The Weizmann Institute of Science
Faculty of Mathematics and Computer Science

Geometric Functional Analysis and Probability Seminar

Room 261, Ziskind Building
on Thursday, Dec 10, 2015
at 11:00

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University of Minnesota

Double Roots of Random Polynomials

Abstract:

We consider random polynomials of degree $n$ whose coefficients are i.i.d. distributed over a finite set of integers, with probability at most $1/2$ to take any particular value. We show that the probability that such a polynomial of degree $n$ has a double root is dominated by the probability that $0, 1$ or $-1$ are double roots up to an error of $o(n^{-2})$. Our result generalizes a similar result of Peled, Sen and Zeitouni for Littlewood polynomials.

Joint work with Ron Peled and Arnab Sen.