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Squarefree density of discriminant of polynomials with restricted coefficients

The squarefree density problem, which asks to determine the probability that a multivariate integer polynomial $F(x_1, \dots, x_n)$ attains a squarefree value, is a classical problem. Some recent progress has been made in the case where F is the discriminant of a monic integer polynomial. Namely, Bhargava, Shankar, and Wang proved that the density of monic integer polynomials with squarefree discriminant exists and is given by the product of the local densities, which were previously computed by Yamamura.

In this talk, I will discuss the case where F is the discriminant of a monic integer polynomial with restricted coefficients, with the emphasis on local density computations. This talk is partially based on a joint work with Valentio Iverson and Xiaoheng Wang.