Characters, Modules and Vertices

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Vertices of indecomposable modules, as defined by J. A. Green, play a major role in the representation theory of finite groups. Vertices of irreducible characters for p-solvable finite groups were defined by G. Navarro and, in somewhat greater generality, by C. Eaton. In my talk, I will report on recent joint work with R. Kessar and M. Linckelmann on p-subgroups of a finite group G which can be attached to irreducible characters of G and which are related to Green's and Navarro's vertices. The investigation of these p-subgroups leads to questions concerning the group ring RG (where R is a suitable complete discrete valuation ring) and related R-orders.