

# NON-MATRIX VARIETIES FOR SOME CLASSES OF NON-ASSOCIATIVE ALGEBRAS

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A variety  $\mathcal{M}$  of associative algebras (over a field  $F$ ) is called “non-matrix” if  $F_2 \notin \mathcal{M}$ , where  $F_2$  is the matrix algebra of order 2 over  $F$ . This notion was introduced by V.N. Latyshev in 1977. Since then, several other equivalent characterizations for a non-matrix variety were obtained, for instance, by considering algebraic (G. Chekanu, 1979) and nilpotent (A. Mishchenko, V. Petrogradsky, A. Regev et al, 2012) elements, or in terms of identities (A. Kemer, 1980).

It looks natural to consider analogues of non-matrix varieties in non-associative algebras, first of all, for varieties of algebras, “close to associative”, that is, for alternative and Jordan algebras.

In this talk we define and study the non-matrix varieties in the classes of Jordan, alternative, and non-commutative Jordan algebras. We extend or generalize some results, mentioned above, for non-matrix varieties in these classes of algebras.

A joint work with Vinicius Bittencourt.

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