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Window on new physics via the scaling of SM effective operators

vendredi 21 mars 2014 20:02 (5 minutes)

We study deformations of the SM via higher dimensional operators. Focusing on bosonic operators relevant for electroweak and scalar boson physics, we compute their one-loop RG scaling equations. Assuming absence of tuning or correlations, these allow us to derive RG-induced bounds, stronger than the direct constraints, on some SM scalar boson couplings and anomalous triple gauge couplings. Any future experimental evidence of violation of these bounds would suggest a particular pattern of correlations among the Wilson coefficients, thus offering a new window on the new physics sector.

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