

# SEMPARIS – Séminaires en région parisienne

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## Seminaire du LPTENS

**Mercredi 21 Juin 2017, 15 :00**

LPTENS, Conference room 4

Domaines : hep-th

Titre : *Factorization of IR Dynamics : Soft Black Hole Hair as Soft Wigs*

Orateur : **Massimo Porrati** ( New York University )

Résumé : *Conserved charges associated with large gauge symmetries and Bondi-Metzer-Sachs symmetries of asymptotically Minkowski spacetime have been recently shown to give new "soft hair" for black holes –beyond mass, charge and angular momentum. In this talk, I will outline a study of the constraint on dynamics due to these new symmetries. I will prove that they only constrain long-time, infrared dynamics, in a way that is completely factorizable. Factorization implies in particular that soft hair does not constrain the "hard" physical processes that account for black hole microstates.*

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