Contribution ID: **44** Type: **not specified**

The Higgs width in the SMEFT

Wednesday, 2 October 2019 14:30 (12 minutes)

The total and partial inclusive Higgs widths are crucial observables for the study of properties of the Higgs boson. In particular, they play a key role in global Higgs analyses within the framework of the Standard Model Effective Field Theory (SMEFT).
This talks presents the first full calculation of the Higgs width for two and four-body decays through vector currents, at leading order in the SMEFT. The calculation includes all the relevant dimension-6 operators and does not rely on the narrow width approximation, thereby allowing the inclusion of interference terms between diagrams with different mediating bosons. These contributions are found to be non-negligible, especially in the presence of photons.
This analytical result on the inclusive Higgs width can be directly used in global analyses of experimental data, without the need of a dedicated Monte Carlo simulation for each EFT coefficient.

Presenters: BRIVIO, Ilaria (Universidad Autonoma de Madrid (ES)); BRIVIO, Ilaria (University of Heidelberg)

Session Classification: Parallel