Computational Linear Algebra

[1] Martin Albrecht, Gregory Bard, and William Hart, *Algorithm 898: Efficient multiplication of dense matrices over GF(2)*, TOMS **37** (2010), no. 1.

[2] Martin R. Albrecht and Clément Pernet, *Efficient decomposition of dense matrices over GF(2)*, 2010, pp. 1–17.

[3] Tomas J. Boothby and Robert W. Bradshaw, *Bitslicing and the method of four Russians over larger finite fields*, 2009, pp. 1–10.

[4] Jean-Guillaume Dumas, Thierry Gautier, Pascal Giorgi, and Clément Pernet, *Dense linear algebra over finite fields: The FFLAS and FFPACK packages*, 2006.

[5] Jean-Guillaume Dumas, Pascal Giorgi, and Clément Pernet, *FFPACK: finite field linear algebra package*, ISSAC '2004: Proceedings of the 2004 International Symposium on Symbolic and Algebraic Computation, ACM, New York, 2004, pp. 119–126. MR MR2126933

[6] Jean-Guillaume Dumas, Pascal Giorgi, and Clément Pernet, *Dense linear algebra over word-size prime fields: The FFLAS and FFPACK packages*, ACM Trans. Math. Softw. **35** (2008), no. 3, 1–42.

[7] Jean-Guillaume Dumas, Clément Pernet, and Zhendong Wan, *Efficient computation of the characteristic polynomial*, ISSAC'05: Proceedings of the 2005 International Symposium on Symbolic and Algebraic Computation, ACM, New York, 2005, pp. 140–147 (electronic). MR MR2280540

[8] Jean-Guillaume Dumas and Anna Urbanska, *An introspective algorithm for the integer determinant*, 2006.

[9] Wayne Eberly, Mark Giesbrecht, Pascal Giorgi, Arne Storjohann, and Gilles Villard, *Faster inversion and other black box matrix computations using efficient block projections*, ISSAC 2007, ACM, New York, 2007, pp. 143–150. MR MR2396196 (2009d:15008)

[10] Cesar A. Garcia-Vazquez and Carlos A. Lopez-Andrade, *D-Heaps as hash tables for vectors over a finite ring*, 2009 WRI World Conference on Computer Science and

Information Engineering, WRI World Congress on Computer Science and Information Engineering, vol. 3, IEEE, 2009, pp. 162–166.

[11] Katharina Geißler and Nigel P. Smart, *Computing the $M = UU^t$ integer matrix decomposition*, Cryptography and Coding, Lecture Notes in Comput. Sci., vol. 2898, Springer, Berlin, 2003, pp. 223–233. MR MR2090935 (2005e:94144)

[12] George Havas, Derek F. Holt, and Sarah Rees, *Recognizing badly presented $\mathbf{Z}$-modules*, Linear Algebra Appl. **192** (1993), 137–163, Computational linear algebra in algebraic and related problems (Essen, 1992). MR MR1236741 (94i:20001)

[13] George Havas, Bohdan S. Majewski, and Keith R. Matthews, *Extended GCD and Hermite normal form algorithms via lattice basis reduction*, Experiment. Math. **7** (1998), no. 2, 125–136. MR MR1677095 (2000k:11141a)

[14] ———, *Addenda and errata: "Extended GCD and Hermite normal form algorithms via lattice basis reduction"*, Experiment. Math. **8** (1999), no. 2, 205. MR MR1700579 (2000k:11141b)

[15] Gerold Jaeger, *Parallel algorithms for computing the Smith normal form of large matrices*, Recent Advances in Parallel Virtual Machine and Message Passing Interface, vol. 2840, Springer, Berlin/Heidelberg, 2003, pp. 170–179.

[16] G. Jäger, *Reduction of Smith normal form transformation matrices*, Computing **74** (2005), no. 4, 377–388. MR MR2149345 (2006a:65068)

[17] Frank Lübeck, *On the computation of elementary divisors of integer matrices*, J. Symbolic Comput. **33** (2002), no. 1, 57–65. MR MR1876312 (2002i:15002)

[18] Max Neunhöffer and Cheryl E. Praeger, *Computing minimal polynomials of matrices*, LMS J. Comput. Math. **11** (2008), 252–279. MR MR2429999

[19] Michael E. O'Sullivan, *Algebraic construction of sparse matrices with large girth*, IEEE Trans. Inform. Theory **52** (2006), no. 2, 718–727. MR MR2236186

[20] Clément Pernet and Arne Storjohann, *Faster algorithms for the characteristic polynomial*, ISSAC 2007, ACM, New York, 2007, pp. 307–314. MR MR2402276

[21] Håvard Raddum and Igor Semaev, *Solving multiple right hand sides linear equations*, Des. Codes Cryptogr. **49** (2008), no. 1-3, 147–160. MR MR2438447

[22] Michael Schmid, Rainer Steinwandt, Jörn Müller-Quade, Martin Rötteler, and Thomas Beth, *Decomposing a matrix into circulant and diagonal factors*, Linear Algebra Appl. **306** (2000), no. 1-3, 131–143. MR MR1740437 (2000j:15027)

[23] Igor Semaev, *Sparse boolean equations and circuit lattices*, 2009.

[24] Allan Steel, *A new algorithm for the computation of canonical forms of matrices over fields*, J. Symbolic Comput. **24** (1997), no. 3-4, 409–432. MR MR1484489 (98m:65070)

[25] Patrick Theobald, *Ein framework zur berechnung der hermite-normalform von grössen, dünnbesetzten, ganzzahligen matrizen*, PhD Thesis, Technischen Universität Darmstadt, 2000.

[26] Gilles Villard, *Certification of the QR factor R and of lattice basis reducedness*, ISSAC 2007, ACM, New York, 2007, pp. 361–368. MR MR2402283