Department of Mathematics,
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Math 288 - Probability Seminar

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The spectral gap of dense random regular graphs

Abstract:

Let G be uniformly distributed on the set of all simple d-regular graphs on n vertices, and assume d is bigger than some (small) power of n. We show that the second largest eigenvalue of G is of order $\sqrt{d}$ with probability close to one. Combined with earlier results covering the case of sparse random graphs, this settles the problem of estimating the magnitude of the second eigenvalue, up to a multiplicative constant, for all values of n and d, confirming a conjecture of Van Vu. Joint work with Pierre Youssef.

Host: Bruce Driver

Thursday, January 12, 2017
10:00 AM
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