EFT strings and potentials

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Abstract

In this talk, I will illustrate the constraints that the existence of EFT strings in 4D N=1 supergravities impose on asymptotic accelerated expansion scenarios. In previous works (see for example 2209.11821) it has been found that some F-theory flux compactifications where different terms compete in the scalar potential could evade Swampland bounds, such as the Trans-Planckian Censorship Conjecture (TTC) and the Strong dS Conjecture, in the complex structure moduli space. This loophole potentially allows for accelerated expansion in string theory in these scenarios. I will show how the presence of EFT strings lighter than the Hubble scale makes these surviving models inconsistent. I will further illustrate that scenarios where acceleration is possible and EFT strings are heavier than the Hubble scale are realized at the supergravity level, but do not arise from known string compactifications.

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