

PRISMA+ Colloquium

May 16, 2018 at 1 p.m.
Lorentz-Raum 05-127, Staudingerweg 7

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Hints for New Physics in the Flavour Sector

In this talk I discuss the recent experimental hints for Lepton Flavour Universality Violation and their implications for New Physics models. While in the Standard Model (SM) of particle physics all charged leptons (electrons, muons and taus) interact in the same way (i.e. Lepton Flavour Universality is satisfied), experimental hints for Lepton Flavour universality Violation accumulated within recent years. These hints therefore suggest the existence of New Physics with a radically new behaviour compared to the SM. After reviewing the experimental situation, I discuss the implications for theoretical models of physics beyond the SM. As it turns out, leptoquarks (new hypothetical particles which couple to leptons and quarks simultaneously) can explain all the anomalies and I highlight the prospects of finding these particles in direct and indirect searches.