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Type: Talk

Mass problem in the Standard Model

Wednesday 23 August 2017 18:00 (30 minutes)

We propose a new $SU(3)_C \times SU(2)_L \times U(1)_Y \times U(1)_X$ gauge model which is non universal respect to the three fermion families of the Standard Model. We introduce additional one top-like quark, two bottom-like quarks, three right handed neutrinos and two charged leptons in order to have an anomaly free theory. We also consider additional three right handed neutrinos which are singlets respect to the gauge symmetry of the model to implement see saw mechanism and give masses to the light neutrinos according to the neutrino oscillation phenomenology. In the context of this horizontal gauge symmetry we find mass ansatz for leptons and quarks. In particular from the analysis of solar, atmospheric, reactor and accelerator neutrino oscillation experiments we get the allow region for the Yukawa couplings for the charged and neutral lepton sectors according with the mass squared differences and mixing angles for the two neutrino hierarchy schemes, normal and inverted.

Topic:

Topic: High Energy Particle Physics

Summary

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