

Is SU(3) gauge theory with 13 massless flavors conformal?

Wednesday, July 25, 2018 2:40 PM (20 minutes)

There is a long running controversy over which SU(3) gauge theories with N_f massless fermion flavors in the fundamental representation are conformal, with particular focus on $N_f = 12$ and 10. In our studies of both theories, we have found no evidence of conformality as shown by an infrared fixed point of the beta function, in direct contradiction to claims by other groups covering the same range of the gauge coupling and using the same beta function scheme. To complement this work, we present the current status of our beta function measurement for $N_f = 13$, using the gradient flow, paying particular attention to the continuum limit.

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Session Classification: Physics beyond the Standard Model

Track Classification: Physics Beyond the Standard Model