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Title: Star-group identities on units of group algebras

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Abstract: Let G be a group, R a commutative ring with unity and RG the group algebra of G over R. In the last decades, there has been intensive research on the structure of $U(FG)$ the unit group of this algebra. This group can be very large; B. Hartley and P.F. Pickel [1] proved taht if G is neiter abelian nor a Hamiltonian 2-group, then $U(\mathbb{Z}G)$ contains a free group of rank 2 and J.Z. Gonalves [4] described conditions for $U(FG)$ to contain free groups of rank 2, when F is a field.

On the opposite direction, it has also been investigated when the unit groups has some regularty, e.g. when it satisfies a group identity. In this talk we consider a group algebra FG as an algebra with involution and determine when $U(FG)$, satisfies a *-group identity. This is joint work with A. Giambruno and S.K. Sehgal [2], [3].

Referências

[1] B. Hartley and P.F. Pickel, Free subgroups in the unit groups of integral group rings, *Canad. J. Math.*, **32** (1980), 1342-1352.

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