Contribution ID: **108** Type: **not specified**

Symmetry and geometry in generalized Higgs sector - Finiteness of oblique corrections v.s. perturbative unitarity -

We formulate a generalization of Higgs effective field theory (HEFT) to include arbitrary number of extra neutral and charged Higgs bosons. The relationship between the finiteness of the electroweak oblique corrections and the perturbative unitarity of the scattering amplitudes involving the Higgs bosons and the longitudinal gauge bosons is clarified in this setup: we verify that once the tree level unitarity is ensured, then oblique parameters' one-loop finiteness is automatically guaranteed. We also obtain formulas which relates the coefficients of the S and U parameter divergences with the scattering amplitudes which can be measured in future collider experiments. These relations give us new prospects when we formulate the strategy of model-building.

Author: UCHIDA, Yoshiki (Nagoya University)

Presenter: UCHIDA, Yoshiki (Nagoya University)

Session Classification: Parallel