Institut Henri Poincaré
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String Theory in Greater Paris

Rencontres Théoriciennes

“Supergravité, théorie des cordes et théorie M”

Jeudi 9 Novembre 2017, 11:45

Eran Palti

Max-Planck Institute

Quantum Gravity far from the Planck Scale

It is conventional to associate quantum gravity physics with the Planck mass energy scale and to argue that, by the principle of separation of scales, it is not important at energy scales that are much lower. I will discuss recent work on when this expectation breaks down. For example, in the presence of a weakly coupled gauge field or when scalar fields undergo super-Planckian field variations. I will also discuss new ideas on the possibility that the principle of separation of scales does not apply to quantum gravity, so that it exhibits UV/IR mixing, with potential implications for naturalness and the hierarchy problem.

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