

Institut Henri Poincaré  
11 rue Pierre et Marie Curie, 75231 Paris cedex 05  
**String Theory in Greater Paris**

**Rencontres Théoriciennes**  
**“Supergravité, théorie des cordes et théorie M”**

*Jeudi 2 Juin 2022, 11:00*

**Alessandro Tomasiello**

**On the Stability of String Theory Vacua**

*Vacuum compactifications may suffer from instabilities under small perturbations or bubble nucleation. While supersymmetric vacua are protected from both, it is an open question whether any non-supersymmetric AdS vacuum can be stable. We will attack this problem using positive-energy theorems. We will first see how to apply such theorems to supersymmetric vacua in M-theory and type II supergravity, rather than to their effective lower-dimensional reductions. We will then present some strategies to modify the arguments in the non-supersymmetric case. In M-theory, at the lower-derivative level, such modifications fail to stabilize the skew-whiffed and Englert vacua.*

**Institut Henri Poincaré, salle 314, 3<sup>ème</sup> étage**

Retrouvez les activités de la communauté parisienne de théorie des cordes sur  
<http://string.lpthe.jussieu.fr>  
La liste de tous les séminaires en région parisienne est disponible sur  
<http://string.lpthe.jussieu.fr/semparis>

---