A Bibliography of Publications of Ilse C. F. Ipsen

Ilse C. F. Ipsen
North Carolina State University
Department of Mathematics
P.O. Box 8205
Raleigh, NC 27695-8205
USA

Tel: +1 919 515 3399
FAX: +1 919 515 3798

E-mail: ipsen@math.ncsu.edu (Internet)

18 October 2025
Version 1.45

Abstract

This bibliography records publications of Ilse C. F. Ipsen.

Title word cross-reference

Ips06f].

References

Banoczi:1998:LIR

[BCCI98] J. M. Banoczi, Nan-Chieh Chiu, Grace E. Cho, and Ilse C. F. Ipsen. The lack of influence of the right-hand side on the accuracy of linear system solution. *SIAM Journal on Scientific Computing*, 20 (1):203–227, January 1998. CODEN SJOCE3. ISSN 1064-8275 (print), 1095-7197 (electronic). URL http://epubs.siam.org/sam-bin/dbq/article/30526.

Bartels:2019:PLS

[BCIH19] Simon Bartels, Jon Cockayne, Ilse C. F. Ipsen, and Philipp Hennig. Probabilistic linear solvers: a unifying view. *Statistics and Computing*, 29(6):1249–1263, November 2019. CODEN STACE3. ISSN 0960-3174 (print), 1573-1375 (electronic). URL http://link.springer.com/article/10.1007/s11222-019-09897-7; http://link.springer.com/content/pdf/10.1007/s11222-019-09897-7.pdf.

Boutsikas:2024:SSV

[BDI24] Christos Boutsikas, Petros Drineas, and Ilse C. F. Ipsen. Small singular values can increase in lower precision. *SIAM Journal on Matrix Analysis and Applications*, 45(3):??, ???? 2024. CODEN SJMAEL. ISSN 0895-4798 (print), 1095-7162 (electronic). URL https://epubs.siam.org/doi/10.1137/23M1557209.

Barlow:2015:P

[BDIM15] Jesse L. Barlow, Zlatko Drmac, Ilse Ipsen, and Julio Moro. Preface. *Linear Algebra and its Applications*, 464(??):1–2, January 1, 2015. CODEN LAAPAW. ISSN 0024-3795 (print), 1873-1856 (electronic). URL http://www.sciencedirect.com/science/article/pii/S0024379514006533.

Bhatt:1985:HET

[BI85] S. N. Bhatt and I. C. F. Ipsen. How to embed trees in hypercubes. Research Report YALEU/DCS/RR-443, Department of Computer Science, Yale University, 1985.

Barlow:1987:SGR

[BI87] Jesse L. Barlow and Ilse C. F. Ipsen. Scaled Givens rotations for the solution of linear least squares problems on systolic arrays. *SIAM Journal on Scientific and Statistical Computing*, 8(5):716–733, 1987. CODEN SIJCD4. ISSN 0196-5204.

Beattie:2003:IRM

[BI03] Christopher Beattie and Ilse C. F. Ipsen. Inclusion regions for matrix eigenvalues. *Linear Algebra and its Applications*, 358:281–291, 2003. CODEN LAAPAW. ISSN 0024-3795 (print), 1873-1856 (electronic). Special issue on accurate solution of eigenvalue problems (Hagen, 2000).

Beckermann:2018:LRU

[BKS18] Bernhard Beckermann, Daniel Kressner, and Marcel Schweitzer.

Low-rank updates of matrix functions. *SIAM Journal on Matrix Analysis and Applications*, 39(1): 539–565, ???? 2018. CODEN SJMAEL. ISSN 0895-4798 (print), 1095-7162 (electronic).

Chandrasekaran:1991:RRF

[CI91] S. Chandrasekaran and I. Ipsen. On rank-revealing QR factorisations. Research Report YALEU/DCS/RR-880, Department of Computer Science, Yale University, New Haven, CT, USA, December 1991. ???? pp.

Chandrasekaran:1994:BEE

[CI94a] S. Chandrasekaran and I. C. F. Ipsen. Backward errors for eigenvalue and singular value decompositions. *Numerische Mathematik*, 68(2):215–223, 1994. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic).

