
BORIS PIOLINE, LPTHE, CNRS and Sorbonne Université

Exact effective interactions in string vacua with 16 supercharges

In string vacua with extended supersymmetry, some of the terms in the low energy effective action can often be determined exactly by combining constraints from supersymmetry, duality, and information from perturbative string theory. The analysis of these exact results near boundaries of the moduli space can then reveal valuable information about non-perturbative effects in string theory. I will apply this strategy to four- and six-derivative interactions in string vacua with 16 supersymmetries in $D=2+1$, and obtain the detailed spectrum of BPS black holes in $D=3+1$ via a study of the decompactification limit. Based on work with G. Bossard and C. Cosnier-Horeau.