1176-11-111   **Theresa C Anderson*** (`tcanderson@purdue.edu`). *Quantitative Hilbert Irreducibility.*

Let $P_n(f)$ be the set of monic, degree n, integer valued polynomials whose coefficients range in the box $[-H, H]$, It has been known for some time that 100 percent of these polynomials have full Galois group S_n, the symmetric group on n letters. But since 100 percent of the time, mathematically, is not all the time, how often does a random polynomial in $P_n(f)$ fail this? In 1936 van der Waerden proposed a tantalizing conjecture that the size of polynomials in $P_n(f)$ whose Galois group was not isomorphic to S_n was $O(H^{n-1})$. Manjul Bhargava recently proved van der Waerden's conjecture, and moreover, previous progress towards this has introduced many new and useful techniques into number theory. We briefly survey past progress and discuss some of the key features behind the close-to-optimal bounds that appeared before Bhargava's exciting resolution. (Received January 17, 2022)