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The Hong Kong University of Science and Technology

Department of Mathematics

Seminar on Probability

Interpreting the Covariance of Eigenvalues of Heavy-Tailed Matrices

By

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Abstract

It has recently been shown for a real symmetric matrix with mean 0 and variance 1 with tail behavior $2 < \alpha < 4$ that the linear statistics of eigenvalues fluctuate at the order of $N^{\frac{\alpha}{4}}$. This previous work computed a covariance of the resolvent that was a double Laplace transform. We simplify this covariance kernel and compute a change of variables to compare it with a result due to Borodin --- that the eigenvalue counting function fluctuates like a Gaussian Free Field. This is a joint work in progress with Anna Maltsev.

Date: **Tuesday, 18 December 2018**

Time: **3:30p.m. - 4:30p.m.**

Venue: **Room 5510, Academic Building, (near Lifts 25-26), HKUST**

All are welcome!