



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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### 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.