Natual Higgs mass from power-law running

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Abstract

We revisit renormalization of the Higgs mass and the hierarchy problem. The standrard calculation using physical scheme shows that Higgs mass squared runs as external momentum squared, which cannot be seen from the MS-bar. Thus the relation to the Higgs mass to the probe energy scale is order one over scales up to unification scale; no fine-tuning is required.

Keywords: hierarchy problem, renormalization

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