



High Energy Physics - Theory

Stability Constraints on Classical de Sitter Vacua

Gary Shiu, Yoske Sumitomo

(Submitted on 14 Jul 2011 (v1), last revised 21 Jul 2011 (this version, v2))

We present further no-go theorems for classical de Sitter vacua in Type II string theory, i.e., de Sitter constructions that do not invoke non-perturbative effects or explicit supersymmetry breaking localized sources. By analyzing the stability of the 4D potential arising from compactification on manifolds with curvature, fluxes, and orientifold planes, we found that additional ingredients, beyond the minimal ones presented so far, are necessary to avoid the presence of unstable modes. We enumerate the minimal setups for (meta) stable de Sitter vacua to arise in this context.

Comments: 18 pages; v2: argument improved, references added
 Subjects: **High Energy Physics - Theory (hep-th)**; Cosmology and Extragalactic Astrophysics (astro-ph.CO); High Energy Physics - Phenomenology (hep-ph)
 Report number: MAD-TH-11-06, TIFR/TH/11-31
 Cite as: [arXiv:1107.2925 \[hep-th\]](https://arxiv.org/abs/1107.2925)
 (or [arXiv:1107.2925v2 \[hep-th\]](https://arxiv.org/abs/1107.2925v2) for this version)

Submission history

From: Yoske Sumitomo [[view email](#)]
[\[v1\]](#) Thu, 14 Jul 2011 20:00:03 GMT (16kb)
[\[v2\]](#) Thu, 21 Jul 2011 19:12:20 GMT (17kb)

Which authors of this paper are endorsers?

Link back to: [arXiv](#), [form interface](#), [contact](#).

Download:

- [PDF](#)
- [PostScript](#)
- [Other formats](#)

Current browse context:

hep-th
[< prev](#) | [next >](#)
[new](#) | [recent](#) | [1107](#)

Change to browse by:

[astro-ph](#)
[astro-ph.CO](#)
[hep-ph](#)

References & Citations

- [INSPIRE HEP](#)
 (refers to | cited by)
- [NASA ADS](#)

Bookmark (what is this?)

