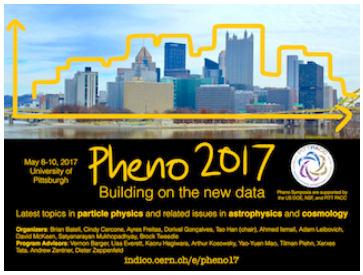

Contribution ID: **260** Type: **parallel talk**

Yukawa Sector of Minimal SO(10) Unification

Monday, 8 May 2017 14:45 (15 minutes)

It is shown that in SO(10) models, a Yukawa sector consisting of a real 10_H, a real 120_H and a complex 126_H of Higgs fields can provide a realistic fit to all fermion masses and mixings, including the neutrino sector. Although the group theory of SO(10) demands that the 10_H and 120_H be real, most constructions complexify these fields and impose symmetries exterior to SO(10) to achieve predictivity. The proposed new framework with real 10_H and real 120_H relies only on SO(10) gauge symmetry, and yet has a limited number of Yukawa parameters. This analysis shows that while there are restrictions on the observables, a good fit to the entire fermion spectrum can be realized. Unification of gauge couplings is achieved with an intermediate scale Pati-Salam gauge symmetry. Proton decay branching ratios are calculable, with the leading decay modes being $p \to ^+$ and $p \to e^0$.

Summary

Primary author: SAAD, Shaikh (Oklahoma State University)

Presenter: SAAD, Shaikh (Oklahoma State University)

Session Classification: BSM I