

Title: Vertices of simple modules for symmetric groups

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Abstract: Let F be an algebraically closed field of characteristic $p > 0$, and let G be a finite group. Then every indecomposable FG -module M determines a conjugacy class of p -subgroups of G called the vertices of M . These vertices measure the relative projectivity of M ; in particular, M is projective if and only if the trivial subgroup of G is a vertex of M . On the other hand, the vertices of the trivial FG -module F are the Sylow p -subgroups of G . In my talk, which is a report on the work of my former students S. Danz, B. Fotsing and R. Zimmermann, I will indicate what is known about vertices in the case where G is a finite symmetric group and M is simple, and I will state a number of open questions.