

Year: 2015

Vol.: 87

Fasc.: 1-2

Title: Group algebras with almost minimal Lie nilpotency index

Author(s): Meena Sahai

Let K be a field of characteristic $p > 0$ and let G be an arbitrary non-abelian group. It is well known that if KG is Lie nilpotent, then its upper as well as lower Lie nilpotency index is at least $p + 1$. Shalev investigated Lie nilpotent group algebras whose Lie nilpotency indices are next lower, namely $2p$ and $3p - 1$ for $p \geq 5$ and obtained certain interesting results. The aim of this paper is to classify group algebras KG which are Lie nilpotent having Lie nilpotency indices $2p$, $3p - 1$ and $4p - 2$. Our proofs are independent of Shalev and are valid for $p = 2$ and 3 as well.

Address:

Meena Sahai

Department of Mathematics
and Astronomy
Lucknow University
Lucknow, 226007
India