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The Gauge-Higgs Legacy of the LHC

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The effective Lagrangian expansion provides a model independent framework to study effects of new physics at the electroweak scale. To make full use of LHC data in constraining higher-dimensional operators we need to include both the Higgs and the electroweak gauge sector in the analysis. We first present a combined analysis of the relevant diboson production LHC results to set the strongest available constraints on triple gauge boson couplings. The bounds that we derive are already stronger than the ones obtained from LEP data. Next, we show how they can be combined with Higgs measurements at the LHC to control effectively correlations in the multi-dimensional space of dimension–six Wilson coefficients, further constraining the current allowed space.

Summary

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