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A generalization of Smith theory. (English) Zbl 0635.57020
Proc. Am. Math. Soc. 101, 728-730 (1987).

Let G be a finite p -group and let X be a finite dimensional G -CW-complex with finite dimensional mod p -cohomology. Let SX denote the subcomplex of singular points X and let $FX := X/SX$. The author found some inequalities which involve dimensions of the mod p -cohomology groups of X , SX and FX/G . His inequalities are sharper than those which can be obtained from the classical P. A. Smith theory. The proofs are based on an interpretation of the (ordinary) cohomology groups of X , SX and FX/G as Bredon equivariant cohomology groups of X with coefficients in suitable systems.

Reviewer: [S.Jackowski](#)

MSC:

57S17 Finite transformation groups

55M35 Finite groups of transformations in algebraic topology (including Smith theory)

55N25 Homology with local coefficients, equivariant cohomology

Cited in **1** Review
Cited in **4** Documents

Keywords:

[finite \$p\$ -group](#); [finite dimensional \$G\$ -CW-complex](#); [subcomplex of singular points](#); [Bredon equivariant cohomology groups](#)

Full Text: [DOI](#)

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- [2] E. E. Floyd, On periodic maps and the Euler characteristics of associated spaces, Trans. Amer. Math. Soc. 72 (1952), 138 – 147. · [Zbl 0046.16603](#)
- [3] Bertram Huppert and Norman Blackburn, Finite groups. II, Grundlehren der Mathematischen Wissenschaften [Fundamental Principles of Mathematical Sciences], vol. 242, Springer-Verlag, Berlin-New York, 1982. AMD, 44. Bertram Huppert and Norman Blackburn, Finite groups. III, Grundlehren der Mathematischen Wissenschaften [Fundamental Principles of Mathematical Sciences], vol. 243, Springer-Verlag, Berlin-New York, 1982.

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