

A NOTE ON SURROGATE FORMS OF CENTRAL SIMPLE ALGEBRAS

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ABSTRACT

Given a central simple algebra over a field of characteristic not two, the classical invariants of the surrogate form—the quadratic form arising from the quadratic coefficient in the reduced characteristic polynomial of the algebra—are investigated. It is shown that the surrogate form gives the same amount of information as the trace form. Then an involution of the first kind is introduced, and the invariants of the associated involution surrogate form are determined. Finally, the existence of some special subspaces of the algebra is demonstrated.