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Triboson production in the SMEFT

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The processes of triboson production in high-energy proton–proton collisions provide a unique mean to probe the quartic interactions between EW gauge bosons and to perform indirect searches for physics beyond the Standard Model. Despite their small cross-sections, the production of □□□, □□□, □□□ (□ = □ or □) at centre-of-mass energy of 13 TeV at the LHC has recently been observed by the ATLAS and CMS experiments. In this talk we present a SMEFT analysis based on total rates and differential distributions of triboson processes and show that NLO QCD corrections have striking effects on the sensitivity to dimension-6 operators. We finally present constraints on SMEFT operators from a global EW fit including electroweak precision observables (EWPOs), diboson (LEP & LHC) and triboson processes focussing on the impact of triboson measurements.

Author: CELADA, Eugenia

Co-authors: VRYONIDOU, Eleni; DURIEUX, Gauthier; MIMASU, Ken

Presenter: CELADA, Eugenia

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