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**Invariant ideals of Abelian group algebras under the multiplicative action of a field. II.**

(English) [Zbl 0992.16022](#)

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This paper is the second part of a series [*D. S. Passman and A. E. Zalesskij*, *Proc. Am. Math. Soc.* 130, No. 4, 939-949 (2002); see the preceding review [Zbl 0992.16021](#)].

Let  $D$  be a division ring and let  $V$  be a finite-dimensional right  $D$ -vector space, viewed multiplicatively. If  $G = D^*$  is the multiplicative group of  $D$ , then  $G$  acts on  $V$  and hence on any group algebra  $K[V]$ . The main result, which the authors prove here, asserts that every  $G$ -stable semiprime ideal of  $K[V]$  can be written uniquely as a finite irredundant intersection of augmentation ideals  $\omega(A_i; V)$ , where each  $A_i$  is a  $D$ -subspace of  $V$ . As a consequence, the set of these  $G$ -stable semiprime ideals is Noetherian. Moreover, if  $V$  is a right  $D$ -vector space of arbitrary dimension, then every  $G$ -stable semiprime ideal of  $K[V]$  is an intersection of augmentation ideals  $\omega(A_i; V)$ , where again each  $A_i$  is a  $D$ -subspace of  $V$ .

Reviewer: [S.V.Mihovski \(Plovdiv\)](#)

**MSC:**

[16S34](#) Group rings

[16D25](#) Ideals in associative algebras

[20C07](#) Group rings of infinite groups and their modules (group-theoretic aspects)

Cited in **2** Reviews  
Cited in **5** Documents

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**References:**

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