



Contribution ID: 709

Type: **Parallel Talk**

Possible discrepancies in the spectrum of GUT models

Saturday, 9 July 2022 09:45 (15 minutes)

Lattice simulations suggest that the spectrum of observable particles in BSM-like theories may be different than naively expected using standard methods.

We consider a GUT-like toy theory, which (despite its simplicity) shows qualitative discrepancies arising from non-trivial field theoretical effects, even at weak coupling.

These effects arise as an immediate consequence of the principle of gauge invariance but can typically be ignored in Standard Model calculations. For BSM scenarios a new approach may be needed, which takes such nontrivial effects into account. As a first step, we investigate the spectrum and phase diagram of a SU(3) Yang-Mills theory coupled to a scalar “Higgs” in the fundamental representation.

In-person participation

Yes

Primary authors: DOBSON, Elizabeth (University of Graz); Prof. MAAS, Axel (University of Graz); RIEDERER, Bernd (University of Graz)

Presenter: DOBSON, Elizabeth (University of Graz)

Session Classification: Formal Theory

Track Classification: Formal Theory