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Guillaume Baverez and Remi Rhodes

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Probablistic construction of CFT and applications to Virasoro conformal blocks.

We present a probabilistic construction of Liouville Conformal Field Theory (LCFT), starting with Segal's axioms and the structure constants (the DOZZ formula). Then, we show how to extract the Virasoro algebra from the semigroup of annuli, and use this data in the spectral theory of the Hamiltonian. Finally, we exploit this structure to address the holomorphic factorisation of amplitudes, and give an intrinsic definition of the conformal blocks involved in the bootstrap formulas. We will conclude with aspects of LCFT on surfaces with boundaries, and mention some consequences for the Virasoro conformal blocks.