



Mathematics and CS Seminar

Bounds on the Norm of Wigner-type Random Matrices

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Host: Laszlo Erdős

We consider a Wigner-type ensemble, i.e. large hermitian $N \times N$ random matrices $H = H^*$ with centered independent entries and with a general matrix of variances $S_{\{xy\}} = \mathbb{E}|H_{\{xy\}}|^2$. The norm of H is asymptotically given by the maximum of the support of the self-consistent density of states. We establish a bound on this maximum in terms of norms of powers of S that substantially improves the earlier bound $2\|S\|^{1/2} + o(1)$. The key element of the proof is an effective Markov chain approximation for the contributions of the weighted Dyck paths appearing in the iterative solution of the corresponding Dyson equation.

Tuesday, January 23, 2018 04:00pm - 06:00pm

IST Austria Campus Big Seminar room Ground floor / Office Bldg West (I21.EG.101)



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