

SOLVABLE 3-LIE ALGEBRAS WITH A MAXIMAL HYPO-NILPOTENT IDEAL N^*

RUI-PU BAI[†], CAI-HONG SHEN[†], AND YAO-ZHONG ZHANG[‡]

Abstract. This paper obtains all solvable 3-Lie algebras with the m -dimensional filiform 3-Lie algebra N ($m \geq 5$) as a maximal hypo-nilpotent ideal, and proves that the m -dimensional filiform 3-Lie algebra N can't be as the nilradical of solvable non-nilpotent 3-Lie algebras. By means of one dimensional extension of Lie algebras to the 3-Lie algebras, we get some classes of solvable Lie algebras directly.

Key words. 3-Lie algebra, hypo-nilpotent ideal, filiform n-Lie algebra.

AMS subject classifications. 17B05, 17D99.

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[†]College of Mathematics and Computer Science, Key Lab in Machine Learning and Computational Intelligence, Hebei University, Baoding (071002), China (bairp1@yahoo.com.cn, sch0925@163.com). Partially supported by NSF(10871192) of China, NSF(A2007000138) of Hebei Province, China.

[‡]School of Mathematics and Physics, The University of Queensland, Brisbane, QLD 4072, Australia (yzz@maths.uq.edu.au). Supported by the Australian Research Council.