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Strings, integrability and beyond

Jeudi 29 Mars 2018, 11 :30
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Domaines : hep-th

Titre : *From Spinning Conformal Blocks to Matrix Calogero-Sutherland Models*

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Résumé : *Conformal blocks for correlation functions of tensor operators play an increasingly important role for the conformal bootstrap programme. In my talk, I will present our new approach to such spinning blocks through the harmonic analysis of certain bundles over a double-coset of the conformal group. This approach furnishes solutions of Casimir equations for external fields of arbitrary spin and dimension in terms of functions on the conformal group. This allows us to reinterpret standard operations on conformal blocks in terms of group-theoretic objects. As an application of these ideas, I will identify the set of seed blocks in any dimension. On the other hand, the resulting Casimir equations are given by a matrix version of the Calogero-Sutherland Hamiltonian what connects the theory of conformal blocks with the rich world of integrable quantum systems. At the end of my talk, I will briefly discuss the generalisation of these ideas to CFT with boundaries and defects.*

Based on 1612.02479, 1711.02022 and work in progress.
