Institut Henri Poincaré

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String Theory in Greater Paris

Rencontres Théoriciennes

“Supergravité, théorie des cordes et théorie M”

Jeudi 21 Septembre 2017, 11:45

Miguel Paulos

LPTENS

The S-matrix strikes back

In this talk I will describe recent work aiming to reinvigorate the 50 year old S-matrix program, which seeks to constrain scattering of massive particles non-perturbatively. I will begin by considering quantum fields in anti-de Sitter space and show that one can extract information about the S-matrix by considering correlators in conformally invariant theories. The latter can be studied with "bootstrap" techniques, which allow us to constrain the S-matrix. I will also show that this can be done directly, without using the CFT crutch, by using crossing symmetry and unitarity and a particular ansatz. In this way we derive universal bounds on QFTs in 2,3 and 4 dimensions.

Institut Henri Poincaré, salle 314, 3ème étage

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