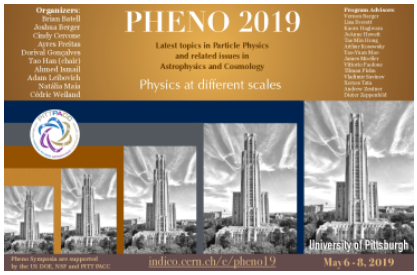

Contribution ID: **715** Type: **parallel talk**

Type-I 2HDM under the Electroweak Precision Measurements

Tuesday 7 May 2019 14:30 (15 minutes)

We explore the extent to which future precision measurements of the Standard Model (SM) parameters at the proposed Z-factories and Higgs factories may have impacts on new physics beyond the Standard Model, as illustrated by studying the Type-I two Higgs doublet model (Type-I 2HDM). We include the contributions from the heavy Higgs bosons at the tree-level and at the one-loop level in a full model-parameter space. We perform a multiple variable global fit with non-alignment and non-degenerate masses. We find that the allowed parameter ranges are tightly constrained by the future Higgs precision measurements, especially for small and large values of $\tan\beta$. Indirect limits on the masses of heavy Higgs can be obtained, which can be complementary to the direct searches of the heavy Higgs bosons at hadron colliders. We also find that the expected accuracies at the Z-pole and at a Higgs factory are quite complementary in constraining mass splittings of heavy Higgs bosons.

Summary

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