

Institute for Applied Mathematics, Bonn University

Oberseminar Stochastik

Thursday, 8th November 2018, 16:30

Seminarraum LWK 0.011

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Edge scaling of measures on integer partitions and a zoo of Airy processes

We investigate various measures on integer partitions (discrete lattice fermions) and their edge (largest parts) scaling to find a zoo, part classical part new, of Airy processes: Airy_2 , $\text{Airy}_{2 \rightarrow 1}$, Airy_1 and Tracy–Widom GOE/GSE distributions, the finite temperature Airy_2 process, and a few others. The new results are generalizations of the classical work of Baik–Deift–Johansson and Baik–Rains on longest increasing subsequences of random permutations. Relations to statistical mechanical systems, random matrix models, representation theory and combinatorics will be highlighted throughout. Parts of the talk are based on joint work with Jeremie Bouttier, Peter Nejjar, and Mirjana Vuletic.