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To profile or to marginalize - A SMEFT case study

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We present an updated global SMEFT analysis in the Higgs and Electroweak sectors using the SFitter framework. We use a newly implemented marginalization procedure that allows comparison of Wilson coefficient results between profiling and marginalization methods. Marginalization is motivated by better scalability for high-dimensional analyses and provides faster numerical convergence compared to the profiling method. Moreover, the results differ especially when volume effects affect the marginalization. Our extended Run-2 dataset contains new measurements, including several high-energy kinematic distributions. Finally, we present some preliminary results for a combined global fit of the Higgs and electroweak sectors with the top sector. This top sector includes two top measurements using likelihoods made publicly available by the ATLAS top working group.

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