Arithmetic Algebraic Geometry

11Gxx

[1] Amod Agashe, Kenneth Ribet, and William A. Stein, *The Manin constant*, Pure Appl. Math. Q. **2** (2006), no. 2, 617–636. MR MR2251484 (2007c:11076)

[2] Amod Agashe and William Stein, *Visibility of Shafarevich-Tate groups of abelian varieties*, J. Number Theory **97** (2002), no. 1, 171–185. MR MR1939144 (2003h:11070)

[3] ———, *Visible evidence for the Birch and Swinnerton-Dyer conjecture for modular abelian varieties of analytic rank zero*, Math. Comp. **74** (2005), no. 249, 455–484 (electronic), With an appendix by J. Cremona and B. Mazur. MR MR2085902 (2005g:11119)

[4] Scott Ahlgren and Matthew Papanikolas, *Higher Weierstrass points on $X_0(p)$*, Trans. Amer. Math. Soc. **355** (2003), no. 4, 1521–1535 (electronic). MR MR1946403 (2003j:11065)

[5] Avner Ash, Darrin Doud, and David Pollack, *Galois representations with conjectural connections to arithmetic cohomology*, Duke Math. J. **112** (2002), no. 3, 521–579. MR MR1896473 (2003g:11055)

[6] Matthew H. Baker, Enrique González-Jiménez, Josep González, and Bjorn Poonen, *Finiteness results for modular curves of genus at least 2*, Amer. J. Math. **127** (2005), no. 6, 1325–1387. MR MR2183527

[7] Arthur Baragar and Ronald van Luijk, *$K3$ surfaces with Picard number three and canonical vector heights*, Math. Comp. **76** (2007), no. 259, 1493–1498 (electronic). MR MR2299785

[8] Mark Bauer, Edlyn Teske, and Annegret Weng, *Point counting on Picard curves in large characteristic*, Math. Comp. **74** (2005), no. 252, 1983–2005 (electronic). MR MR2164107

[9] Tobias Berger and Krzysztof Klosin, *A deformation problem for Galois representations over imaginary quadratic fields*, J. Inst. Math. Jussieu **8** (2009), no. 4, 669–692. MR MR2540877

[10] Amnon Besser and Rob De Jeu, li(p)*-service? an algorithm for computing p-adic polyalgorithms*, Math. Comp. **77** (2008), no. 262, 1105–1134. MR MR2373194

[11] Peter Birkner, *Efficient arithmetic on low-genus curves*, Ph D thesis, Technische Universiteit Eindhoven, 2009.

[12] Nigel Boston and Rafe Jones, *Arboreal Galois representations*, Geom. Dedicata **124** (2007), 27–35. MR MR2318536

[13] Irene I. Bouw and Brian Osserman, *Some* 4*-point Hurwitz numbers in positive characteristic*, 2009.

[14] M. J. Bright, N. Bruin, E. V. Flynn, and A. Logan, *The Brauer-Manin obstruction and Sh[2]*, LMS J. Comput. Math. **10** (2007), 354–377 (electronic). MR MR2342713

[15] David Brown, *The Chabauty-Coleman bound at a prime of bad reduction*, 2008.

[16] ———, *Primitive integral solutions to* $x^2 + y^3 = z^{10}$, 2009.

[17] Ezra Brown and Bruce T. Myers, *Elliptic curves from Mordell to Diophantus and back*, Amer. Math. Monthly **109** (2002), no. 7, 639–649. MR MR1917222 (2003d:11080)

[18] N. Bruin and E. V. Flynn, *n-covers of hyperelliptic curves*, Math. Proc. Cambridge Philos. Soc. **134** (2003), no. 3, 397–405. MR MR1981207 (2004b:11089)

[19] Nils Bruin, *Visualising Sha*[2] *in abelian surfaces*, Math. Comp. **73** (2004), no. 247, 1459–1476 (electronic). MR MR2047096 (2005c:11067)

[20] ———, *The arithmetic of Prym varieties in genus 3*, Compos. Math. **144** (2008), no. 2, 317–338. MR MR2406115

[21] Nils Bruin and Kevin Doerksen, *The arithmetic of genus two curves with (4,4)-split Jacobians*, arXiv:0902.3480v2 (2010).

[22] Nils Bruin and Noam D. Elkies, *Trinomials* $ax^7 + bx + c$ *and* $ax^8 + bx + c$ *with Galois groups of order 168 and* $8 \cdot 168$, Algorithmic Number Theory (Sydney, 2002), Lecture Notes in Comput. Sci., vol. 2369, Springer, Berlin, 2002, pp. 172–188. MR MR2041082 (2005d:11094)

[23] Nils Bruin and E. Victor Flynn, *Towers of 2-covers of hyperelliptic curves*, Trans. Amer. Math. Soc. **357** (2005), no. 11, 4329–4347 (electronic). MR MR2156713 (2006k:11118)

[24] Nils Bruin and Michael Stoll, *Deciding existence of rational points on curves: an experiment*, Experiment. Math. **17** (2008), no. 2, 181–189. MR MR2433884

[25] Nils Bruin and Michael Stoll, *Two-cover descent on hyperelliptic curves*, 2008.

[26] ———, *The Mordell-Weil sieve: Proving non-existence of rational points on curves*, LMS J. Comput. Math **13** (2010), 272–306.

[27] Armand Brumer and Kenneth Kramer, *Paramodular abelian varieties of odd conductor*, 2010.

[28] Yann Bugeaud, Maurice Mignotte, Samir Siksek, Michael Stoll, and Szabolcs Tengely, *Integral points on hyperelliptic curves*, Algebra Number Theory **2** (2008), no. 8, 859–885. MR MR2457355

[29] Kevin Buzzard and L. J. P. Kilford, *The 2-adic eigencurve at the boundary of weight space*, Compos. Math. **141** (2005), no. 3, 605–619. MR MR2135280 (2005m:11101)

[30] Robert Carls, *Theta null points of 2-adic canonical lifts*, 2005.

