Automata and infinite words: applications inGroup Theory

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Abstract

In the first part of my talk I am going to introduce finite automata which are labeled by infinite words indexed by linear orderings of special type. Then I am going to show how such automata can be used for solving various algorithmic problems in groups whose elements are representable by infinite words.

This talk is based on the series of joint papers with A. Kharlampovich, A. Miasnikov, and V. Remeslennikov.