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The normalizer property for integral group rings of holomorphs of finite groups with trivial center. (English) [Zbl 07189508](#)

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Summary: Let $G = \text{Hol}(H)$ be the holomorph of a finite group H . If there is a prime q dividing $|H|$ such that every q -central automorphism of H is inner and $Z(H) = 1$, then every Coleman automorphism of G is inner. In particular, the normalizer property holds for G .

MSC:

20C05 Group rings of finite groups and their modules (group-theoretic aspects)

16S34 Group rings

20C10 Integral representations of finite groups

Keywords:

Coleman automorphisms; characteristically simple group; normalizer property

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References:

- [1] Coleman, D. B., On the modular group ring of a p -group, *Proc. Amer. Math. Soc.*, 5, 511-514 (1964) · [Zbl 0132.27501](#)
- [2] Dade, E. C., Sylow-centralizing sections of outer automorphism groups of finite groups are nilpotent, *Math. Z.*, 141, 57-76 (1975) · [Zbl 0282.20018](#)
- [3] Gross, F., Automorphisms which centralize a Sylow p -subgroup, *J. Algebra*, 77, 202-233 (1988) · [Zbl 0489.20019](#)
- [4] Hai, J. K.; Ge, S. B., On class-preserving Coleman automorphisms of semidirect products of finite nilpotent groups by finite groups, *Publ. Math. Debrecen*, 90, 1-2, 217-226 (2017) · [Zbl 1399.20038](#)
- [5] Hai, J. K.; Ge, S. B.; He, W. P., The normalizer property for integral group rings of holomorphs of finite nilpotent groups and the symmetric groups, *J. Algebra Appl.*, 16, 2, 1750025 (2017) · [Zbl 1388.20008](#)
- [6] Hai, J. K.; Li, Z. X., On class-preserving Coleman automorphisms of finite separable groups, *J. Algebra Appl.*, 13, 3, 1350110 (2014) · [Zbl 1302.20028](#)
- [7] Hertweck, M., A counterexample to the isomorphism problem for integral group rings, *Ann. Math.*, 154, 115-138 (2001) · [Zbl 0990.20002](#)
- [8] Hertweck, M., Local analysis of the normalizer problem, *J. Pure Appl. Algebra*, 163, 259-276 (2001) · [Zbl 0987.16015](#)
- [9] Hertweck, M., Class-preserving Coleman automorphisms of finite groups, *Monash. Math.*, 136, 1-7 (2002) · [Zbl 1004.20011](#)
- [10] Hertweck, M.; Jespers, E., Class-preserving automorphisms and the normalizer property for Blackburn groups, *J. Group Theory*, 12, 157-169 (2009) · [Zbl 1168.16017](#)
- [11] Hertweck, M.; Kimmerle, W., Coleman automorphisms of finite groups, *Math. Z.*, 242, 203-215 (2002) · [Zbl 1047.20020](#)
- [12] Jackowski, S.; Marciniak, Z. S., Group automorphisms inducing the identity map on cohomology, *J. Pure Appl. Algebra*, 44, 241-250 (1987) · [Zbl 0624.20024](#)
- [13] Juriaans, S. O.; Miranda, J. M.; Robério, J. R., Automorphisms of finite groups, *Coram. Algebra*, 32, 1705-1714 (2004) · [Zbl 1072.20030](#)
- [14] Li, Y. L., The normalizer property of a metabelian group in its integral group ring, *J. Algebra*, 256, 343-351 (2002) · [Zbl 1017.16023](#)
- [15] Mills, W. H., The automorphisms of the holomorph of a finite abelian group, *Trans. Amer. Math. Soc.*, 85, 1-34 (1957) · [Zbl 0079.03302](#)
- [16] Rose, J. S., *A Course on Group Theory* (1978), Cambridge: Cambridge University Press, Cambridge · [Zbl 0371.20001](#)
- [17] Sehgal, S. K., *Units in Integral Group Rings* (1993), Harlow: Longman Scientific and Technical Press, Harlow · [Zbl 0803.16022](#)

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