

On the c -nilpotent multiplier of a pair of Lie algebras

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Abstract. Let $1 \rightarrow R \rightarrow F \rightarrow L \rightarrow 1$ be a free presentation of a Lie algebra L , and N be an ideal in L . In [14], the first two authors of the present paper defined and studied the notion of the c -nilpotent multiplier of a pair (N, L) of Lie algebras as $\mathcal{M}^{(c)}(N, L) = (R \cap [S, {}_c F]) / [R, {}_c F]$, where S is an ideal in F such that $S/R \cong N$. In this paper, we give some results on c -covers of a pair of Lie algebras as well as several inequalities for the dimension of the c -nilpotent multiplier of a pair of nilpotent Lie algebras.

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