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Section:

2. Algebra

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Group algebras and nilpotency indices of their radicals

The (Jacobson) radical $J(k[G])$ of the group algebra $k[G]$ of a finite group G over a field k is a nilpotent ideal. The nilpotency index, say $t(G)$, of $J(k[G])$ is the least positive integer t such that $J(k[G'])^t = 0$. For finite p-solvable groups G, will be presented. Further, an example of a finite p-solvable group G with $t(G) > t(P)$, where P is a Sylow p-subgroup of G, will be presented. The existence of such p-solvable groups is probably unknown.