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Keywords Authors Central simple superalgebras with superantiautomorphism of order two of the second kind

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<u>Abstract:</u> Our main purpose is to develop the theory of existence of superantiautomorphisms of order two of the second kind (which are caled superinvolutions of the second kind) on finite dimensional central simple superalgebras $A=M_n(D)$, where D is a finite dimensional division superalgebra with nontrivial

grading over K, where K is a field of any characteristic. We determine which finite dimensional central simple superalgebras posses a superinvolution of the second kind and put these results in the context of the Albert-Reihm Theorem on the existence of involutions of the second kind.

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Key Words: Central simple superalgebras, Superantiautomorphisms, Superinvolutions, Brauer-Wall Groups

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