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Naturally Graded p -Filiform Lie Algebras in Arbitrary Finite Dimension

The present paper offers the classification of naturally graded p -filiform Lie algebras in arbitrary finite dimension n . For sufficiently high n , ($n \geq \max\{3p-1, p+8\}$), and for all admissible value of p the results are a generalization of Vergne's in case of filiform Lie algebras [Vergne, M., Cohomologie des algèbres de Lie nilpotentes. Application à l'étude de la variété des algèbres de Lie nilpotentes, Bull. Soc. Math. France 98 (1970) 81–116].

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