

COORDINATIZATION THEOREMS FOR CERTAIN NON-ASSOCIATIVE ALGEBRAS

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Coordinatization Theorems are very useful for classification problems. The classical Wedderburn Coordinatization Theorem claims that if a unital associative algebra A contains a matrix subalgebra $M_n(F)$ with the same unit then $A = M_n(B)$ for a certain subalgebra B . The Jacobson Coordinatization Theorems in structure theories of alternative and Jordan algebras state similar results for octonions and Albert algebras. Various coordinatization theorems were proved for noncommutative Jordan algebras, for commutative power associative algebras, for alternative and Jordan superalgebras, etc. In our talk, we consider three coordinatization theorems:

- (1) for 2×2 matrices in the class of alternative algebras (Jacobson's problem);
- (2) for Jordan algebra of symmetric 2×2 matrices in the class of Jordan algebras;
- (3) for octonions in the class of right alternative algebras.

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