

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*

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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.*
