

# Counting number fields and polynomials

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Number fields are a central topic of number theory, and yet they are surprisingly difficult to count. We will discuss the history of progress toward counting number fields, and give a new bound on number fields of degree less than 94. The improved bound is achieved through a combination of harmonic analysis and modified sieve methods. We'll also discuss how techniques have also been useful in bounding the exceptional set in Hilbert's irreducibility theorem; that is, at counting the number of irreducible polynomials without full Galois group.