

# YSF: Higgs pair production in SMEFT at full NLO QCD: an investigation of truncation effects

*Wednesday, 9 November 2022 15:35 (12 minutes)*

We present results for Higgs boson pair production in gluon fusion at NLO (2-loop) QCD including operators in the Standard Model Effective Field Theory (SMEFT) framework. Contributions from subsets of higher order terms in  $\frac{1}{\Lambda^2}$ , such as squared dimension-6 operators at cross section level and double operator insertions at amplitude level, are used as a proxy for the study of truncation effects of the SMEFT expansion. The different truncation options are contrasted to the non-linear Higgs Effective Field Theory (HEFT) framework for selected phenomenological examples.

## Type of talk

Theory

**Primary author:** LANG, Jannis

**Co-authors:** HEINRICH, Gudrun (KIT); SCYBOZ, Ludovic

**Presenter:** LANG, Jannis

**Session Classification:** Wednesday Session B

**Track Classification:** Physics Topics: Effective Field Theory