

A Note on Trivial Units in Abelian Group Rings

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Abstract - Let G be an abelian group and F a field of non-zero characteristic p . For a group ring FG of G over F , $V(FG)$ denotes the group of normalized units with p -component of torsion $V_p(FG)$. A necessary and sufficient condition for the validity of the formula $V(FG) = GV_p(FG)$ is obtained in terms of F and G . This supplies our recent result in (Miskolc Math. Notes, 2005). In particular, a criterion for the trivial units in $V(FG)$ is established as well. This generalizes a theorem of ours from (Math. Commun., 2005).

Key words and phrases : trivial units, decompositions, homomorphisms, binomial field extensions.

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