POLYNOMIAL GROWTH OF THE SEQUENCE OF CODIMENSIONS OF PI-ALGEBRAS

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Abstract. A PI-algebra is an algebra satisfying a non-trivial polynomial identity in no commutative variables. In order to study the polynomial identities of any PI-algebra, Regev introduced the sequence of codimensions of an algebra A. This sequence provides an efficient way of measuring the growth of polynomial identities satisfied by A and has become one of the main objects in PI-theory. The basic notions and definitions of the classic PI-theory have been extended to algebras with some additional structure, such as algebras with involution, G-graded algebras and G-graded algebras endowed with a group graded involution. Several authors have been studing the sequence of codimensions of an algebra in each one of these cases. In this talk I intend to present some results about algebras with polynomial growth both in the ordinary case and in some cases of algebras with additional structure. In particular, I will show some of my own contributions for this area obtained in collaboration with Ana Vieira (UFMG) and Rafael dos Santos (UFMG).

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