Research

Algebra Seminar

COMBINATORIAL COMPLEXITY OF BINARY WORDS AND ANOMALIES CODIMENSION GROWTH

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Abstract. We consider polynomial identities and codimension growth of nonassociative algebras over a field of characteristics zero. We offer new approach which allows to construct nonassociative algebras starting from a given infinite binary word. The sequence of codimensions of such an algebra is closely connected with combinatorial complexity of the defining word. These constructions give new examples of algebras with abnormal codimension growth. The first important achievement is that our algebras are finitely generated. The second one is that asymptotic behavior of codimension sequences is quite different unlike all previous examples.