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Finite semigroups with slowly growing \( p_n \)-sequences. (English) Zbl 1011.08005


The \( p_n \)-sequence of an algebra \( A \) is a sequence of cardinalities \( p_n(A) \) of all essentially \( n \)-ary term operations of \( A \). It is polynomially bounded if there exist a positive constant \( c \) and an natural number \( r \) such that \( p_n(A) \leq cn^r \) holds for \( n \geq 1 \). The paper contains a characterization of finite semigroups having polynomially bounded \( p_n \)-sequences in terms of semigroup identities. In addition, the authors supply an effective procedure for deciding whether a finite semigroup has polynomially bounded \( p_n \)-sequences.

Reviewer: Ivan Chajda (Olomouc)

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