Contribution ID: **45** Type: **not specified**

Target space unitarity in string theory

Wednesday 25 September 2013 16:30 (20 minutes)

Tree level unitarity relates the residues of N-point amplitudes of scalars to lower point amplitudes of all particles in the spectrum of a theory. I will explain in the case of open bosonic string theory how to exploit this relation, in which one has to sum over all particles that are on-shell at the residue in question and all its possible polarizations. In contrast to Yang-Mills theory, here the spectrum contains an infinite amount of massive states, which are irreducible tensor representations of the little group SO(D-1). Along the way, we will come across a simple way to derive the restrictions that the no-ghost theorem poses on the parameters α_0 and D. This talk is based on work with Rutger Boels.

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Session Classification: Parallel Session 3: Strings & Mathematical Physics

Track Classification: Strings & Mathematical Physics