

ON UNITARY SUBGROUPS OF GROUP ALGEBRAS

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ABSTRACT. Let FG be the group algebra of a finite p -group G over a finite field F of characteristic p and let $*$ be the classical involution of FG . The $*$ -unitary subgroup of FG , denoted by $V_*(FG)$, is defined to be the set of all normalized units u satisfying the property $u^* = u^{-1}$. In this paper we give a recursive method how to compute the order of the $*$ -unitary subgroup for certain non-commutative group algebras. A variant of the modular isomorphism question of group algebras is also considered.

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