[31] ———, *Explicit Frobenius lifts on elliptic curves*, 2009.

[32] ———, *Fast point counting on genus two curves in characteristic three*, 2010.

[33] Robert Carls and David Lubicz, *A p-adic quasi-quadratic time point counting algorithm*, Int. Math. Res. Not. IMRN (2009), no. 4, 698–735. MR MR2480098

[34] Antoine Chambert-Loir, *Compter (rapidement) le nombre de solutions d'equations dans les corps finis*, 2006.

[35] Denis Charles and Kristin Lauter, *Computing modular polynomials*, LMS J. Comput. Math. **8** (2005), 195–204 (electronic). MR MR2166572

[36] Denis Xavier Charles, *Complex multiplication tests for elliptic curves*, 2004.

[37] Imin Chen, *On the equation* $s^2 + y^{2p} = \alpha^3$, Math. Comp. **77** (2008), no. 262, 1223–1227. MR MR2373199

[38] Imin Chen and Chris Cummins, *Elliptic curves with nonsplit mod 11 representations*, Math. Comp. **73** (2004), no. 246, 869–880 (electronic). MR MR2031412 (2004m:11083)

[39] Robert F. Coleman and William A. Stein, *Approximation of eigenforms of infinite slope by eigenforms of finite slope*, Geometric Aspects of Dwork Theory. Vol. I, II, Walter de Gruyter GmbH & Co. KG, Berlin, 2004, pp. 437–449. MR MR2023296 (2005h:11092)

[40] B. Conrad, K. Conrad, and H. Helfgott, *Root numbers and ranks in positive characteristic*, Adv. Math. **198** (2005), no. 2, 684–731. MR MR2183392 (2006m:11080)

[41] Brian Conrad, Bas Edixhoven, and William Stein, $J_1(p)$ *has connected fibers*, Doc. Math. **8** (2003), 331–408 (electronic). MR MR2029169 (2004k:11094)

[42] Caterina Consani and Jasper Scholten, *Arithmetic on a quintic threefold*, Internat. J. Math. **12** (2001), no. 8, 943–972. MR MR1863287 (2002h:11058)

[43] Patrick Kenneth Corn, *Del Pezzo Surfaces and the Brauer-Manin obstruction*, PhD Thesis, University of California, Berkley, 1998.

[44] Gunther Cornelissen, Aristides Kontogeorgis, and Lotte van der Zalm, *Arithmetic equivalence for function fields, the Goss zeta function and a generalisation*, J. Number Theory **130** (2010), no. 4, 1000–1012. MR 2600417

[45] J. E. Cremona, *Algorithms for Modular Elliptic Curves*, second ed., Cambridge University Press, Cambridge, 1997. MR MR1628193 (99e:11068)

[46] J. E. Cremona, T. A. Fisher, C. O'Neil, D. Simon, and M. Stoll, *Explicit n-descent on elliptic curves. I. Algebra*, J. reine angew. Math. **615** (2008), 121–155. MR MR2384334

[47] J. E. Cremona, T. A. Fisher, C. O'Neil, D. Simon, and M. Stoll, *Explicit n-descent on elliptic curves, II: Geometry*, J. reine angew. Math **2009** (2009), no. 632, 63–84.

[48] J. E. Cremona, T. A. Fisher, and M. Stoll, *Minimisation and reduction of 2-, 3- and 4-coverings of elliptic curves*, Algebra and Number Theory **4** (2010), no. 6, 763–820.

[49] J. E. Cremona and M. P. Lingham, *Finding all elliptic curves with good reduction outside a given set of primes*, Experiment. Math. **16** (2007), no. 3, 303–312. MR MR2367320 (2008k:11057)

[50] J. E. Cremona, M. Prickett, and Samir Siksek, *Height difference bounds for elliptic curves over number fields*, J. Number Theory **116** (2006), no. 1, 42–68. MR MR2197860 (2006k:11121)

[51] John Cremona, *The elliptic curve database for conductors to 130000*, Algorithmic number theory, Lecture Notes in Comput. Sci., vol. 4076, Springer, Berlin, 2006, pp. 11–29. MR MR2282912 (2007k:11087)

[52] John E. Cremona, *A solution for note 84.35*, The Mathematical Gazette **86** (2002), no. 505, 66–68.

[53] John Cullinan, *A computational approach to the 2-torsion structure of abelian threefolds*, Math. Comp. **78** (2009), no. 267, 1825–1836. MR MR2501078

[54] C. J. Cummins and S. Pauli, *Congruence subgroups of* $\mathrm{PSL}(2, Z)$ *of genus less than or equal to 24*, Experiment. Math. **12** (2003), no. 2, 243–255. MR MR2016709 (2004i:11037)

[55] Samit Dasgupta, *Computations of elliptic units for real quadratic fields*, Canad. J. Math. **59** (2007), no. 3, 553–574. MR MR2319158

[56] Chantal David and Tom Weston, *Local torsion on elliptic curves and the deformation theory of Galois representations*, Math. Res. Lett. **15** (2008), no. 3, 599–611. MR MR2407234 (2009e:11109)

[57] Christophe Delaunay and Christian Wuthrich, *Self-points on elliptic curves of prime conductor*, Int. J. Number Theory **5** (2009), no. 5, 911–932. MR MR2553516

[58] Daniel Delbourgo and Thomas Ward, *The growth of CM periods over false Tate extensions*, Experiment. Math. **19** (2010), no. 2, 195–210. MR 2676748

[59] Daniel Delbourgo and Tom Ward, *Non-abelian congruences between L-values of elliptic curves*, Ann. Inst. Fourier (Grenoble) **58** (2008), no. 3, 1023–1055. MR MR2427518 (2009i:11129)

[60] Lassina Dembélé, *A non-solvable Galois extension of Q ramified at 2 only*, C. R. Math. Acad. Sci. Paris **347** (2009), no. 3-4, 111–116. MR MR2538094

[61] Lassina Dembele, Matthew Greenberg, and John Voight, *Nonsolvable number fields ramified only at* 3 *and* 5, 2009.

