SEMPARIS – Séminaires en région parisienne

http ://string.lpthe.jussieu.fr/semparis/

Workshop or Conference

Jeudi 24 Août 2017, 14 :30
LPTENS, Room Conf. IV(LPTENS Summer Institute https ://indico.in2p3.fr/event/14720/)
Domaines : hep-th

Titre : *Indefinite theta series, black holes and instantons*

Orateur : **Boris Pioline (LPTHE)**

Résumé : *In type IIB string theory compactified on a Calabi-Yau three-fold, S-duality requires that the sum over D3-D1- D(-1) instantons (with fixed D3-brane charge) must be modular invariant. Correspondingly, in type IIA string theory, holography requires that the D4-D2-D0 black hole partition function (with fixed D4-brane charge) should be modular. In either case, the sum over D1 (resp. D2) charges is given by an indefinite theta series of signature* $r(1, b_2 - 1)$, *where* r *is the D3 (resp. D4) charge. Using physical insight we have found a general way of determining the modular completion of a large class of holomorphic indefinite theta series, generalizing Zweger's method to arbitrary signature. Based on a series of works with Alexandrov, Banerjee and Manschot.*