Integral scaling for EFT strings from brane taxonomy

Luca Melotti*[1]

[1]Max-Planck-Institut – Germany

Abstract

EFT strings are 1/2-BPS objects in 4d N=1 or N=2 theories, whose backreaction explores infinite distance trajectories in regions of the moduli space with approximate axionic symmetries. It has been conjectured that, along an EFT string flow, the tension of the string is related to the mass of the lightest tower of particles, via the so-called Integral Scaling Conjecture (ISC). We show that the ISC follows from bottom-up arguments, making use of brane taxonomy rules, which classify the possible particles and extended objects one can have in a given perturbative regime, via their scalar charge-to-mass/tension vectors.

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*Speaker