1043-20-118 **John S. Maginnis*** (maginnis@math.ksu.edu), Department of Mathematics, Cardwell Hall, Kansas State University, Manhattan, KS 66506, and **Silvia E. Onofrei**, Department of Mathematics, The Ohio State University, Columbus, OH. *Fixed Point Sets and Lefschetz Modules for Subgroup Complexes.*

The best known reduced Lefschetz module is the Steinberg module for a finite Chevalley group acting on its Tits building, an irreducible and projective module. The reduced Lefschetz module for a finite group G acting on its Brown complex (simplices are given by chains of p-subgroups) is always projective. We study another subgroup complex, using p-subgroups which contain in their centers an element lying in the center of a Sylow p-subgroup of G. We have theorems concerning fixed point sets of elements of order p acting on these simplicial complexes, and we apply results of Robinson and others to determine information about indecomposable summands of the reduced Lefschetz module (vertices and defect groups of their blocks). We have many specific computations for sporadic simple groups, some of them determined using the GAP package. (Received August 22, 2008)