ID de Contribution: **4**   Type: **Non spécifié**

Secular coefficients and the holomorphic multiplicative chaos.

mercredi 19 juin 2024 15:00 (1 heure)

We study the coefficients of the characteristic polynomial of unitary matrices drawn from the Circular Beta Ensemble. When the inverse temperature parameter beta is strictly larger than 4, we obtain a new class of limiting distributions that arise when both the order of the coefficient and the dimension of the matrix goes to infinity. For beta equal to 2, we solve an open problem of Diaconis and Gamburd by showing that the middle coefficient tends to zero in probability when the dimension goes to infinity. We introduce a new stochastic object associated to the coefficients of the characteristic polynomial, which we call Holomorphic Multiplicative Chaos (HMC). Viewing the HMC as a random distribution, we prove a sharp result about its regularity in an appropriate Sobolev space. Our proofs expose and exploit several novel connections with other areas, including random permutations, Tauberian theorems and combinatorics.

Orateur: NAJNUDEL, Joseph