Contribution ID: **185** Type: **Poster (in person)**

A CP violating top-Higgs coupling with SMEFT in the Feynman-Diagram gauge

Monday, 8 July 2024 17:40 (20 minutes)

We calculate the cross section for the process $\mu^-\mu^+ \to \nu_\mu \bar{\nu}_\mu t\bar{t}H$ with complex top Yukawa coupling, which can be obtained by adding a gauge invariant dimension-6 operator to the Standard Model (SM) Lagrangian. The Feynman-Diagram (FD) gauge and the unitary (U) gauge amplitudes give exactly the same cross section, and subtle gauge theory cancellation among diagrams in the U gauge at high energies is absent in the FD gauge, as has been observed for various SM processes. In addition, we find that the total cross sections at high energies are dominated by a single, or a set of non-vanishing Feynman amplitudes with the higher dimensional vertices in the FD gauge.

Apply for poster award

Primary authors: HAGIWARA, Kaoru; KANZAKI, Junichi; MATTELAER, Olivier; MAWATARI, Kentarou; ZHENG, Ya-Juan

Presenter: ZHENG, Ya-Juan

Session Classification: Posters

Track Classification: Physics and Detector: BSM, Global Interpretations