

(0925020) **ONLINE Seminar zur Elementarteilchentheorie**

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Dr. Peter Stangl

Laboratoire d'Annecy-le-Vieux de Physique Théorique, France

Flavor Anomalies, quark-lepton unification, and a composite Higgs

Abstract

Several observables in B-meson decays show discrepancies between experimental data and Standard Model (SM) predictions. This talk will discuss the status of these so-called "Flavor Anomalies" and their interpretation in effective field theories (EFT) below and above the electroweak scale. The EFT analysis hints at a possible new physics explanation in terms of a vector leptoquark with a mass of few TeV.

I will present a Pati-Salam-like model of quark-lepton unification, in which such a leptoquark arises as a new gauge boson and is able to explain the Flavor Anomalies. The extended gauge symmetry is broken to the SM by a new QCD-like strongly interacting sector, which at the same time produces the electroweak Higgs as composite pseudo Nambu-Goldstone boson, thereby also addressing the naturalness problem of the SM.