[62] Jan Denef and Frederik Vercauteren, *An extension of Kedlaya's algorithm to Artin-Schreier curves in characteristic 2*, Algorithmic Number Theory (Sydney, 2002), Lecture Notes in Comput. Sci., vol. 2369, Springer, Berlin, 2002, pp. 308–323. MR MR2041093 (2005d:11088)

[63] Xavier Charles Denis, *Complex multiplication tests for elliptic curves*, 2004.

[64] Claus Diem and Emmanuel Thomé, *Index calculus in class groups of non-hyperelliptic curves of genus three*, J. Cryptology **21** (2008), no. 4, 593–611. MR MR2438510

[65] Luis Dieulefait, E. Gonzalez-Jimenez, and J. Jimenez Urroz, *On fields of definition of torsion points of elliptic curves with complex multiplication*, arXiv:0909.1661v1 (2009).

[66] T. Dokchitser and V. Dokchitser, *Computations in non-commutative Iwasawa theory*, Proc. Lond. Math. Soc. (3) **94** (2007), no. 1, 211–272, With an appendix by J. Coates and R. Sujatha. MR MR2294995 (2008g:11106)

[67] Tim Dokchitser and Vladimir Dokchitser, *Root numbers of elliptic curves in residue characteristic 2*, Bull. Lond. Math. Soc. **40** (2008), no. 3, 516–524. MR MR2418807

[68] Tim Dokchitser and Vladimir Dokchitser, *A note on the Mordell-Weil rank modulo n*, 2009.

[69] Darrin Doud, *A procedure to calculate torsion of elliptic curves over* $\mathbf{Q}$, Manuscripta Math. **95** (1998), no. 4, 463–469. MR MR1618198 (99c:11067)

[70] Andrej Dujella, *On Mordell-Weil groups of elliptic curves induced by Diophantine triples*, Glas. Mat. Ser. III **42(62)** (2007), no. 1, 3–18. MR MR2332654 (2008e:11062)

[71] S. Duquesne, *Rational points on hyperelliptic curves and an explicit Weierstrass preparation theorem*, Manuscripta Math. **108** (2002), no. 2, 191–204. MR MR1918586 (2003e:11067)

[72] Sylvain Duquesne, *Points rationnels et méthode de Chabauty elliptique*, J. Théor. Nombres Bordeaux **15** (2003), no. 1, 99–113, Les XXIIèmes Journées Arithmetiques (Lille, 2001). MR MR2019003 (2005a:11074)

[73] ———, *Elliptic curves associated with simplest quartic fields*, J. Théor. Nombres Bordeaux **19** (2007), no. 1, 81–100. MR MR2332055 (2008e:11063)

[74] Sylvain Duquesne, *Montgomery ladder for all genus 2 curves in characteristic 2*, Arithmetic of Finite Fields, Lecture Notes in Computer Science, vol. 5130, Springer, 2008, pp. 174–188.

[75] ———, *Traces of the group law on the Kummer surface of a curve of genus* 2 *in characteristic* 2, Math. Comput. Sci. **3** (2010), no. 2, 173–183.

[76] Bas Edixhoven, *On the computation of the coefficients of a modular form*, Algorithmic number theory, Lecture Notes in Comput. Sci., vol. 4076, Springer, Berlin, 2006, pp. 30–39. MR MR2282913 (2007k:11085)

[77] Kirsten Eisentraeger, Dimitar Jetchev, and Kristin Lauter, *On the computation of the Cassels pairing for certain Kolyvagin classes in the Shafarevich-Tate group*, 2008, pp. 113–125.

[78] Kirsten Eisenträger and Kristin Lauter, *A CRT algorithm for constructing genus 2 curves over finite fields*, 2007.

[79] Noam D. Elkies, *Three lectures on elliptic surfaces and curves of high rank*, 2007.

[80] ———, *Shimura curve computations via K3 surfaces of Neron-Severi rank at least 19*, Algorithmic Number Theory, Lecture Notes in Computer Science, vol. 5011, Springer, 2008, pp. 196–211.

[81] Noam D. Elkies and Mark Watkins, *Elliptic curves of large rank and small conductor*, Algorithmic Number Theory, Lecture Notes in Comput. Sci., vol. 3076, Springer, Berlin, 2004, pp. 42–56. MR MR2137342 (2006c:11065)

[82] Arsen Elkin, *Hyperelliptic Jacobians with real multiplication*, J. Number Theory **117** (2006), no. 1, 53–86. MR MR2204735 (2006j:11081)

[83] Andreas-Stephan Elsenhans and Jörg Jahnel, *K3 surfaces of Picard rank one and degree two*, Algorithmic Number Theory, Lecture Notes in Computer Science, vol. 5011, Springer, 2008, pp. 212–225.

[84] G. Everest and T. Ward, *The canonical height of an algebraic point on an elliptic curve*, New York J. Math. **6** (2000), 331–342 (electronic). MR MR1800354 (2001j:11056)

[85] Graham Everest, Patrick Ingram, Valéry Mahé, and Shaun Stevens, *The uniform primality conjecture for elliptic curves*, Acta Arith. **134** (2008), no. 2, 157–181. MR MR2429645

[86] Graham Everest, Patrick Ingram, and Shaun Stevens, *Primitive divisors on twists of Fermat's cubic*, LMS J. Comput. Math. **12** (2009), 54–81. MR MR2486632

[87] Graham Everest and Valéry Mahé, *A generalization of Siegel's theorem and Hall's conjecture*, Experiment. Math. **18** (2009), no. 1, 1–9. MR MR2548983

[88] Graham Everest, Ouamporn Phuksuwan, and Shaun Stevens, *The uniform primality conjecture for the twisted Fermat cubic*, arXiv:1003.2131v2 (2010).

[89] Xander Faber and Benjamin Hutz, *On the number of rational iterated pre-images of the origin under quadratic dynamical systems*, 2008.

