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Bootstrapping Strings

Thursday, 6 June 2024 12:00 (30 minutes)

The numerical S-matrix Bootstrap aims at establishing non-perturbative universal bounds on physical observables that can be extracted from scattering amplitudes in any dimension. In the first part of the talk, I will review our recent exploration of the space of supergravity amplitudes, and how String/M theory often appears close to the boundary of the allowed region. Even though this is encouraging, our conclusions would get sharper if we included multiparticle scattering amplitudes in the Bootstrap.
In the second part of the talk, I will report some recent progress on this scary problem. I will focus on the simplest non-integrable S-matrix describing the scattering of branons on the world sheet of confining strings in three dimensions, where multi-particle scattering seems treatable, and show our first multiparticle results.

Presenter: GUERRIERI, Andrea