Endo-trivial modules for finite groups of Lie type.

Endo-trivial modules were first defined by E. Dade for finite $p$-groups. He noted that they can be considered as the “bricks” of the endo-permutation modules, which are sources of simple modules for many finite groups. Moreover, modulo an equivalence relation, the endo-trivial modules form a finitely generated abelian group. Recently, J. Carlson and J. Thévenaz have given a complete classification of these modules. In this joint work, we generalize the notion of endo-trivial module to arbitrary finite groups. Then we attempt to classify them (up to equivalence) in the particular case of finite groups of Lie type. (Received September 24, 2004)