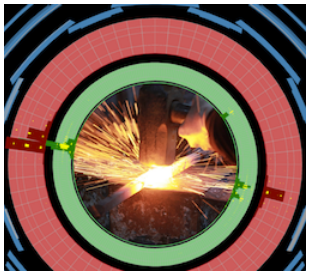

Contribution ID: **2** Type: **parallel talk**

Pushing Higgs Effective Theory to its Limits

Monday 9 May 2016 17:30 (15 minutes)

An effective theory of the Higgs sector allows us to analyze kinematic distributions in addition to inclusive rates. But the precision of Higgs measurements at the LHC cannot guarantee a clear hierarchy of scales, casting doubt on the validity of the effective model. We analyze how well dimension-6 operators describe LHC observables in comparison to the full theory. As benchmarks we consider a singlet extension of the Higgs sector, a two-Higgs-doublet model, new top partners, and a vector triplet, focussing on parameter ranges where the LHC will be sensitive. We discuss which Higgs observables are correctly described by the dimension-6 approximation, where it breaks down, and whether this presents a problem for LHC analyses.

Summary

Authors: Prof. FREITAS, Ayres (University of Pittsburgh); Dr LOPEZ-VAL, David (Universite Catholique de Louvain); Mr BREHMER, Johann (University of Heidelberg); Prof. PLEHN, Tilman (University of Heidelberg)

Presenter: Mr BREHMER, Johann (University of Heidelberg)

Session Classification: BSM Higgs I