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PALINDROMIC WIDTH OF FINITELY GENERATED GROUPS

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Let G be a group with a set of generators X. A reduced word in the alphabet $X^{\pm 1}$ is a palindrome if it reads the same forwards and backwards. The palindromic length $\ell_P(g)$ of an element g in G is the minimum number k such that g can be expressed as a product of k palindromes. The palindromic width of G with respect to X is defined to be the supremum of the set of palindromic lengths in (G, X).

In this presentation, we shall discuss recent results on the palindromic width of finitely generated groups. We shall show an estimate of palindromic width of finitely generated free nilpotent groups. For arbitrary solvable groups of step at most 3, it will be shown that if G is a finitely generated solvable group that is an extension of an abelian group by a group satisfying the maximal condition for normal subgroups, then the palindromic width of G is finite. For solvable groups of step 3, we have a complete answer: every finitely generated 3-step solvable group has finite palindromic width with respect to any finite generating set. Palindromic widths of metabelian groups will also be discussed. The talk is based on my joint work with Valeriy Bardakov.

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