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Generalized Lie nilpotence in integral group rings. (English) Zbl 1288.20003


Summary: We consider group algebras of finite groups. Our main result says that such an algebra $R$ can be made generalized Lie nilpotent, with respect to a bicharacter on a finite Abelian group $G$, which grades $R$, if and only if $R$ is commutative.

For the entire collection see [Zbl 1089.17001].

MSC:

20C05 Group rings of finite groups and their modules (group-theoretic aspects)
16S34 Group rings
16W10 Rings with involution; Lie, Jordan and other nonassociative structures
16W50 Graded rings and modules (associative rings and algebras)
16N40 Nil and nilpotent radicals, sets, ideals, associative rings

Keywords:

integral group rings; generalized Lie nilpotent algebras; group algebras of finite groups; graded rings