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Predictions of finite unified theories

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Abstract content

Finite Unified Theories (FUTs) are N=1 supersymmetric Grand Unified Theories that can be made all-loop finite. The requirement of all-loop finiteness leads to a severe reduction of the free parameters of the theory and, in turn, to a large number of predictions. We investigate these theories in the context of low-energy phenomenology observables. We present a detailed scanning of the all-loop finite SU(5) FUTs, where we include the theoretical uncertainties at the unification scale and we apply several phenomenological constraints. We also present results for an SU(3)^3 model where the requirement of finiteness implies three generations and viceversa.

Summary

Primary author(s) :   MONDRAGON, Myriam (IF, UNAM)

Presenter(s) :   Dr. MONDRAGON CEBALLOS, Myriam (Instituto de Fisica, UNAM)

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