Chandrasekaran:1994:DCA

[CI94b] S. Chandrasekaran and I. C. F. Ipsen. A divide and conquer algorithm for computing singular values. *Z. Angew. Math. Mech.*, 74 (6):T 532–534, 1994. CODEN ZAMMAX. ISSN 0044-2267 (print), 1521-4001 (electronic).

Chandrasekaran:1994:SVD

[CI94c] S. Chandrasekaran and I. C. F. Ipsen. On the singular value decomposition of triangular matrices. In xiong Jiang [xJ94], pages 85–9. ISBN 7-5046-1864-0.

Chandrasekaran:1994:RRF

[CI94d] Shivkumar Chandrasekaran and Ilse C. F. Ipsen. On rank-revealing QR factorisations. *SIAM Journal on Matrix Analysis and Applications*, 15(2):592–622, 1994. CODEN SJMAEL. ISSN 0895-4798 (print), 1095-7162 (electronic).

Chandrasekaran:1995:AAC

[CI95a] S. Chandrasekaran and I. C. F. Ipsen. Analysis of a QR algorithm for computing singular values. *SIAM Journal on Matrix Analysis and Applications*, 16 (2):520–535, 1995. CODEN SJMAEL. ISSN 0895-4798 (print), 1095-7162 (electronic).

Chandrasekaran:1995:AQA

[CI95b] S. Chandrasekaran and I. C. F. Ipsen. Analysis of a QR algorithm for computing singular values. *SIAM Journal on Matrix Analysis and Applications*, 16(2): 520–35, 1995. CODEN SJMAEL. ISSN 0895-4798 (print), 1095-7162 (electronic).

Chandrasekaran:1995:SSC

[CI95c] S. Chandrasekaran and I. C. F. Ipsen. On the sensitivity of solution components in linear systems of equations. *SIAM Journal on Matrix Analysis and Applications*, 16(1):93–112, 1995. CODEN SJMAEL. ISSN 0895-4798 (print), 1095-7162 (electronic).

Chi:2021:MPB

[CI21] Jocelyn T. Chi and Ilse C. F. Ipsen. Multiplicative perturbation bounds for multivariate multiple linear regression in Schatten p-norms. *Linear Algebra and its Applications*, 624(??):87–102, September 1, 2021. CODEN LAAPAW. ISSN 0024-3795 (print), 1873-1856 (electronic). URL http://www.sciencedirect.com/science/article/pii/S0024379521001518.

Chi:2022:PBA

[CI22] Jocelyn T. Chi and Ilse C. F. Ipsen. A projector-based approach to quantifying total and excess uncertainties for sketched linear regression. *Information and Inference*, 11(3):1055–1077, 2022. ISSN 2049-8764.

Campbell:1995:CES

[CIK+95] S. L. Campbell, I. C. F. Ipsen, C. T. Kelley, C. D. Meyer, and Z. Q. Xue. Convergence estimates for solution of integral equations with GMRES. Technical Report CRSC-TR95-12, Center for Research in Scientific Computation, Department of Mathematics, North Carolina State University, 1995.

Campbell:1996:CES

[CIK+96] S. L. Campbell, I. C. F. Ipsen, C. T. Kelley, C. D. Meyer, and Z. Q. Xue. Convergence estimates for solution of integral equations with GMRES. *Journal of Integral Equations and Applications*, 8 (1):19–34, 1996. ISSN 0897-3962 (print), 1938-2626 (electronic).

Campbell:1994:GMP

[CIKM94] S. L. Campbell, I. C. F. Ipsen, C. T. Kelley, and C. D. Meyer. GMRES and the minimal polynomial. Technical Report CRSC-TR94-10, Center for Research in Scientific Computation, Department of Mathematics, North Carolina State University, 1994.

Campbell:1996:GMP

[CIKM96] S. L. Campbell, I. C. F. Ipsen, C. T. Kelley, and C. D. Meyer. GMRES and the minimal polynomial. *BIT Numerical Mathematics*, 36(4):664–675, December 1996. CODEN BITTEL, NBITAB. ISSN 0006-3835 (print), 1572-9125 (electronic). URL http://www.mai.liu.se/BIT/contents/bit36.html.