[90] Reza Rezaeian Farashahi and Ruud Pellikaan, *The quadratic extension extractor for (hyper)elliptic curves in odd characteristic*, Arithmetic of finite fields, Lecture Notes in Comput. Sci., vol. 4547, Springer, Berlin, 2007, pp. 219–236. MR MR2387145 (2009a:11252)

[91] Luca De Feo, *Fast algorithms for computing isogenies between ordinary elliptic curves in small characteristic*, J. Number Theory **To appear** (2010).

[92] Julio Fernández, Josep González, and Joan-C. Lario, *Plane quartic twists of $X(5,3)$*, Canad. Math. Bull. **50** (2007), no. 2, 196–205. MR MR2317442 (2008b:11067)

[93] Luís R. A. Finotti, *Degrees of the elliptic Teichmüller lift*, J. Number Theory **95** (2002), no. 2, 123–141. MR MR1924093 (2003m:11089)

[94] ———, *Minimal degree liftings of hyperelliptic curves*, J. Math. Sci. Univ. Tokyo **11** (2004), no. 1, 1–47. MR MR2044910 (2005a:11087)

[95] ———, *Minimal degree liftings in characteristic 2*, J. Pure Appl. Algebra **207** (2006), no. 3, 631–673. MR MR2265544 (2007g:11068)

[96] ———, *Lifting the j-invariant: Questions of Mazur and Tate*, J. Number Theory **130** (2010), no. 3, 620–638.

[97] Tom Fisher, *The Hessian of a genus one curve*, 2006.

[98] ———, *Testing equivalence of ternary cubics*, Algorithmic Number Theory (Berlin, 2006), Lecture Notes in Comput. Sci., vol. 4076, Springer, Berlin, 2006, pp. 333–345. MR MR2282934 (2007j:11074)

[99] ———, *A new approach to minimising binary quartics and ternary cubics*, Math. Res. Lett. **14** (2007), no. 4, 597–613. MR MR2335986 (2008k:11058)

[100] ———, *The invariants of a genus one curve*, Proc. Lond. Math. Soc. (3) **97** (2008), no. 3, 753–782. MR MR2448246

[101] ———, *Some improvements to 4-descent on an elliptic curve*, Algorithmic number theory, Lecture Notes in Comput. Sci., vol. 5011, Springer, Berlin, 2008, pp. 125–138. MR MR2467841 (2009m:11078)

[102] E. V. Flynn, *The Hasse principle and the Brauer-Manin obstruction for curves*, Manuscripta Math. **115** (2004), no. 4, 437–466. MR MR2103661 (2005j:11047)

[103] E. V. Flynn and C. Grattoni, *Descent via isogeny on elliptic curves with large rational torsion subgroups*, J. Symbolic Comput. **43** (2008), no. 4, 293–303. MR MR2402033

[104] E. V. Flynn and J. Wunderle, *Cycles of covers*, Monatsh. Math. **Online first** (2008), 16.

[105] David Freeman, Peter Stevenhagen, and Marco Streng, *Abelian varieties with prescribed embedding degree*, Algorithmic Number Theory, Lecture Notes in Computer Science, vol. 5011, Springer, 2008, pp. 60–73.

[106] S. D. Galbraith, J. F. McKee, and P. C. Valença, *Ordinary abelian varieties having small embedding degree*, Finite Fields Appl. **13** (2007), no. 4, 800–814. MR MR2359321

[107] Steven D. Galbraith, *Weil descent of Jacobians*, Discrete Appl. Math. **128** (2003), no. 1, 165–180, International Workshop on Coding and Cryptography (WCC 2001) (Paris). MR MR1991424 (2004m:14046)

[108] Irene García-Selfa, Enrique González-Jiménez, and José M. Tornero, *Galois theory, discriminants and torsion subgroup of elliptic curves*, J. Pure Appl. Algebra **214** (2010), no. 8, 1340–1346. MR 2593667 (2011b:11076)

[109] P. Gaudry and É. Schost, *Modular equations for hyperelliptic curves*, Math. Comp. **74** (2005), no. 249, 429–454 (electronic). MR MR2085901 (2006b:11062)

[110] Pierrick Gaudry, *Index calculus for abelian varieties and the elliptic curve discrete logarithm problem*, 2004.

[111] Pierrick Gaudry and Robert Harley, *Counting points on hyperelliptic curves over finite fields*, Algorithmic Number Theory (Leiden, 2000), Lecture Notes in Comput. Sci., vol. 1838, Springer, Berlin, 2000, pp. 313–332. MR MR1850614 (2002f:11072)

[112] Eknath Ghate, Enrique González-Jiménez, and Jordi Quer, *On the Brauer class of modular endomorphism algebras*, Int. Math. Res. Not. (2005), no. 12, 701–723. MR MR2146605 (2006b:11058)

[113] Jean Gillibert, *Invariants de classes: exemples de non-annulation en dimension supérieure*, Math. Ann. **338** (2007), no. 2, 475–495. MR MR2302072 (2008c:11089)

[114] Edray Goins, *Explicit descent via 4-isogeny on an elliptic curve*, 2004.

[115] Josep González and Jordi Guàrdia, *Genus two curves with quaternionic multiplication and modular Jacobian*, Math. Comp. **78** (2009), no. 265, 575–589. MR MR2448722

[116] Josep González, Jordi Guàrdia, and Victor Rotger, *Abelian surfaces of* GL_2*-type as Jacobians of curves*, Acta Arith. **116** (2005), no. 3, 263–287. MR MR2114780 (2005m:11107)

[117] Josep González and Victor Rotger, *Non-elliptic Shimura curves of genus one*, J. Math. Soc. Japan **58** (2006), no. 4, 927–948. MR MR2276174 (2007k:11093)

[118] Enrique González-Jiménez, Josep González, and Jordi Guàrdia, *Computations on modular Jacobian surfaces*, Algorithmic Number Theory (Sydney, 2002), Lecture Notes in Comput. Sci., vol. 2369, Springer, Berlin, 2002, pp. 189–197. MR MR2041083 (2005c:11074)

[119] Enrique González-Jiménez and Roger Oyono, *Non-hyperelliptic modular curves of genus 3*, J. Number Theory **130** (2010), no. 4, 862–878. MR 2600407

[120] Enrique Gonzalez-Jimenez and Xavier Xarles, *Five squares in arithmetic progression over quadratic fields*, 2009.

