

Berstel, Jean; De Felice, Clelia; Perrin, Dominique; Rindone, Giuseppina
On the groups of codes with empty kernel. (English) [Zbl 1202.20071](#)
Semigroup Forum 80, No. 3, 351-374 (2010).

A word $v \in A^*$ is an internal factor of a word $x \in A^*$ iff $x = uvw$ for some nonempty words u, w . The kernel of a set $X \subset A^*$ is the set of words from X which are internal factors of some word from X . It is shown, that if X is a code with empty kernel, F the set of internal factors of words from X and φ the syntactic morphism of the submonoid X^* , then any group G contained in $\varphi(A^* \setminus F)$ is cyclic. A subclass of codes with empty kernel are semaphore codes, thus this is a generalization of a result of M. P. Schützenberger [Inf. Control 7, 23-26 (1964; Zbl 0122.15004)].

Reviewer: Jaak Henno (Tallinn)

MSC:

20M35 Semigroups in automata theory, linguistics, etc.
20M05 Free semigroups, generators and relations, word problems
68Q45 Formal languages and automata

Cited in 1 Document

Keywords:

codes; kernels of sets of words; syntactic semigroups; finite automata; internal factors

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