



Seminar/Talk

Liouville Theory

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Host: Laszlo Erdős & Jan Maas

The study of second-order phase transitions in two-dimensional statistical physics models led, in the 1980s, to the emergence of conformal field theories (CFT). The development of the conformal bootstrap in physics brought remarkable advances in the understanding and solution of these theories. However, a rigorous mathematical construction of CFTs and a complete implementation of the bootstrap program remain major open challenges. Over the past twenty years, the probabilistic approach to Liouville conformal field theory (LCFT) has achieved important progress. It has not only provided a mathematical construction of the model and a full bootstrap solution, but also made explicit the various structural components expected of a field theory and their interplay: path integral formulation, Segal functoriality, statefield correspondence, representation of the symmetry algebra on a Hilbert space, and the Operator Product Expansion (OPE). Liouville theory thus stands as a genuine case study for understanding the mathematical structure of conformal field theories. The aim of this talk is therefore to show how these concepts are organized and interact within the framework of Liouville theory.

Monday, November 3, 2025 05:00pm - 06:00pm

Central Bldg / O1 / Mondi 2a (I01.O1.008)



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