

Non-matrix Varieties and Coordinatization Theorems for nonassociative algebras

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The talk consists of two parts. The first part is devoted to varieties that do not contain matrix algebras. These varieties were introduced and first studied for associative algebras by V.N.Latyshev [1]. Various characterizations of non-matrix varieties were obtained in [2]. We define non-matrix varieties for some classes of nonassociative algebras and obtain their characterizations generalizing the results of [2].

The second part of the talk is devoted to the coordinatization theorems for alternative and Jordan algebras, containing the matrix algebra of order 2 and the symmetric matrix algebra of order 2, correspondingly, with the same unit. Besides, we consider the coordinatization theorem for octonions in the class of right alternative algebras.

References

- [1] LATYSHEV, V. N. The complexity of non-matrix varieties of associative algebras. I, II. Algebra i Logika 16, 2, p. 149–183, 184–199, 1977.
- [2] MISHCHENKO, S. P., PETROGRADSKY V. M., REGEV A. Characterization of non-matrix varieties of associative algebras. Israel Journal of Mathematics, 182, p. 337–348, 2011.