[121] ———, *On symmetric square values of quadratic polynomials*, 2010.

[122] Eyal Z. Goren and Kristin E. Lauter, *The distance between superspecial abelian varieties with real multiplication*, J. Number Theory **129** (2009), no. 6, 1562–1578. MR MR2521493

[123] Eyal Z. Goren and Kristin E. Lauter, *Genus* 2 *curves with complex multiplication*, arXiv:1003.4759v1 (2010).

[124] Matthew Greenberg, *Computing Heegner points arising from Shimura curve parametrizations*, 2006.

[125] ———, *Heegner point computations via numerical p-adic integration*, Algorithmic Number Theory, Lecture Notes in Computer Science, vol. 4076, Springer Berlin / Heidelberg, 2006, pp. 361–376.

[126] ———, *Heegner Points and Rigid Analytic Modular Forms*, PhD Thesis, McGill University, 2006.

[127] Grigor Grigorov, Andrei Jorza, Stephan Patrikis, William A. Stein, and Corina Tarnita-Patrascu, *Verification of the Birch and Swinnerton-Dyer conjecture for specific elliptic curves.*

[128] Jordi Guàrdia, *Jacobian Nullwerte, periods and symmetric equations for hyperelliptic curves*, Ann. Inst. Fourier (Grenoble) **57** (2007), no. 4, 1253–1283. MR MR2339331 (2008g:11105)

[129] Brian Hansen, *Explicit computations supporting a generalization of Serre's conjecture*, MSc, Brigham Young University, 2005.

[130] Robin Hartshorne and Ronald van Luijk, *Non-Euclidean Pythagorean triples, a problem of Euler, and rational points on* $K3$ *surfaces*, Math. Intelligencer **30** (2008), no. 4, 4–10. MR MR2501390

[131] Ki-ichiro Hashimoto, Katsuya Miyake, and Hiroaki Nakamura (eds.), *Galois Theory and Modular Forms*, Developments in Mathematics, vol. 11, Boston, MA, Kluwer Academic Publishers, 2004. MR MR2059977 (2004k:11003)

[132] Brendan Hassett, Anthony Vàrilly-Alvarado, and Patrick Varilly, *Transcendental obstructions to weak approximation on general* $K3$ *surfaces*, 2010.

[133] Florian Hess, *Computing relations in divisor class groups of algebraic curves over finite fields*, 2003.

[134] ———, *A note on the Tate pairing of curves over finite fields*, Arch. Math. (Basel) **82** (2004), no. 1, 28–32. MR MR2034467 (2004m:14040)

[135] Laura Hitt, *Families of genus 2 curves with small embedding degree*, J. Math. Cryptol. **3** (2009), no. 1, 19–36. MR MR2524253

[136] E. W. Howe and K. E. Lauter, *Improved upper bounds for the number of points on curves over finite fields*, Ann. Inst. Fourier (Grenoble) **53** (2003), no. 6, 1677–1737. MR MR2038778 (2005c:11079)

[137] Everett W. Howe, *Infinite families of pairs of curves over Q with isomorphic Jacobians*, J. London Math. Soc. (2) **72** (2005), no. 2, 327–350. MR MR2156657 (2006b:11064)

[138] ———, *Supersingular genus-2 curves over fields of characteristic 3*, Computational arithmetic geometry, Contemp. Math., vol. 463, Amer. Math. Soc., Providence, RI, 2008, pp. 49–69. MR MR2459989 (2009j:11103)

[139] Everett W. Howe, Kristin E. Lauter, and Jaap Top, *Pointless curves of genus three and four*, Arithmetic, Geometry and Coding Theory (AGCT 2003), Sémin. Congr., vol. 11, Soc. Math. France, Paris, 2005, pp. 125–141. MR MR2182840 (2006g:11125)

[140] Everett W. Howe and Hui June Zhu, *On the existence of absolutely simple abelian varieties of a given dimension over an arbitrary field*, J. Number Theory **92** (2002), no. 1, 139–163. MR MR1880590 (2003g:11063)

[141] Hendrik Hubrechts, *Point counting in families of hyperelliptic curves*, Found. Comput. Math. **8** (2008), no. 1, 137–169. MR MR2403533

[142] ———, *Quasi-quadratic elliptic curve point counting using rigid cohomology*, J. Symb. Comput. **44** (2009), no. 9, 1255–1267.

[143] Klaus Hulek and Helena Verrill, *On modularity of rigid and nonrigid Calabi-Yau varieties associated to the root lattice A_4*, Nagoya Math. J. **179** (2005), 103–146. MR MR2164402

[144] Klaus Hulek and Helena A. Verrill, *On the motive of Kummer varieties associated to $\Gamma_1(7)$— Supplement to the paper: "The modularity of certain non-rigid Calabi-Yau threefolds" by R. Livné and N. Yui*, J. Math. Kyoto Univ. **45** (2005), no. 4, 667–681. MR MR2226624 (2007b:11092)

[145] Patrick Ingram, *Multiples of integral points on elliptic curves*, J. Number Theory **129** (2009), no. 1, 182–208. MR MR2468477 (2010a:11102)

[146] Farzali A. Izadi and V. Kumar Murty, *Counting points on an abelian variety over a finite field*, Progress in Cryptology—Indocrypt 2003, Lecture Notes in Comput. Sci., vol. 2904, Springer, Berlin, 2003, pp. 323–333. MR MR2092391 (2005f:11127)

[147] David Jao and Vladimir Soukharev, *A subexponential algorithm for evaluating large degree isogenies*, Algorithmic Number Theory, Lecture Notes in Comput. Sci., vol. 6197, Springer, Berlin, 2010, pp. 219–233.

