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Non-Supersymmetric Strings and Some of their (In)Stabilities

I shall address some of the main lessons drawn so far from the tadpole potentials that emerge in the ten–dimensional strings with broken supersymmetry. These lessons include weak-string-coupling cosmologies that appear to provide clues on the onset of the inflation and spontaneous compactifications to lower–dimensional Minkowski spaces at corresponding length scales. The cosmological solutions exhibit an intriguing "instability of isotropy"that, if taken at face value, would point to an accidental origin of compactification. On the other hand, while highly symmetric AdS × S vacuum solutions driven by fluxes and tadpole potentials are unstable due to mixings induced by their internal fluxes, the original Dudas–Mourad solution is perturbatively stable, and we have gathered detailed evidence that instabilities can be held under control in a similar class of type–IIB compactifications to Minkowski space where the string coupling is everywhere weak. These vacua involve internal intervals, and a careful scrutiny of the possible self—adjoint boundary conditions plays a central role in the analysis.

Is this abstract from experiment?

No

Name of experiment and experimental site

none

Is the speaker for that presentation defined?

Yes

Details

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Internet talk

Yes

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