

Shaping UV Physics Beyond the Standard Model



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Summary

Zamolodchikov's c -theorem showed how flows of couplings under renormalisation in two-dimensional quantum field theories are constrained by a gradient flow equation with a positive definite "metric", leading to a "c-function" monotonically increasing with energy. The a -theorem is the extension of this result to four dimensions; in fact it is now well-established that similar results hold, at least perturbatively, in all even dimensions. In this talk we discuss the possibility of an exact a -function in 4-d supersymmetric gauge theories; and also present "experimental" evidence for an a -function in three-dimensional theories.

Session Classification: ::