

Measuring Closeness between Cayley Automatic Groups and Automatic Groups

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16:00 Wednesday 14 March 2018, Room 1503, MUIC

Cayley automatic groups generalize automatic groups introduced by Thurston and preserve their essential algorithmic properties - decidability of the first order theory and solvability of the word problem in quadratic time. In this talk we discuss a way to estimate a level of closeness of Cayley automatic groups to the class of automatic groups using a certain numerical characteristic. We characterize Cayley automatic groups which are not automatic in terms of this numerical characteristic and then study it for the lamplighter group, the Baumslag-Solitar groups and the Heisenberg group. A talk is based on the joint work with P. Trakuldit.