

Institute for Applied Mathematics, Bonn University

Oberseminar Stochastik

Thursday, 5 May 2022, 16:30

Lipschitz-Saal (LWK 1.016)

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A new approach to the characteristic polynomial of a random unitary matrix

The characteristic polynomial of a random (Haar-distributed) unitary matrix is considered as an interesting toy model for the probabilistic study of the Riemann Zeta function. We will recall the history of the topic starting with the Montgomery-Dyson correspondence, the Keating-Snaith moments conjecture and some recent developments on other functionals. We will then give a conceptual comparison of some of the techniques used in the field and a zoo of results one can achieve, with a particular focus on a recent technique that allows to rederive all the results in a unified way using symmetric function theory and local Central Limit Theorems.