



Contribution ID: 182

Type: **not specified**

An asymptotically safe SU(5) GUT

Tuesday 24 August 2021 20:40 (20 minutes)

Abstract: In this talk I will present a model in which we minimally extend the Standard Model field content by adding new vector-like fermions at the TeV scale to allow gauge coupling unification at a realistic scale. We embed the model into a SU(5) GUT that is asymptotically safe and features an interacting fixed point for the gauge coupling. There are no Landau poles of the U(1) gauge and Higgs couplings. Gauge, Yukawa and Higgs couplings are retraced from the fixed point and matched at the GUT scale to those of the Standard Model rescaled up to the same energy. All couplings, their fixed point values and critical exponents always remain in the perturbative regime.

Authors: Dr TONERO, Alberto (Carleton University); MAURICIO NIETO GUERRERO, Carlos; FABBRICHESI, Marco (INFN - National Institute for Nuclear Physics); Dr ALESSANDRO, Ugolotti (Jena University)

Presenter: Dr TONERO, Alberto (Carleton University)

Session Classification: Grand Unified Theories

Track Classification: Grand Unified Theories