# Algebras - Non-Associative Nonassociative Algebras: General <br> 17Axx 

[1] Vyacheslav A. Artamonov, Alexander A. Mikhalev, and Alexander V. Mikhalev, Combinatorial properties of free algebras of Schreier varieties, Polynomial identities and combinatorial methods (Pantelleria, 2001), Lecture Notes in Pure and Appl. Math., vol. 235, Dekker, New York, 2003, pp. 47-99. MR MR2021795 (2004j:17001)
[2] Antonio Behn, Alberto Elduque, and Alicia Labra, A class of locally nilpotent commutative algebras, 2009.
[3] Christopher P. Bendel, Daniel K. Nakano, and Cornelius Pillen, Second cohomology groups for Frobenius kernels and related structures, Adv. Math. 209 (2007), no. 1, 162-197. MR MR2294220 (2008c:20085)
[4] Kelly McKinnie, Indecomposable p-algebras and Galois subfields in generic abelian crossed products, J. Algebra 320 (2008), no. 5, 1887-1907. MR MR2437635
[5] L. J. Rylands and D. E. Taylor, Constructions for octonion and exceptional Jordan algebras, Des. Codes Cryptogr. 21 (2000), no. 1-3, 191-203. MR MR1801200 (2001m:17022)
[6] Donald E. Taylor, Constructing the split octonions, Discovering Mathematics with Magma, Algorithms Comput. Math., vol. 19, Springer, Berlin, 2006, pp. 161-185. MR MR2278927
[7] Mikael Vejdemo-Johansson, Blackbox computation of $A_{\infty}$-algebras, Georgian Journal of Mathematics To appear (2010).

# Lie Algebras 

17Bxx except 17B37

[1] Y. Barnea and D. S. Passman, Filtrations in semisimple Lie algebras. II, Trans. Amer. Math. Soc. 360 (2008), no. 2, 801-817 (electronic). MR MR2346472 (2008m:17016)
[2] Laurent Bartholdi, Benjamin Enriquez, Pavel Etingof, and Eric Rains, Groups and Lie algebras corresponding to the Yang-Baxter equations, J. Algebra 305 (2006), no. 2, 742-764. MR MR2266850
[3] Dietrich Burde, Bettina Eick, and Willem de Graaf, Computing faithful representations for nilpotent Lie algebras, J. Algebra 322 (2009), no. 3, 602-612. MR MR2531213
[4] A. Caranti, S. Mattarei, and M. F. Newman, Graded Lie algebras of maximal class, Trans. Amer. Math. Soc. 349 (1997), no. 10, 4021-4051. MR MR1443190 (98a:17027)
[5] A. Caranti and M. F. Newman, Graded Lie algebras of maximal class. II, J. Algebra 229 (2000), no. 2, 750-784. MR MR1769297 (2001g:17041)
[6] Serena Cicalò and Willem A. de Graaf, Non-associative Gröbner bases, finitelypresented Lie rings and the Engel condition: II, J. Symbolic Comput. 44 (2009), no. 7, 786-800.
[7] Arjeh M. Cohen and Dan Roozemond, Computing Chevalley bases in small characteristics, J. Algebra 322 (2009), no. 3, 703-721. MR MR2531218 (2010d:17025)
[8] Jennifer R. Daniel and Aloysius G. Helminck, Algorithms for computations in local symmetric spaces, Comm. Algebra 36 (2008), no. 5, 1758-1788. MR MR2424265
[9] W. A. de Graaf, Using Cartan subalgebras to calculate nilradicals and Levi subalgebras of Lie algebras, J. Pure Appl. Algebra 139 (1999), no. 1-3, 25-39, Effective methods in algebraic geometry (Saint-Malo, 1998). MR MR1700536 (2000j:17001)
[10] Willem A. de Graaf, Classification of solvable Lie algebras, Experiment. Math. 14 (2005), no. 1, 15-25. MR MR2146516 (2006b:17019)
[11] , Classification of 6-dimensional nilpotent Lie algebras over fields of characteristic not 2, J. Algebra 309 (2007), no. 2, 640-653. MR MR2303198 (2007k:17012)
[12] Claus Fieker and Willem A. de Graaf, Finding integral linear dependencies of algebraic numbers and algebraic Lie algebras, LMS J. Comput. Math. 10 (2007), 271-287 (electronic). MR MR2320832 (2008f:11119)
[13] Conrad Kobel, On the classification of solvable Lie algebras of finite dimension containing an abelian ideal of codimension one, Master's thesis, Halmstad University, 2008, p. 48.
[14] L. G. Kovács and Ralph Stöhr, Lie powers of the natural module for GL(2), J. Algebra 229 (2000), no. 2, 435-462. MR MR1769283 (2001h:20070)
[15] G.I. Lehrer and R.B. Zhang, A Temperley-Lieb analogue for the BMW algebra, 2008.
[16] Sandro Mattarei and Marina Avitabile, Diamonds of finite type in thin Lie algebras, J. Lie Theory 19 (2009), no. 1, 431-439.
[17] M. F. Newman and Michael Vaughan-Lee, Engel-4 groups of exponent 5. II. Orders, Proc. London Math. Soc. (3) 79 (1999), no. 2, 283-317. MR MR1702244 (2000e:20065)
[18] University of Georgia VIGRE Algebra Group, On Kostant's theorem for Lie algebra cohomology, Lin, Zongzhu (ed.) et al., Representation Theory. Fourth International Conference on Representation Theory, Lhasa, China, July 16-20, 2007., Contemporary Mathematics, vol. 478, American Mathematical Society (AMS), Providence, RI, 2009, pp. 39-60. MR )
[19] Roman O. Popovych, Vyacheslav M. Boyko, Maryna O. Nesterenko, and Maxim W. Lutfullin, Realizations of real low-dimensional Lie algebras, J. Phys. A 36 (2003), 7337-7360.
[20] S. M. Salamon, Complex structures on nilpotent Lie algebras, J. Pure Appl. Algebra 157 (2001), no. 2-3, 311-333. MR MR1812058 (2002g:53089)
[21] H. Strade, Lie algebras of small dimension, Lie algebras, vertex operator algebras and their applications, Contemp. Math., vol. 442, Amer. Math. Soc., Providence, RI, 2007, pp. 233-265. MR MR2372566 (2009a:17027)
[22] Michael Vaughan-Lee, Simple Lie algebras of low dimension over GF(2), LMS J. Comput. Math. 9 (2006), 174-192 (electronic). MR MR2237261
[23] Geordie Williamson, Intersection cohomology complexes on low rank flag varieties, 2007.
[24] Eliana Zoque, A counterexample to the existence of a Poisson structure on a twisted group algebra, 2006.

