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Renormalizable SUSY SO(10) breakdown without large representations?

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We review the classical argument that, in order to break the high-scale SO(10) gauge symmetry down to the SU(3)xSU(2)xU(1) of the Standard Model at the renormalizable level in the SUSY context, higher tensors such as 210 are needed. We argue that, with extra vector-like matter multiplets at play, the freedom to flip SO(10) offers an option to implement the desired symmetry breaking descent in a very minimalistic regime, namely, with Higgs multiplets not bigger than the adjoint.

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