Contribution ID: **262** Type: **not specified**

Lepton Flavor Specific Extended Higgs Models

Tuesday 9 May 2023 17:15 (15 minutes)

In multi-Higgs models, a discrete symmetry in the quark sector is needed to avoid tree-level flavor-changing neutral currents. Although a similar symmetry is usually considered with the lepton sector, this symmetry is not necessary. We consider a multi-Higgs doublet model in which one Higgs doublet couples to quarks and three other doublets couple to the electron, muon and tau respectively. Our analysis is broken into two benchmark models: one where quark-tau sector decouples from the muon-tau sector, and one in the alignment limit. Constraints from boundedness, perturbativity, and oblique parameters are considered. We also incorporate bounds from meson-antimeson mixing, radiative B-decays, diphoton Higgs decay rate. For a wide range of parameters, the lightest additional scalar, pseudoscalar, and charged scalar can have substantial decays into electrons and muons.

Author: Mr KNAUSS, Matthew

Presenter: Mr KNAUSS, Matthew

Session Classification: BSM XI

Track Classification: BSM