



Contribution ID: 5

Type: **talk**

$t\bar{t}H$ production in the Higgs characterisation model at NLO in QCD with full off-shell effects

Friday, June 10, 2022 9:30 AM (30 minutes)

In the Standard Model, the Higgs boson is predicted to be a scalar particle. However, a possible admixture of a

calCP-odd component has yet to be excluded experimentally.

In this talk, I will present predictions for the associated production of a top-quark pair and a stable Higgs boson $pp \rightarrow e^+ \nu_e \mu^- \bar{\nu}_\mu b \bar{b} H$ with possible mixing between

calCP-even and

calCP-odd states at NLO in QCD. I will compare the behaviour of the

calCP-even, -odd and -mixed scenarios for the integrated fiducial cross sections and several key differential distributions. In addition, I will show that both NLO corrections and off-shell effects play an important role.

Author: HERMANN, Jonathan (RWTH Aachen University)

Presenter: HERMANN, Jonathan (RWTH Aachen University)

Session Classification: Young scientists talks