



Contribution ID: 85

Type: **not specified**

Precision Higgs Couplings in Neutral Naturalness Models

Tuesday, 16 March 2021 09:20 (20 minutes)

The naturalness problem motivates new physics beyond the Standard Model (SM). The Higgs sector in neutral naturalness models provides a portal to the hidden QCD sector, and thus Higgs coupling measurements play a central role in exploring the model parameter space. We investigate a class of neutral naturalness models, in which the Higgs boson is a pseudo-Goldstone boson with the radial mode at the TeV scale. Integrating out the radial mode, we obtain various dimensional-six operators in the SM effective field theory, and calculate the low energy effective Higgs potential with radiative corrections. With Higgs precision measurements at a future Higgs factory, we explore the implication on the model parameter spaces. We also study the constraints from the future electroweak precision measurements. And we find that both Higgs and electroweak precision measurements at the future lepton colliders lead to comparable limits.

Time Zone

Americas

Primary author: SONG, Huayang (University of Arizona)

Co-authors: SU, Shufang (University of Arizona); Dr SU, wei (University of Adelaide); Dr HEURTIER, Lucien (University of Arizona, Tucson, AZ, USA); Dr LI, Haolin (Institute of Theoretical Physics, Chinese Academy of Sciences); YU, Jianghao (Univ. of Texas at Austin)

Presenter: SONG, Huayang (University of Arizona)

Session Classification: PD1/PD2: Theoretical Developments / Global Interpretations

Track Classification: Physics and Detectors Tracks: PD2: Global Interpretations