



Contribution ID: 138

Type: **not specified**

Testing the THDMS

Tuesday 16 March 2021 18:40 (20 minutes)

The THDMS is based on the CP-conserving 2HDM extended by a complex singlet field. We impose an additional Z_3 symmetry on the potential. This leads to a Higgs-sector similar to the Next-to-Minimal Supersymmetric SM (NMSSM), while having fewer symmetry conditions compared to supersymmetric models. We introduce the theoretical background of this model and set it up for phenomenological studies. For this we study theoretical constraints including tree-level perturbative unitarity, boundedness from below conditions and vacuum stability constraints. Furthermore we look at experimental constraints from direct searches for BSM Higgs bosons at colliders. The impact on the phenomenology of a future linear collider will be incorporated.

Time Zone

Europe/Africa/Middle East

Primary authors: PAASCH, Steven (Deutsches Elektronen-Synchrotron DESY); LI, Cheng (Deutsches Elektronen-Synchrotron DESY); MOORTGAT-PICK, Gudrid; HEINEMEYER, Sven (CSIC (Madrid, ES)); LIKA, Florian (Uni Hamburg)

Presenter: PAASCH, Steven (Deutsches Elektronen-Synchrotron DESY)

Session Classification: PD1: Theoretical Developments

Track Classification: Physics and Detectors Tracks: PD1: Theoretical Developments