Cockayne:2021:PIM

[CIOR21] Jon Cockayne, Ilse C. F. Ipsen, Chris J. Oates, and Tim W. Reid. Probabilistic iterative methods for linear systems. *Journal of Machine Learning Research (JMLR)*, 22:Paper No. 232, 34, 2021. CODEN JMLRAJ. ISSN 1532-4435 (print), 1533-7928 (electronic).

Cockayne:2019:BCG

[COIG19] Jon Cockayne, Chris J. Oates, Ilse C. F. Ipsen, and Mark Girolami. A Bayesian conjugate gradient method (with discussion). *Bayesian Analysis*, 14(3):937–1012, September 2019. CODEN ???? ISSN 1931-6690 (print), 1931-6690 (electronic). URL https://projecteuclid.org/journals/

bayesian-analysis/volume-14/issue-3/A-Bayesian-Conjugate-Gradient-Method-with-Discussion/10.1214/19-BA1145.full. Includes 6 discussions and a rejoinder from the authors.

Cullum:1986:LSE

[CW86] Jane Cullum and Ralph A. Willoughby, editors. *Large scale eigenvalue problems: proceedings of the IBM Europe Institute Workshop on Large Scale Eigenvalue Problems held in Oberlech, Austria, July 8–12, 1985*. North-Holland Publishing Co., Amsterdam, The Netherlands, 1986. ISBN 0-444-70074-9. LCCN QA193 .I261 1985.

Dexter:2025:SRI

[DBM+25] Gregory Dexter, Christos Boutsikas, Linkai Ma, Ilse C. F. Ipsen, and Petros Drineas. Stochastic rounding implicitly regularizes tall-and-thin matrices. *SIAM Journal on Matrix Analysis and Applications*, 46(1):341–369, ???? 2025. CODEN SJMAEL. ISSN 0895-4798 (print), 1095-7162 (electronic). URL https://epubs.siam.org/doi/10.1137/24M1647679.

Delosme:1986:PSS

[DI86a] Jean-Marc Delosme and Ilse C. F. Ipsen. Parallel solution of symmetric positive definite systems with hyperbolic rotations. *Linear Algebra and its Applications*, 77: 75–111, 1986. CODEN LAAPAW. ISSN 0024-3795 (print), 1873-1856 (electronic). Special volume on parallel computing.

Delosme:1986:SAS

[DI86b] Jean-Marc Delosme and Ilse C. F. Ipsen. Systolic array synthesis: computability and time cones. In *Parallel algorithms & architectures (Luminy, 1986)*, pages 295–312. North-Holland, Amsterdam; New York, 1986.

Delosme:1987:ESA

[DI87a] J.-M. Delosme and I. Ipsen. Efficient systolic arrays for the solution of Toeplitz systems: An illustration of a methodology for the construction of systolic architectures in VLSI. In *Systolic Arrays*, pages 37–46. Adam Hilger Ltd., Bristol, UK, 1987.

Delosme:1987:CPC

[DI87b] J.-M. Delosme and I. C. F. Ipsen. Computing partial correlations from the data matrix. Research Report 541, Department of Computer Science, Yale University, 1987.

Delosme:1989:BAS

[DI89] Jean-Marc Delosme and Ilse C. F. Ipsen. From Bareiss' algorithm to the stable computation of partial correlations. *Journal of Computational and Applied Mathematics*, 27(1–2):53–91, 1989. CODEN JCAMDI. ISSN 0377-0427 (print), 1879-1778 (electronic). Reprinted in ıt Parallel algorithms for numerical linear algebra, 53–91, North-Holland, Amsterdam, 1990.

Delosme:1990:PCA

[DI90] J.-M. Delosme and I. C. F. Ipsen. Parallel computation of algorithms with uniform dependences. In Dongarra et al. [DMSV90], pages 319–326. ISBN 0-89871-262-9. LCCN QA76.58.S55 1989.

Drineas:2019:LRM

[DI19] Petros Drineas and Ilse C. F. Ipsen. Low-rank matrix approximations do not need a singular value gap. *SIAM Journal on Matrix Analysis and Applications*, 40 (1):299–319, ???? 2019. CODEN SJMAEL. ISSN 0895-4798 (print), 1095-7162 (electronic).

