

Random matrices, operators and analytic functions

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Abstract:

The finite circular beta-ensembles and their point process scaling limit can be represented as the spectra of certain random differential operators. These operators can be realized on a single probability space so that the point process scaling limit is a consequence of an operator level limit. The construction allows the derivation of the scaling limit of the normalized characteristic polynomials of the finite models to a random analytic function. I will review these representations and constructions, and present a couple of applications.

Joint with B. Virg (Toronto).