Institut Henri Poincaré

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String Theory in Greater Paris

Rencontres Théoriciennes

“Supergravité, théorie des cordes et théorie M”

Jeudi 16 Septembre 2021, 10:00

Thomas Grimm

Utrecht

Asymptotic Flux Compactifications and the Tameness of the Landscape

It has only recently become possible to systematically study flux compactifications in asymptotic regions of the field space without the necessity to construct specific geometric examples. I will explain some key insights about the structure of the complex structure moduli space, its boundaries and asymptotic regions, that opened the door for this general approach. I will then argue that a long conjectured and very non-trivial finiteness result about flux vacua has now been proved. Motivated by these successes, I will suggest that requiring finiteness properties on the coupling functions of any effective theory could be key to generally uncover the structure of the string theory landscape. I will briefly introduce a concrete framework, dealing with o-minimal structures and tame topology, that automatically implements finiteness properties.

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