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B physics Beyond the Standard Model at One Loop: Complete Renormalization Group Evolution below the Electroweak Scale

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General analyses of B -physics processes beyond the Standard Model require accounting for operator mixing in the renormalization-group evolution from the matching scale down to the typical scale of B -meson mixing and decay. For

this purpose the anomalous dimensions of the full set of local dimension-six operators beyond the Standard Model are needed. We present here for the first time a complete set of non-redundant dimension-six operators relevant for B physics, together with the complete one-loop anomalous dimensions in QCD and QED. These results are an important step towards the automation of general New Physics analyses.

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