BOUNDS FOR FINITE GROUPS OF MATRICES.

MICHAEL J. COLLINS

Around 1870, Jordan showed that there was a function f on the natural numbers such that, if G is a finite group of complex $n \times n$ matrices, then G has a normal abelian subgroup of index bounded by $f(n)$. Explicit functions were given by Frobenius and Schur, but they are very far from optimal, and it was only after the classification of finite simple groups was announced that a near-best result was announced by Weisfeiler; using more powerful group theoretic methods in place of his analytic estimates, precise bounds can now be given.

I will discuss these and related questions.

Oxford University and Ohio State University.
E-mail address: collins@math.ohio-state.edu