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Sturm numbers and substitution invariance of 3iet words. (English) Zbl 1202.11021

Integers 8, No. 1, Article A14, 17 p. (2008).

Summary: We give a necessary condition for an infinite word defined by a non-degenerate interval exchange on three intervals (3iet word) to be invariant by a substitution: a natural parameter associated with this word must be a Sturm number. We deduce some algebraic consequences from this condition concerning the incidence matrix of the associated substitution. As a by-product of our proof, we give a combinatorial characterization of 3iet words.

MSC:

[11B85](#) Automata sequences

[37B10](#) Symbolic dynamics

[68R15](#) Combinatorics on words

Cited in **5** Documents

Keywords:

interval exchange on three intervals

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