

AG Zufallsmatrizen Seminar

Alfredo Deano
University of Kent

Non-Hermitian matrices: critical behaviour and asymptotics

In this talk we present some recent work on the large N asymptotic behavior of the partition function for $N \times N$ non-Hermitian random matrices, in particular Ginibre ensemble with added algebraic singularities. This model is motivated by the study of normal random matrix ensembles with rotational symmetry in the complex plane. In suitable double scaling regimes, when these singularities are allowed to merge or collide with the boundary of the limit support of the equilibrium measure, we also investigate the appearance of Painlevé transcendents, in analogy with the case of Hermitian ensembles.

This is joint work with Nick Simm (University of Sussex)

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