

Evanescent Operators in (SM)EFT Matching

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The low-energy phenomenology of high-scale new physics is best captured with effective field theories (EFTs). Evanescent operators - operators that vanish in 4D - show up at intermediate steps in the matching calculations used to determine the specific EFT coefficients. Although seemingly unphysical, evanescent operators lead to finite physical effects, which must be accounted for. This behavior is exemplified with a 2HDM toy model demonstrating the necessity of consistent treatment of the evanescent pieces. I will proceed to discuss how to systematically remove all evanescent operators from an EFT and present results for all possible evanescent contributions to the Standard Model EFT at one-loop order.

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