Drineas:2018:SCR

[DIKMI18] Petros Drineas, Ilse C. F. Ipsen, Eugenia-Maria Kontopoulou, and Malik Magdon-Ismail. Structural convergence results for approximation of dominant subspaces from block Krylov spaces. *SIAM Journal on Matrix Analysis and Applications*, 39(2):567–586, ???? 2018. CODEN SJMAEL. ISSN 0895-4798 (print), 1095-7162 (electronic).

Dickson:2007:CEP

[DKIK07] K. I. Dickson, C. T. Kelley, I. C. F. Ipsen, and I. G. Kevrekidis. Condition estimates for pseudo-arclength continuation. *SIAM Journal on Numerical Analysis*, 45(1):263–276, 2007. CODEN SJNAAM. ISSN 0036-1429 (print), 1095-7170 (electronic).

Dongarra:1990:PPS

[DMSV90] Jack Dongarra, Paul Messina, Danny C. Sorensen, and Robert G. Voigt, editors. *Parallel Processing for Scientific Computing: Proceedings of the Fourth SIAM Conference on Parallel Processing for Scientific Computing, Chicago, Illinois, December 11–13, 1989.* Society for Industrial and Applied Mathematics, Philadelphia, PA, USA, 1990. ISBN 0-89871-262-9. LCCN QA76.58.S55 1989.

Eriksson-Bique:2011:ISM

[EBSS+11] Sylvester Eriksson-Bique, Mary Solbrig, Michael Stefanelli, Sarah Warkentin, Ralph Abbey, and Ilse C. F. Ipsen. Importance sampling for a Monte Carlo matrix multiplication algorithm, with application to information retrieval. *SIAM Journal on Scientific Computing*, 33(4):1689–1706, ???? 2011. CODEN SJOCE3. ISSN 1064-8275 (print), 1095-7197 (electronic). URL `http://epubs.siam.org/sisc/resource/1/sjoce3/v33/i4/p1689_s1`.

Eisenstat:1993:RPT

[EI93] Stanley C. Eisenstat and Ilse C. F. Ipsen. Relative perturbation techniques for singular value problems. Research Report YALEU/DCS/RR-942, Department of Computer Science, Yale University, New Haven, CT, USA, July 1993. ???? pp.

Eisenstat:1994:RPB

[EI94] S. C. Eisenstat and I. C. F. Ipsen. Relative perturbation bounds for eigenspaces and singular vector subspaces. In Lewis [Lew94], pages 62–65. ISBN 0-89871-336-6. LCCN QA184.S58 1994.

Eisenstat:1995:RPT

[EI95] Stanley C. Eisenstat and Ilse C. F. Ipsen. Relative perturbation techniques for singular value problems. *SIAM Journal on Numerical Analysis*, 32(6):1972–1988, December 1995. CODEN SJNAAM. ISSN 0036-1429 (print), 1095-7170 (electronic).

Eisenstat:1998:RPR

[EI98a] S. C. Eisenstat and I. C. F. Ipsen. Relative perturbation results for eigenvalues and eigenvectors of diagonalisable matrices. *BIT*, 38(3): 502–509, 1998. CODEN BITTEL, NBITAB. ISSN 0006-3835 (print), 1572-9125 (electronic).

Eisenstat:1998:TAP

[EI98b] Stanley C. Eisenstat and Ilse C. F. Ipsen. Three absolute perturbation bounds for matrix eigenvalues imply relative bounds. *SIAM Journal on Matrix Analysis and Applications*, 20(1):149–158, 1998. CODEN SJMAEL. ISSN 0895-4798 (print), 1095-7162 (electronic). URL `http://epubs.siam.org/sam-bin/dbq/article/32328`.

Eisenstat:1999:TAP

[EI99] Stanley C. Eisenstat and Ilse C. F. Ipsen. Three absolute perturbation bounds for matrix eigenvalues imply relative bounds. *SIAM Journal on Matrix Analysis and Applications*, 20(1):149–158, 1999. CODEN SJMAEL. ISSN 0895-4798 (print), 1095-7162 (electronic).

