

Precise asymptotics for the extreme eigenvalues of a large random matrix

Abstract:

In this talk, we consider a large random matrix with independent and identically distributed entries. We show that the spectral radius of such a matrix has a precise three-term asymptotic expansion beyond the radius of the celebrated circular law. All the coefficients in the expansion are universal. A similar expansion also holds true for the rightmost eigenvalue with different coefficients.

Based on joint works with Giorgio Cipolloni, Laszlo Erdos, and Dominik Schroder.