

Invariant Theory

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- [1] Thomas Bayer, *An algorithm for computing invariants of linear actions of algebraic groups up to a given degree*, J. Symbolic Comput. **35** (2003), no. 4, 441–449. MR MR1976577 (2004c:13045)
- [2] Dave Benson, *Dickson invariants, regularity and computation in group cohomology*, Illinois J. Math. **48** (2004), no. 1, 171–197. MR MR2048221 (2005c:20089)
- [3] Mireille Boutin and Gregor Kemper, *On reconstructing n -point configurations from the distribution of distances or areas*, Adv. in Appl. Math. **32** (2004), no. 4, 709–735. MR MR2053842 (2005c:68259)
- [4] ———, *On reconstructing configurations of points in P^2 from a joint distribution of invariants*, Appl. Algebra Engrg. Comm. Comput. **15** (2005), no. 6, 361–391. MR MR2134687 (2006a:13011)
- [5] Abraham Broer, *On Chevalley-Shephard-Todd's theorem in positive characteristic*, Symmetry and Spaces (H. E. A. Campbell, Aloysius G. Helminck, Hanspeter Kraft, and David Wehlau, eds.), Progress in Mathematics, Birkhäuser Boston, 2010, pp. 21–34.
- [6] H. E. A. Campbell, B. Fodden, and David L. Wehlau, *Invariants of the diagonal C_p -action on V_3* , J. Algebra **303** (2006), no. 2, 501–513. MR MR2255119 (2007f:13009)
- [7] H. E. A. Campbell, I. P. Hughes, G. Kemper, R. J. Shank, and D. L. Wehlau, *Depth of modular invariant rings*, Transform. Groups **5** (2000), no. 1, 21–34. MR MR1745709 (2001a:13004)
- [8] H. E. A. Campbell, R. J. Shank, and D. L. Wehlau, *Vector invariants for the two dimensional modular representation of a cyclic group of prime order*, Advances in Mathematics **225** (2010), no. 2, 1069–1094.
- [9] Chris Charnes, Martin Rötteler, and Thomas Beth, *On homogeneous bent functions*, Applied Algebra, Algebraic Algorithms and Error-correcting Codes (Melbourne, 2001), Lecture Notes in Comput. Sci., vol. 2227, Springer, Berlin, 2001, pp. 249–259. MR MR1913471 (2003e:94065)

- [10] ———, *Homogeneous bent functions, invariants, and designs*, Des. Codes Cryptogr. **26** (2002), no. 1-3, 139–154. MR MR1919874 (2003h:05043)
- [11] Wolfram Decker and Theo de Jong, *Gröbner bases and invariant theory*, Gröbner bases and applications (Linz, 1998), London Math. Soc. Lecture Note Ser., vol. 251, Cambridge Univ. Press, Cambridge, 1998, pp. 61–89. MR MR1699814 (2000m:13007)
- [12] Harm Derksen, *Computation of invariants for reductive groups*, Adv. Math. **141** (1999), no. 2, 366–384. MR MR1671758 (2000a:13013)
- [13] Harm Derksen and Gregor Kemper, *Computational Invariant Theory*, Invariant Theory and Algebraic Transformation Groups, I, Springer-Verlag, Berlin, 2002, , Encyclopaedia of Mathematical Sciences, 130. MR MR1918599 (2003g:13004)
- [14] Emilie Dufresne, Jonathan Elmer, and Martin Kohls, *The Cohen-Macaulay property of separating invariants of finite groups*, Transform. Groups **14** (2009), no. 4, 771–785. MR MR2577197
- [15] Alexander Duncan, Michael LeBlanc, and David L. Wehlau, *A SAGBI basis for $F[V2 \oplus V2 \oplus V3]^{C_p}$* , Canad. Math. Bull. **52** (2009), no. 1, 72–83. MR MR2494313
- [16] Jonathan Elmer, *Depth and detection in modular invariant theory*, J. Algebra **322** (2009), no. 5, 1653–1666. MR MR2543628
- [17] Jonathan Elmer and Peter Fleischmann, *On the depth of modular invariant rings for the groups $C_p \times C_p$* , Symmetry and Spaces, Progr. Math., vol. 278, Birkhäuser Boston Inc., Boston, MA, 2010, pp. 45–61. MR MR2562623
- [18] Tom Fisher, *The Hessian of a genus one curve*, 2006.
- [19] P. Fleischmann, M. Sezer, R. J. Shank, and C. F. Woodcock, *The Noether numbers for cyclic groups of prime order*, Adv. Math. **207** (2006), no. 1, 149–155. MR MR2264069 (2007e:13010)
- [20] Karin Gatermann and Frédéric Guyard, *Gröbner bases, invariant theory and equivariant dynamics*, J. Symbolic Comput. **28** (1999), no. 1-2, 275–302, Polynomial elimination—algorithms and applications. MR MR1709907 (2000f:13006)
- [21] Karin Gatermann and Pablo A. Parrilo, *Symmetry groups, semidefinite programs, and sums of squares*, J. Pure Appl. Algebra **192** (2004), no. 1-3, 95–128. MR MR2067190 (2005d:68155)

