

ABOUT A FAMILY OF NATURALLY GRADED NO p -FILIFORM LIE ALGEBRAS

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ABSTRACT. The knowledge of the naturally graded algebras of a given class of Lie algebras offers essential information about the structure of the class.

So far, the classification of naturally graded Lie algebras is only known for some families of p -filiform Lie algebras. In certain sense, if \mathfrak{g} is a naturally graded Lie algebra of dimension n , the first case of no p -filiform Lie algebras it happens when the characteristic sequence is $(n - 3, 2, 1)$. We present the classification of a particular family of these algebras with finite arbitrary dimension, when the dimension of the derived ideal is minimum. The use of the package *Mathematica 4* has been essential in order to obtain the results.

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