

# Mapping the SMEFT at High-Energy Colliders: from LEP and the (HL-)LHC to the FCC-ee

*Saturday 20 July 2024 08:47 (17 minutes)*

We present SMEFiT3.0, an updated global SMEFT analysis of Higgs, top quark, and diboson data from the LHC complemented by electroweak precision observables (EWPOs) from LEP and SLD. We consider the most recent inclusive and differential measurements from the LHC Run II, alongside with a novel implementation of the EWPOs. We assess the impact on the SMEFT parameter space of HL-LHC measurements when added on top of SMEFiT3.0 by means of dedicated projections that extrapolate Run II data. Subsequently, we quantify the unprecedented impact that measurements from future electron-positron colliders would have on both the SMEFT parameter space and on UV-complete models. We present projections for both the FCC-ee and the CEPC based on the most recent running scenarios and include  $Z$ -pole EWPOs, fermion-pair, Higgs, diboson, and top quark production, using optimal observables for both  $W^+W^-$  and  $t\bar{t}$ .

## I read the instructions above

Yes

## Alternate track

1. Top Quark and Electroweak Physics

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