

## On the nilpotency and decomposition of Lie-type algebras

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### Abstract

In the paper, an analog of the Engel theorem for graded algebras admitting a Lie-type module is proved. Moreover, it is shown that every semisimple algebra of associative type with ordered grading and one-dimensional grading subspaces is the direct sum of two-sided ideals that are simple algebras. © 2007 Pleiades Publishing, Ltd.

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### Keywords

Algebra of associative type, Engel theorem, Graded algebra, Lie-type module, Radical, Semisimple algebra, Totally ordered group