

Is a random polynomial with plus minus 1 coefficients irreducible over the integers?

Lior Bary-Soroker^{*}

barylior@post.tau.ac.il

It has been known for almost a hundred years that most polynomials with integral coefficients are irreducible and have a big Galois group. For a few dozen of years, people have been interested whether the same holds when one considers sparse families of polynomials—notably, polynomials with plus-minus 1 coefficients. In particular, “some guy on the street” conjectures that the probability for a random plus-minus 1 coefficient polynomial to be irreducible tends to 1 as the degree tends to infinity (a much earlier conjecture of Odlyzko-Poonen is about the 0-1 coefficients model) . In this talk, I will discuss these types of problems, some approaches to attack them, and I will present some new results toward the conjecture, joint with Gady Kozma and Dimitris Koukoulopoulos.

^{*}School of Mathematical Sciences, Tel-Aviv University, Ramat Aviv, Tel Aviv, 6997801, ISRAEL