

1084-20-122

John Maginnis and **Silvia Onofrei*** (onofrei@math.ohio-state.edu), Department of Mathematics, The Ohio State University, 100 Math Tower, 231 W 18th Ave., Columbus, OH 43210. *The complex of p -centric and p -radical subgroups and its reduced Lefschetz module.*

We study the reduced Lefschetz module of the complex of p -centric and p -radical subgroups. We assume that the underlying group G has parabolic characteristic p and the centralizer of a certain noncentral p -element has a component with central quotient H , a finite group of Lie type in characteristic p . A nonprojective indecomposable summand of the associated Lefschetz module lies in a nonprincipal block of kG and it is a Green correspondent of an inflated, extended Steinberg module for a Lie subgroup of H . The vertex of this summand is the defect group of the block in which it lies. The application of these results to sporadic finite simple groups yields nine groups when $p=2$ and eight groups when $p=3$ for which the reduced Lefschetz module has precisely one nonprojective summand. (Received August 27, 2012)