



Seminar

Random Matrices

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Symmetric Function Theory and Unitary Invariant Ensembles

Representation theory and the theory of symmetric functions have played a central role in Random Matrix Theory in the computation of quantities such as joint moments of traces and joint moments of characteristic polynomials of matrices drawn from the Circular Unitary Ensemble and other Circular Ensembles related to the classical compact groups. The reason is that they enable the derivation of exact formulae, which then provide a route to calculating the large-matrix asymptotics of these quantities. We develop a parallel theory for the Gaussian Unitary Ensemble of random matrices, and other related unitary invariant matrix ensembles. This allows us to write down exact formulae in these cases for the joint moments of the traces and the joint moments of the characteristic polynomials in terms multivariate orthogonal polynomials. This is joint work with Bhargavi Jonnadula and Jonathan P. Keating.

Wednesday, 01 July 2020, 0900 hrs CEST

Zoom Konferenzschaltung— Please contact Gernot Akemann
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