

Diophantine properties of automatic real numbers

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Abstract

We study some diophantine properties of automatic real numbers, i.e., real numbers defined by a b -adic expansion generated by a finite automaton. We present a method to derive irrationality measures for such numbers. As a consequence, we prove that the b -adic expansion of a Liouville number cannot be generated by a finite automaton, a conjecture due to Shallit.

This is joint work with Boris Adamczewski, Institut Camille Jordan - CNRS, Lyon, France.