

The top quark EW couplings in the SMEFT -

Thursday 18 July 2024 15:57 (18 minutes)

The electro-weak couplings of the top quark are directly accessible in rare “top+X” production processes at the LHC, where top quark pairs or single top quark are produced in associations with bosons. We present a new analysis of the top sector of the Standard Model EFT. The fit is based on a fully NLO parameterization and includes the most recent (differential) results from ATLAS and CMS. We show that run 2 of the LHC allows, for the first time, to overconstrain the $q\bar{q}t\bar{t}$ and two-fermion operator coefficients and yields competitive bounds. We compare the current bounds to projections for the HL-LHC and future lepton colliders, that can yield powerful constraints.

Alternate track

1. Accelerator: Physics, Performance, and R&D for Future Facilities

I read the instructions above

Yes

Authors: CORNET, Fernando (CERN); VOS, Marcel (IFIC Valencia (ES)); Mr MIRALLES LOPEZ, Marcos (University of Glasgow); Dr MORENO LLACER, Maria (Univ. of Valencia and CSIC (ES)); MIRALLES, Victor (University of Manchester)

Presenter: MIRALLES, Victor (University of Manchester)

Session Classification: Top Quark and Electroweak Physics

Track Classification: 04. Top Quark and Electroweak Physics