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**Adam D Salminen\*** (as341@evansville.edu). *On the Sources of Simple Modules in Certain Blocks.*

Let  $p$  be a prime and  $k$  be an algebraically closed field of characteristic  $p$ . If  $b$  is a nilpotent block of  $kG$  with  $P$  as a defect group, then Puig showed that the source algebras of  $b$  have the form  $End_k(L) \otimes_k kP$ . Where  $L$  is an indecomposable endo-permutation module of vertex  $P$ . It is conjectured that the only  $L$  that can arise in this way are those whose image in the Dade group are torsion.

Let  $b$  be a defect zero block of  $kG$  and suppose that  $P$  is a  $p$ -subgroup of  $Aut(G)$ . If  $b$  is  $P$ -stable and  $Br_P(b) \neq 0$ , then  $b$  can be viewed as a block of  $k(G \rtimes P)$  and as such  $b$  will have  $P$  as a defect group and will be nilpotent. Now let  $P = C_p \times C_p$ . For blocks  $b$  as above we can reduce the above conjecture to the classification of finite simple groups and if  $p$  is odd we can reduce down to a small subset of simple groups. (Received July 31, 2006)