

ON THE CONJUGACY PROBLEM IN FINITELY PRESENTED GROUPS

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The first examples of finitely presented groups with decidable word problem and undecidable conjugacy problems were found by P.S. Novikov and W.W. Boone in 50'-s. Dehn function $d(n)$ can be regarded as a measure of the complexity of a finitely presented group, and the first examples of the groups with undecidable conjugacy problem have exponential Dehn functions. It is well known, that the conjugacy problem is decidable if $\liminf_{n \rightarrow \infty} d(n)/n^2 = 0$. With M.V. Sapir, we have constructed finitely presented groups with quadratic Dehn function and undecidable conjugacy problem. This answers E. Rips' question of 1994.

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