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**Silvia E Onofrei\*** (onofrei@math.ksu.edu), Mathematics Department, Kansas State University, 137 Cardwell Hall, Manhattan, KS 66506-2602. *Fixed point sets and Lefschetz modules.*

The reduced Lefschetz modules associated to complexes of distinguished  $p$ -subgroups (those  $p$ -subgroups which contain  $p$ -central elements in their centers) are investigated. A special class of groups, those of parabolic characteristic  $p$ , is analyzed in detail. We determine the nature of the fixed point sets for groups of order  $p$ . The  $p$ -central elements have contractible fixed point sets. Under certain hypotheses, the non-central  $p$ -elements have fixed points which are equivariantly homotopy equivalent to the corresponding complex for a quotient of the centralizer. For the reduced Lefschetz module, the vertices of the indecomposable summands and the distribution of these summands into the  $p$ -blocks of the group ring are related to the fixed point sets. (Received September 10, 2007)