

Two-loop renormalisation of quark and gluon fields in the SMEFT

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We compute the contributions of CP-conserving operators in the dimension-six SMEFT to the two-loop renormalisation constants of quark and gluon fields. We work with the background-field method, which allows us to extract the contribution of these operators to the two-loop running of the top mass and the strong coupling constant. We discuss the mixing with the unphysical operators required for the renormalisation, and we present analytic results for the renormalisation constants of all relevant operators.

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