

Temple/Penn Probability Seminar

A new proof of Friedman's second eigenvalue theorem and its extensions

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Tuesday, November 10, 2015
2:30-3:30pm, Rittenhouse Lab 3C8 (Penn)

It was conjectured by Alon and proved by Friedman that a random d -regular graph has nearly the largest possible spectral gap, more precisely, the largest absolute value of the non-trivial eigenvalues of its adjacency matrix is at most $2\sqrt{d-1}+o(1)$ with probability tending to one as the size of the graph tends to infinity. We will discuss a new method to prove this statement and give some extensions to random lifts and related models.