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Given two subsets X, Y of a finite group G , we write $\Pr(X, Y)$ for the probability that random elements $x \in X$ and $y \in Y$ commute. If X, Y are subgroups, we denote by $\Pr^*(X, Y)$ the maximum real number ϵ with the property that for every pair of distinct primes $p \in \pi(X)$ and $q \in \pi(Y)$ there is a Sylow p -subgroup P of X and a Sylow q -subgroup Q of Y such that $\Pr(P, Q) \geq \epsilon$.

In this talk we will discuss finite groups G with high probabilities $\Pr^*(T, G)$, where T is either a term of the lower central series of G or the generalized Fitting subgroup $F_i^*(G)$, and show that the structure of such groups is similar, in some precise sense, to that of nilpotent groups.

Trabajo en conjunto con Eloisa Detomi (Università degli Studi di Padova, Italia) y Pavel Shumyatsky (Universidade de Brasília, Brazil).

Referencias

- [1] Eloisa Detomi, Débora Senise, Pavel Shumyatsky, Finite groups with high commuting probability for Sylow subgroups, Journal of Algebra, Volume 711, 2027, Pages 1-13, ISSN 0021-8693, <https://doi.org/10.1016/j.jalgebra>