

Group Seminar
Symbolic Computation

Computations of the Expected Euler Characteristic for the Largest Eigenvalue of
a Real Wishart Matrix

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Abstract

We give an approximate formula of the distribution of the largest eigenvalue of real Wishart matrices by the expected Euler characteristic method for the general dimension. The formula is expressed in terms of a definite integral with parameters. We derive a differential equation satisfied by the integral for the 2×2 matrix case and perform a numerical analysis of it.