

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 20 Avril 2023, 11:45

Sergey Alexandrov

Université de Montpellier

Modularity of BPS black holes

I'll review the recent results on modular properties of generating functions of BPS indices counting states of D4-D2-D0 black holes in Calabi-Yau compactifications of type IIA string theory. These generating functions can be shown to be (higher depth) mock modular forms with a specific non-holomorphic modular completion. This result turns out to have a wider range of applicability than the original framework and has numerous applications ranging from compactifications with higher SUSY to Vafa-Witten theory. In the end, I'll show how one can determine the generating functions explicitly for compact Calabi-Yau threefolds with one Kahler modulus, and how this allows to overcome the usual limitations for computation of GV, DT and PT topological invariants.

Institut Henri Poincaré, salle 314, 3^{ème} 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>