[148] Dimitar Jetchev, Kristin Lauter, and William Stein, *Explicit Heegner points: Kolyvagin's conjecture and non-trivial elements in the Shafarevich-Tate group*, J. Number Theory **129** (2009), no. 2, 284 – 302.

[149] Dimitar P. Jetchev and William A. Stein, *Visibility of the Shafarevich-Tate group at higher level*, Doc. Math. **12** (2007), 673–696. MR MR2377239

[150] Jorge Jimenez-Urroz and Tonghai Yang, *Heegner zeros of theta functions*, Trans. Amer. Math. Soc. **355** (2003), no. 10, 4137–4149 (electronic). MR MR1990579 (2005e:11070)

[151] Rafe Jones and Jeremy Rouse, *Galois theory of iterated endomorphisms*, Proc. London Math. Soc. **(3) 100** (2010), 763–794.

[152] David Joyner and Amy Ksir, *Modular representations on some Riemann-Roch spaces of modular curves X(N)*, Computational Aspects of Algebraic Curves, Lecture Notes Ser. Comput., vol. 13, World Sci. Publ., Hackensack, NJ, 2005, pp. 163–205. MR MR2182040 (2006k:11112)

[153] Ben Kane, *CM liftings of supersingular elliptic curves*, 2009.

[154] Koray Karabina and Edlyn Teske, *On prime-order elliptic curves with embedding degrees k=3,4, and 6*, Algorithmic Number Theory, Lecture Notes in Computer Science, vol. 5011, Springer, 2008, pp. 102–117.

[155] L. J. P. Kilford, *Some non-Gorenstein Hecke algebras attached to spaces of modular forms*, J. Number Theory **97** (2002), no. 1, 157–164. MR MR1939142 (2003j:11046)

[156] ———, *Slopes of 2-adic overconvergent modular forms with small level*, Math. Res. Lett. **11** (2004), no. 5-6, 723–739. MR MR2106238 (2005h:11093)

[157] L. J. P. Kilford, *On a p-adic extension of the Jacquet-Langlands correspondence to weight 1*, 2008.

[158] David R. Kohel, *Hecke module structure of quaternions*, Class Field Theory—Its Centenary and Prospect (Tokyo, 1998), Adv. Stud. Pure Math., vol. 30, Math. Soc. Japan, Tokyo, 2001, pp. 177–195. MR MR1846458 (2002i:11059)

[159] ———, *The AGM-$X_0(N)$ Heegner point lifting algorithm and elliptic curve point counting*, Advances in Cryptology—Asiacrypt 2003, Lecture Notes in Comput. Sci., vol. 2894, Springer, Berlin, 2003, pp. 124–136. MR MR2093256 (2005i:11077)

[160] David R. Kohel and William A. Stein, *Component groups of quotients of $J_0(N)$*, Algorithmic Number Theory (Leiden, 2000), Lecture Notes in Comput. Sci., vol. 1838, Springer, Berlin, 2000, pp. 405–412. MR MR1850621 (2002h:11051)

[161] David R. Kohel and Helena A. Verrill, *Fundamental domains for Shimura curves*, J. Théor. Nombres Bordeaux **15** (2003), no. 1, 205–222, Les XXIIèmes Journées Arithmetiques (Lille, 2001). MR MR2019012 (2004k:11096)

[162] Kenji Koike and Annegret Weng, *Construction of CM Picard curves*, Math. Comp. **74** (2005), no. 249, 499–518 (electronic). MR MR2085904 (2005g:11103)

[163] Aristides Kontogeorgis and Victor Rotger, *On the non-existence of exceptional automorphisms on Shimura curves*, Bull. Lond. Math. Soc. **40** (2008), no. 3, 363–374. MR MR2418792

[164] Andrew Kresch and Yuri Tschinkel, *Integral points on punctured abelian surfaces*, Algorithmic Number Theory (Sydney, 2002), Lecture Notes in Comput. Sci., vol. 2369, Springer, Berlin, 2002, pp. 198–204. MR MR2041084 (2005d:11081)

[165] L. Kulesz, G. Matera, and É. Schost, *Uniform bounds on the number of rational points of a family of curves of genus 2*, J. Number Theory **108** (2004), no. 2, 241–267. MR MR2098638 (2005h:11130)

[166] Dominic Lanphier, *The trace of special values of modular L-functions*.

[167] Alan G. B. Lauder, *Ranks of elliptic curves over function fields*, LMS J. Comput. Math. **11** (2008), 172–212. MR MR2429996

[168] Alan G.B. Lauder, *Degenerations and limit Frobenius structures in rigid cohomology*, 2009.

[169] F. Leprévost, M. Pohst, and A. Schöpp, *Rational torsion of $J_0(N)$ for hyperelliptic modular curves and families of Jacobians of genus 2 and genus 3 curves with a rational point of order 5, 7 or 10*, Abh. Math. Sem. Univ. Hamburg **74** (2004), 193–203. MR MR2112831 (2005h:11131)

[170] Franck Leprévost, Michael Pohst, and Andreas Schöpp, *Familles de polynômes liées aux courbes modulaires $X_(l)$ unicursales et points rationnels non-triviaux de courbes elliptiques quotient*, Acta Arith. **110** (2003), no. 4, 401–410. MR MR2011317 (2004j:11053)

[171] Reynald Lercier and David Lubicz, *A quasi-quadratic time algorithm for hyperelliptic curve point counting*, Ramanujan J. **12** (2006), no. 3, 399–423. MR MR2293798 (2008b:11069)

[172] Reynald Lercier and Thomas Sirvent, *On Elkies subgroups of l-torsion points in elliptic curves defined over a finite field*, J. Théor. Nombres Bordeaux **20** (2008), no. 3, 783–797. MR MR2523317

[173] Petr Lisoněk, *On the connection between Kloosterman sums and elliptic curves*, Sequences and Their Applications – SETA 2008: Proceedings (Solomon W. Golomb, Matthew G. Parker, Alexander Pott, and Arne Winterhof, eds.), Lecture Notes in Computer Science, vol. 5203, Springer, Berlin Heidelberg, 2008, pp. 182–187.

