

Séminaire de mathématique physique



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Asymptotics of Toeplitz, Hankel, and Toeplitz + Hankel determinants with Fisher-Hartwig singularities. The Riemann-Hilbert Approach.

Résumé : We will discuss some new asymptotic results obtained via the integrable systems techniques, notably the Riemann-Hilbert method, in the area of Hankel and Toeplitz determinants whose symbols possess Fisher-Hartwig singularities on a smooth background. Specifically, we will discuss the proof of the Basor-Tracy conjecture concerning the Toeplitz determinants, the asymptotics of Hankel and Toeplitz + Hankel determinants on a finite interval, and the Painlevé-type crossover formulae describing a transition between the Szegő and the Fisher-Hartwig type of asymptotic behavior for Toeplitz determinant. The talk is based on the joint works with P. Deift, T. Claeys, and I. Krasovsky.

Jeudi 3 juin à 16 :15 — salle A318, 3ème étage