

# Lie nilpotency index in group algebras

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Let  $FG$  be a group algebra of a group  $G$  over a field  $F$ . Then  $FG$  will be a Lie algebra with the usual Lie operation defined by  $[x, y] = xy - yx$  for all  $x, y \in FG$ . Let  $*$  be the canonical involution on  $FG$ . Denote by  $(FG)^+$  the set of symmetric elements and by  $U((FG)^+)$  the set of symmetric units of the group algebra  $FG$ , respect to the involution  $*$ .

We would like to talk about the lower and upper bounds on the Lie nilpotency index of  $FG$ ,  $(FG)^+$  and the nilpotency class of  $U(FG)$  and  $U((FG)^+)$ .