[174] Adam Logan and Ronald van Luijk, *Nontrivial elements of Sha explained through $K3$ surfaces*, Math. Comp. **78** (2009), no. 265, 441–483. MR MR2448716

[175] Ling Long and Chris Kurth, *On modular forms for some noncongruence subgroups of $SL_2Z)$ II*, 2008.

[176] Dino Lorenzini and Thomas J. Tucker, *Thue equations and the method of Coleman-Chabauty*, 2000.

[177] Álvaro Lozano-Robledo, *On the product of twists of rank two and a conjecture of Larsen*, Ramanujan J. **19** (2009), no. 1, 53–61. MR MR2501236 (2010b:11062)

[178] Kazuo Matsuno, *Construction of elliptic curves with large Iwasawa λ-invariants and large Tate-Shafarevich groups*, Manuscripta Math. **122** (2007), no. 3, 289–304. MR MR2305419

[179] Kazuto Matsuo, Jinhui Chao, and Shigeo Tsujii, *An improved baby step giant step algorithm for point counting of hyperelliptic curves over finite fields*, Algorithmic Number Theory (Sydney, 2002), Lecture Notes in Comput. Sci., vol. 2369, Springer, Berlin, 2002, pp. 461–474. MR MR2041104 (2005a:11089)

[180] J. Miret, R. Moreno, A. Rio, and M. Valls, *Computing the l-power torsion of an elliptic curve over a finite field*, Math. Comp. **78** (2009), no. 267, 1767–1786. MR MR2501074

[181] J. Miret, R. Moreno, D. Sadornil, J. Tena, and M. Valls, *Computing the height of volcanoes of l-isogenies of elliptic curves over finite fields*, Appl. Math. Comput. **196** (2008), no. 1, 67–76. MR MR2382590 (2008m:11122)

[182] Josep M. Miret, Jordi Pujolàs, and Anna Rio, *Bisection for genus 2 curves in odd characteristic*, Proc. Japan Acad. Ser. A Math. Sci. **85** (2009), no. 4, 55–60. MR MR2517297 (2010d:14039)

[183] Jan-Steffen Müller, *Explicit Kummer surface theory for arbitrary characteristic*, London Math. Soc. J. Comput. Math. **13** (2010), 47–64.

[184] Filip Najman, *Complete classification of torsion of elliptic curves over quadratic cyclotomic fields*, J. Number Theory **130** (2010), no. 9, 1964–1968. MR 2653208

[185] Annika Niehage, *Quantum Goppa codes over hypereliptic curves*, Diplomarbeit, Universität Mannheim, 2004.

[186] Ekin Ozman, *Local points on quadratic twists of $X_0(N)$*, 2009.

[187] Mihran Papikian, *On the degree of modular parametrizations over function fields*, J. Number Theory **97** (2002), no. 2, 317–349. MR MR1942964 (2004c:11104)

[188] ———, *On the variation of Tate-Shafarevich groups of elliptic curves over hyperelliptic curves*, J. Number Theory **115** (2005), no. 2, 249–283. MR MR2180501 (2006g:11111)

[189] Bernadette Perrin-Riou, *Arithmétique des courbes elliptiques à réduction supersingulière en p*, Experiment. Math. **12** (2003), no. 2, 155–186. MR MR2016704 (2005h:11138)

[190] Bjorn Poonen, *Computational aspects of curves of genus at least 2*, Algorithmic Number Theory (Talence, 1996), Lecture Notes in Comput. Sci., vol. 1122, Springer, Berlin, 1996, pp. 283–306. MR MR1446520 (98c:11059)

[191] Bjorn Poonen, Edward F. Schaefer, and Michael Stoll, *Twists of $X(7)$ and primitive solutions to $x^2+y^3=z^7$*, Duke Math. J. **137** (2007), no. 1, 103–158. MR MR2309145

[192] Lisa Marie Redekop, *Torsion Points of Low Order on Elliptic Curves and Drinfeld Modules*, Ph.D. thesis, 2002, p. 95.

[193] Jonathan Reynolds, *Extending Siegel's theorem for elliptic curves*, Phd thesis, University of East Anglia, 2008.

[194] Guillaume Ricotta and Thomas Vidick, *Hauteur asymptotique des points de Heegner*, Canad. J. Math. **60** (2008), no. 6, 1406–1436. MR MR2462452

[195] Christophe Ritzenthaler, *Automorphismes des courbes modulaires $X(n)$ en caractéristique p*, Manuscripta Math. **109** (2002), no. 1, 49–62. MR MR1931207 (2003g:11067)

[196] ———, *Point counting on genus 3 non hyperelliptic curves*, Algorithmic Number Theory, Lecture Notes in Comput. Sci., vol. 3076, Springer, Berlin, 2004, pp. 379–394. MR MR2138009 (2006d:11065)

[197] Christophe Ritzenthaler, *Explicit computations of Serre's obstruction for genus 3 curves and application to optimal curves*, LMS Journal of Computation and Mathematics **13** (2010), 192–207.

[198] Mohammad Sadek, *Counting models of genus one curves*, 2010.

[199] David Savitt, *The maximum number of points on a curve of genus 4 over F_8 is 25*, Canad. J. Math. **55** (2003), no. 2, 331–352, With an appendix by Kristin Lauter. MR MR1969795 (2004i:11059)

[200] Edward F. Schaefer and Michael Stoll, *How to do a p-descent on an elliptic curve*, Trans. Amer. Math. Soc. **356** (2004), no. 3, 1209–1231 (electronic). MR MR2021618 (2004g:11045)

[201] Jasper Scholten, *Weil restriction of an elliptic curve over a quadratic extension*, 2004.

[202] Andreas M. Schöpp, *Über torsionspunkte elliptischer und hyperelliptischer kurven nebst anwendungen*, Ph.D. thesis, Technische Universitaet Berlin,, April 2005, p. 92.

