Laboratoire de Physique Théorique et Hautes Energies

Unité Mixte de Recherche (UMR 7589) de Sorbonne Université et du CNRS

SEMINAIRE du LPTHE

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A Bäcklund transformation for elliptic four-point conformal blocks

In Liouville theory, we derive a partial differential equation for five-point correlation functions with one degenerate field $V_{-b/2}$. From it, one obtains explicit finite-dimensional integral representations in terms of elliptic theta-functions for a class of four-point conformal blocks for arbitrary intermediate dimension and generic value of the central charge. The conformal bootstrap can then be investigated analytically. Introducing a Bäcklund transformation on the solutions of the partial differential equation, one can reach a large extended set of external dimensions of these conformal blocks.

Bibliothèque du LPTHE, tour 13/14, 4ème étage

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