## Quantum Groups

17B37
[1] Laurent Bartholdi, Benjamin Enriquez, Pavel Etingof, and Eric Rains, Groups and Lie algebras corresponding to the Yang-Baxter equations, J. Algebra 305 (2006), no. 2, 742-764. MR MR2266850
[2] C. P. Bendel, D. K. Nakano, B. J. Parshall, and C. Pillen, Cohomology for quantum groups via the geometry of the Nullcone, 2007, pp. 1-58.
[3] Pavel Etingof and Victor Ginzburg, Noncommutative complete intersections and matrix integrals, Pure Appl. Math. Q. 3 (2007), no. 1, part 3, 107-151. MR MR2330156 (2008b:16044)
[4] Julia Galstad and Gerald Hoehn, $A$ new class of codes over $Z_{2} \times Z_{2}, 2010$.
[5] Jan E. Grabowski, Examples of quantum cluster algebras associated to partial flag varieties, J. Pure Appl. Algebra To appear (2010).
[6] Jan E. Grabowski and Stéphane Launois, Quantum cluster algebra structures on quantum Grassmannians and their quantum Schubert cells: The finite-type cases, Int.Math.Res. Not To appear (2010).

## Computational Methods

17-04

[1] Serena Cicalò and Willem A. de Graaf, Non-associative Gröbner bases, finitelypresented Lie rings and the Engel condition: II, J. Symbolic Comput. 44 (2009), no. 7, 786-800.
[2] W. A. de Graaf, Using Cartan subalgebras to calculate nilradicals and Levi subalgebras of Lie algebras, J. Pure Appl. Algebra 139 (1999), no. 1-3, 25-39, Effective methods in algebraic geometry (Saint-Malo, 1998). MR MR1700536 (2000j:17001)
[3] Willem A. de Graaf, Deciding isomorphism of Lie algebras, Proceedings of the Sixth Rhine Workshop on Computer Algebra, Sankt Augustin, March 31 - April 3, 1998, 1998, p. 9.
[4] _ Lie Algebras: Theory and Algorithms, North-Holland Mathematical Library, vol. 56, North-Holland Publishing Co., Amsterdam, 2000. MR MR1743970 (2001j:17011)
[5] Lothar Gerritzen, Tree polynomials and non-associative Gröbner bases, J. Symbolic Comput. 41 (2006), no. 3-4, 297-316. MR MR2202553 (2006k:17005)
[6] Roberto La Scala and Viktor Levandovskyy, Letterplace ideals and non-commutative Gröbner bases, J. Symbolic Comp. 44 (2009), no. 10, 1374-1393.

