Institut Henri Poincaré

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String Theory in Greater Paris

Rencontres Théoriciennes

“Supergravité, théorie des cordes et théorie M”

Jeudi 30 Novembre 2023, 11:45

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Approximate CFTs and Random Tensor Models

Over the past few years, the importance of chaos in the physics of quantum black holes has become clear. This is particularly well understood in two-dimensional gravity, where the boundary system is quantum mechanics. Quantum chaos is well understood in quantum mechanics, going back several decades to the work of Wigner, in terms of random matrix universality : the statistical spectral correlations of a chaotic hamiltonian are indistinguishable from those of a random matrix drawn from the appropriate ensemble. Quantum chaos is much less understood in quantum (and conformal) field theories, which appear in top-down realizations of AdS/CFT. What is the right ensemble of theories to draw from in the case of field theories, similar to the random matrix ensembles of Wigner ? In this talk, I will review progress on this front, and explain how to incorporate the many CFT constraints into a framework of ensemble of CFTs.

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