[203] Samir Siksek, *On standardized models of isogenous elliptic curves*, Math. Comp. **74** (2005), no. 250, 949–951 (electronic). MR MR2114657 (2005i:11076)

[204] ———, *Chabauty for symmetric powers of curves*, Algebra Number Theory **3** (2009), no. 2, 209–236. MR MR2491943 (2010b:11069)

[205] Samir Siksek and John E. Cremona, *On the Diophantine equation* $x^2 + 7 = y^m$, Acta Arith. **109** (2003), no. 2, 143–149. MR MR1980642 (2004c:11109)

[206] Samir Siksek and Michael Stoll, *On a problem of Hajdu and Tengely*, 2009.

[207] Benjamin Smith, *Isogenies and the discrete logarithm problem in Jacobians of genus 3 hyperelliptic curves*, Advances in Cryptology, Eurocrypt 2008, Lecture Notes in Computer Science, vol. 4965, Springer Berlin/Heidelberg, 2008, pp. 163–180.

[208] ———, *Families of explicit isogenies of hyperelliptic Jacobians*, Arithmetic, Geometry, Cryptography and Coding Theory, Contemporary Mathematics, vol. 521, AMS, Providence, R.I., 2009, pp. 121–144.

[209] Sebastian Karl Michael Stamminger, *Explicit 8-descent on elliptic curves*, Ph.D. thesis, International University Bremen, 2005, p. 107.

[210] William Stein, *Studying the Birch and Swinnerton-Dyer conjecture for modular abelian varieties using Magma*, Discovering Mathematics with Magma, Algorithms Comput. Math., vol. 19, Springer, Berlin, 2006, pp. 93–116. MR MR2278924

[211] William A. Stein, *There are genus one curves over* Q *of every odd index*, J. Reine Angew. Math. **547** (2002), 139–147. MR MR1900139 (2003c:11059)

[212] ———, *Shafarevich-Tate groups of nonsquare order*, Modular curves and abelian varieties, Progr. Math., vol. 224, Birkhäuser, Basel, 2004, pp. 277–289. MR MR2058655 (2005c:11072)

[213] ———, *Visibility of Mordell-Weil groups*, Doc. Math. **12** (2007), 587–606. MR MR2377241 (2009a:11128)

[214] Michael Stoll, *Implementing 2-descent for Jacobians of hyperelliptic curves*, Acta Arith. **98** (2001), no. 3, 245–277. MR MR1829626 (2002b:11089)

[215] ———, *On the height constant for curves of genus two. II*, Acta Arith. **104** (2002), no. 2, 165–182. MR MR1914251 (2003f:11093)

[216] Michael Stoll, *Rational 6-cycles under iteration of quadratic polynomials*, LMS J. Comput. Math. **11** (2008), 367–380.

[217] Fritz Grunewald Tatiana Bandman, Shelly Garion, *On the surjectivity of engel words on psl(2,q)*, 2010, pp. 1–22.

[218] Thotsaphon Thongjunthug, *Computing a lower bound for the canonical height on elliptic curves over totally real number fields*, Algorithmic Number Theory, Lecture Notes in Computer Science, vol. 5011, Springer, 2008, pp. 139–152.

[219] Hans-Christian Graf v. Bothmer, *Finite field experiments (with an appendix by Stefan Wiedmann)*, Higher-Dimensional Geometry over Finite Fields, NATO Science for Peace and Security Series, D: Information and Communication Security, vol. 16, IOS Press, 2008, pp. 1–62.

[220] Anthony Vàrilly-Alvarado and Bianca Viray, *Failure of the Hasse principle for Enriques surfaces*, Advances in Mathematics **226** (2011), 4884–4901.

[221] Marie-France Vignéras, *p-adic integral structures of some representations of GL(2, F)*, 2005.

[222] Bogdan G. Vioreanu, *Mordell-Weil problem for cubic surfaces, numerical evidence*, 2008.

[223] Bianca Viray, *A family of varieties with exactly one pointless rational fiber*, 2009.

[224] Mark Watkins, *A note on integral points on elliptic curves*, J. Théor. Nombres Bordeaux **18** (2006), no. 3, 707–720. MR MR2330437 (2008e:11069)

[225] Mark Watkins, *Some remarks on Heegner point computations*, 2006.

[226] Mark Watkins, *Some heuristics about elliptic curves*, Experiment. Math. **17** (2008), no. 1, 105–125. MR MR2410120

[227] Rolf Stefan Wilke, *On rational embeddings of curves in the second Garcia-Stichtenoth tower*, Finite Fields Appl. **14** (2008), no. 2, 494–504. MR MR2401990 (2009a:11131)

[228] Christian Wuthrich, *The fine Tate-Shafarevich group*, Math. Proc. Cambridge Philos. Soc. **142** (2007), no. 1, 1–12. MR MR2296386 (2008b:11064)

[229] ———, *Self-points on an elliptic curve of conductor 14*, Proceedings of the Symposium on Algebraic Number Theory and Related Topics, RIMS Kôkyûroku Bessatsu, B4, Res. Inst. Math. Sci. (RIMS), Kyoto, 2007, pp. 189–195. MR MR2402010 (2009e:11112)

[230] Chaoping Xing, *Applications of algebraic curves to constructions of sequences*, Cryptography and Computational Number Theory (Singapore, 1999), Progr. Comput. Sci. Appl. Logic, vol. 20, Birkhäuser, Basel, 2001, pp. 137–146. MR MR1944725 (2004e:11068)

[231] Chaoping Xing and Sze Ling Yeo, *Construction of global function fields from linear codes and vice versa*, Trans. Amer. Math. Soc. **361** (2008), no. 3, 1333–1349.

[232] Huilin Zhu and Jianhua Chen, *Integral points on a class of elliptic curve*, Wuhan Univ. J. Nat. Sci. **11** (2006), no. 3, 477–480. MR MR2258847 (2007d:11064)