

$3/2$ number system and Mahler's problem

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We introduce a curious number system with a fixed rational number base, which is produced by an 'accelerated' adding machine. Though the system looks pretty complicated as the associated language is not even context free, the odometer is given by an automaton. This number system has a connection with Mahler's problem on the distribution of fractional parts of $(3/2)^n$.

This is a joint work with Christiane Frougny and Jacques Sakarovitch.