YANAGIDA, Tsutomu (Kavli IPMU)

Presenter: Dr YOKOZAKI, Norimi (INFN, Rome)

Session Classification: Strings & Mathematical Physics

Track Classification: Strings & Mathematical Physics