- [22] Ian Hughes and Gregor Kemper, *Symmetric powers of modular representations, Hilbert series and degree bounds*, Comm. Algebra **28** (2000), no. 4, 2059–2088. MR MR1747371 (2001b:13009)
- [23] ———, *Symmetric powers of modular representations for groups with a Sylow subgroup of prime order*, J. Algebra **241** (2001), no. 2, 759–788. MR MR1843324 (2002e:13012)
- [24] D. B. Karagueuzian and P. Symonds, *The module structure of a group action on a polynomial ring: Examples, generalizations, and applications*, Invariant Theory in all Characteristics, CRM Proc. Lecture Notes, vol. 35, Amer. Math. Soc., Providence, RI, 2004, pp. 139–158. MR MR2066462 (2005g:13011)
- [25] Gregor Kemper, *Calculating invariants of modular reflection groups with Magma*, 1997.
- [26] ———, *Computational invariant theory*, The Curves Seminar at Queen’s. Vol. XII (Kingston, ON, 1998), Queen’s Papers in Pure and Appl. Math., vol. 114, Queen’s Univ., Kingston, ON, 1998, pp. 5–26. MR MR1690811 (2000c:13007)
- [27] ———, *The depth of invariant rings and cohomology*, J. Algebra **245** (2001), no. 2, 463–531, With an appendix by Kay Magaard. MR MR1863889 (2002h:13009)
- [28] ———, *Computing invariants of reductive groups in positive characteristic*, Transform. Groups **8** (2003), no. 2, 159–176. MR MR1976458 (2004b:13006)
- [29] ———, *The computation of invariant fields and a constructive version of a theorem by Rosenlicht*, Transform. Groups **12** (2007), no. 4, 657–670. MR MR2365439 (2008m:13011)
- [30] Gregor Kemper, Elmar Körding, Gunter Malle, B. Heinrich Matzat, Denis Vogel, and Gabor Wiese, *A database of invariant rings*, Experiment. Math. **10** (2001), no. 4, 537–542. MR MR1881754 (2002k:13011)
- [31] Gregor Kemper and Gunter Malle, *Invariant fields of finite irreducible reflection groups*, Math. Ann. **315** (1999), no. 4, 569–586. MR MR1731462 (2001c:13006)
- [32] Gregor Kemper and Allan Steel, *Some algorithms in invariant theory of finite groups*, Computational Methods for Representations of Groups and Algebras (Essen, 1997), Progr. Math., vol. 173, Birkhäuser, Basel, 1999, pp. 267–285. MR MR1714617 (2000j:13009)

- [33] Simon King, *Fast computation of secondary invariants*, 2007.
- [34] ———, *Minimal generating sets of non-modular invariant rings of finite groups*, 2007.
- [35] Martin Kohls, *Invarianten zusammenhaengender gruppen und die Cohen-Macaulay eigenschaft*, Diplomarbeit, Technische Universitaet Muechen, 2005.
- [36] ———, *Über die tiefen von invariantenringen unendlicher gruppen*, PhD Thesis, Technische Universitaet Muechen, 2007.
- [37] Martin Kohls, *On the depth of invariant rings of infinite groups*, J. Algebra **322** (2009), no. 1, 210–218. MR MR2526384
- [38] P. H. Kropholler, S. Mohseni Rajaei, and J. Segal, *Invariant rings of orthogonal groups over \mathbf{F}_2* , Glasg. Math. J. **47** (2005), no. 1, 7–54. MR MR2200953 (2006i:13009)
- [39] Martin Lorenz, *Multiplicative Invariant Theory*, Encyclopaedia of Mathematical Sciences, vol. 135, Springer-Verlag, Berlin, 2005, Invariant Theory and Algebraic Transformation Groups, VI. MR MR2131760 (2005m:13012)
- [40] A. Marschner and J. Müller, *On a certain algebra of higher modular forms*, Algebra Colloq. **16** (2009), 371–380.
- [41] Jürgen Müller and Christophe Ritzenthaler, *On the ring of invariants of ordinary quartic curves in characteristic 2*, J. Algebra **303** (2006), no. 2, 530–542. MR MR2255121
- [42] Gabriele Nebe, Eric M. Rains, and Neil J. A. Sloane, *Self-dual Codes and Invariant Theory*, Algorithms and Computation in Mathematics, vol. 17, Springer-Verlag, Berlin, 2006. MR MR2209183
- [43] Mara D. Neusel and Müfit Sezer, *The invariants of modular indecomposable representations of Z_{p^2}* , Math. Ann. **341** (2008), no. 3, 575–587. MR MR2399159 (2009b:13007)
- [44] W. Plesken and D. Robertz, *Constructing invariants for finite groups*, Experiment. Math. **14** (2005), no. 2, 175–188. MR MR2169521
- [45] Marc Stetson Renault, *Computing Generators for Rings of Multiplicative Invariants*, PhD Thesis, Temple University, 2002.
- [46] Müfit Sezer and R. James Shank, *On the coinvariants of modular representations of cyclic groups of prime order*, J. Pure Appl. Algebra **205** (2006), no. 1, 210–225. MR MR2193198

- [47] R. J. Shank, *Classical covariants and modular invariants*, Invariant Theory in all Characteristics, CRM Proc. Lecture Notes, vol. 35, Amer. Math. Soc., Providence, RI, 2004, pp. 241–249. MR MR2066471 (2005d:13012)
- [48] R. James Shank and David L. Wehlau, *On the depth of the invariants of the symmetric power representations of $\mathrm{SL}_2(\mathbf{F}_p)$* , J. Algebra **218** (1999), no. 2, 642–653. MR MR1705766 (2000f:13010)
- [49] ———, *Computing modular invariants of p -groups*, J. Symbolic Comput. **34** (2002), no. 5, 307–327. MR MR1937464 (2003j:13006)
- [50] ———, *Noether numbers for subrepresentations of cyclic groups of prime order*, Bull. London Math. Soc. **34** (2002), no. 4, 438–450. MR MR1897423 (2003a:13005)
- [51] ———, *Decomposing symmetric powers of certain modular representations of cyclic groups*, Progress in Mathematics **278** (2010), 169–196.
- [52] Nicolas M. Thiéry, *Algebraic invariants of graphs; A study based on computer exploration*, SIGSAM Bulletin **34** (2000), no. 3, 9–20.