



## 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  $2\|S\|^{1/2}$ . 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**

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



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