Prime polynomials

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Abstract

Many of the most celebrated unsolved problems in number theory (e.g., the twin prime conjecture, Goldbach's conjecture, the Riemann Hypothesis) center around the distribution of prime numbers. Often, analogous problems can be formulated over rings other than the ring ${\bf Z}$ of integers. In this talk we look at such problems over polynomial rings, where the role of prime numbers is played by irreducible polynomials. Special attention is paid to the case of one-variable polynomials over a finite field.