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THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY

Department of Mathematics

PHD STUDENT SEMINAR

Extreme eigenvalues of Log-concave Ensemble

By

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Abstract

In this seminar, we consider the log-concave ensemble of random matrices. A main example is the covariance estimator of the uniform measure on isotropic convex body. Non-asymptoptic estimates and first order asymptotic limits for the extreme eigenvalues have been obtained in the literature. In this seminar, we discuss the spectral rigidity property of this ensemble. Based on the spectral rigidity and some additional assumptions, we further derive the Tracy-Widom law for the extreme eigenvalue of this ensemble, and the Gaussian law for the extreme eigenvalues in case strong spikes are present. This talk is based on a joint work (arXiv: 2212.11634) with Zhigang Bao.

Date : 22 Mar 2023 (Wednesday)
Time : 3:00pm
Venue: Room 5562 (near Lifts 27-28)

All are Welcome!