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**An application of Burnside rings in elementary finite group theory.** (English) Zbl 0986.19500  
Sémin. Lothar. Comb. 25, B25d, 11 p. (1990).

Summary: A canonical map from the Burnside ring of a finite cyclic group  $C$  into the Burnside ring of any finite group  $G$  of the same order is exhibited, and it is shown that many results from elementary finite group theory, in particular those claiming certain congruence relations, are simple consequences of the existence of this map. In addition, it is shown that this map defines an isomorphism from the Burnside ring of  $C$  onto the subring of the Burnside ring of  $G$ , consisting of those virtual  $G$ -sets  $x$  which have the same number of invariants for every two subgroups  $U$  and  $V$  of  $G$  having the same order, if and only if  $G$  is nilpotent. Finally, a rather natural extension to profinite groups is indicated.

The paper was not in final form, its final form has been published in 1992 under the same title in: Adv. Math. 91, 27-44 (1992; [Zbl 0752.19001](#)).

**MSC:**

[19A22](#) Frobenius induction, Burnside and representation rings

[20D60](#) Arithmetic and combinatorial problems involving abstract finite groups

[20E18](#) Limits, profinite groups

**Keywords:**

[exterior power of  \$G\$ -set](#); [Burnside ring](#); [profinite groups](#)

**Full Text:** [EMIS](#) [EuDML](#)