962-55-351   **Michael A. Jackson** (`mjackson@math.purdue.edu`), Mathematics Department, Purdue University, West Lafayette, IN 47907, and. *Finding Effective Euler Classes of Finite Groups.* Preliminary report.

Let G be a finite group. The Euler class β of a G-CW complex $X \simeq \mathbb{S}^{N-1}$ is *effective* if the Krull dimension of $H^*(X \times_G EG, \mathbb{F}_p)$ is less than $rk(G)$ for each prime divisor p of $|G|$. In this talk we give a sufficient condition for the existence of an effective Euler class. If each p-Sylow subgroup P of G with $rk(P) = rk(G)$ has a representation such that the resctriction of the representation to each elementary abelian subgroup E with $rk(E) = rk(G)$ has no trivial summands and such that the character of the representation respects fusion in G, then G has an effective Euler class. As a corollary of this condition, if G is a rank two simple group (other than $PSL_3(\mathbb{F}_p)$ with p odd), then G has an effective Euler class. (These groups are discussed by Adem and Smith in their recent paper.) As a second corollary, if each p-Sylow subgroup P of G with $rk(P) = rk(G)$ is abelian, then G has an effective Euler class. (Received September 12, 2000)

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