Finkel:2006:CAM

[FKL+06] Daniel E. Finkel, Christopher Kuster, Matthew Lasater, Rachel Levy, Jill P. Reese, and Ilse C. F. Ipsen. Communicating applied mathematics: four examples. *SIAM Review*, 48(2):359–389, 2006. CODEN SIREAD. ISSN 0036-1445 (print), 1095-7200 (electronic).

Golub:1988:NAS

[GD88] Gene H. Golub and Paul Van Dooren, editors. *NATO Advanced Study Institute on Linear Algebra, Digital Signal Processing, and Parallel Algorithms (1988: Leuven, Belgium)*, volume 70 of *NATO ASI series. Series F, Computer and systems sciences*. Springer-Verlag, Berlin, Germany / Heidelberg, Germany / London, UK / etc., 1988. ISBN 0-387-52300-6 (New York), 3-540-52300-6 (Berlin). LCCN QA184 .N39 1988.

Gropp:1988:RMR

[GI88] W. Gropp and I. Ipsen. Recursive mesh refinement on hypercubes. Technical Report RR-616, Department of Computer Science, Yale University, New Haven, CT, USA, 1988.

Gropp:1989:GCS

[GI89a] W. D. Gropp and I. C. F. Ipsen. A Gray code scheme for local uniform mesh refinement on hypercubes. In Rodrigue [Rod89], pages 202–6. ISBN 0-89871-228-9. LCCN QA76.5 .C61921 1987.

Gropp:1989:RMR

[GI89b] W. D. Gropp and I. C. F. Ipsen. Recursive mesh refinement on hypercubes. *BIT*, 29(2):186–211, 1989. CODEN BITTEL, NBITAB. ISSN 0006-3835 (print), 1572-9125 (electronic).

Girolami:2019:ESE

[GIO+19] M. Girolami, I. C. F. Ipsen, C. J. Oates, A. B. Owen, and T. J. Sullivan. Editorial: special edition on probabilistic numerics. *Statistics and Computing*, 29(6): 1181–1183, November 2019. CODEN STACE3. ISSN 0960-3174 (print), 1573-1375 (electronic). URL `http://link.springer.com/article/10.1007/s11222-019-09892-y`; `http://link.springer.com/content/pdf/10.1007/s11222-019-09892-y.pdf`.

Heller:1982:SNO

[HI82] D. Heller and I. Ipsen. Systolic network for orthogonal equivalence transformations and their application. In *Proceedings of the Conference on Advanced Research in VLSI*, pages 113–122. MIT Press, Cambridge, MA, USA, 1982.

Heller:1983:SNO

[HI83] Don E. Heller and Ilse C. F. Ipsen. Systolic networks for orthogonal decompositions. *SIAM Journal on Scientific and Statistical Computing*, 4(2):261–269, 1983. CODEN SIJCD4. ISSN 0196-5204.

Holodnak:2015:RAG

[HI15] John T. Holodnak and Ilse C. F. Ipsen. Randomized approximation of the Gram matrix: Exact computation and probabilistic bounds. *SIAM Journal on Matrix Analysis and Applications*, 36(1): 110–137, ???? 2015. CODEN SJMAEL. ISSN 0895-4798 (print), 1095-7162 (electronic).

Hallman:2023:PAD

[HI23] Eric Hallman and Ilse C. F. Ipsen. Precision-aware deterministic and probabilistic error bounds for floating point summation. *Numerische Mathematik*, 155(1–2): 83–119, October 2023. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-023-01370-y`.

Holodnak:2018:PSB

[HIS18] John T. Holodnak, Ilse C. F. Ipsen, and Ralph C. Smith. A probabilistic subspace bound with application to active subspaces. *SIAM Journal on Matrix Analysis and Applications*, 39(3):1208–1220, ???? 2018. CODEN SJMAEL. ISSN 0895-4798 (print), 1095-7162 (electronic).

Hallman:2023:MCM

[HIS23] Eric Hallman, Ilse C. F. Ipsen, and Arvind K. Saibaba. Monte Carlo methods for estimating the diagonal of a real symmetric matrix. *SIAM Journal on Matrix Analysis and Applications*,

44(1):??, ???? 2023. CODEN SJMAEL. ISSN 0895-4798 (print), 1095-7162 (electronic). URL `https://epubs.siam.org/doi//doi/10.1137/22M1476277`.

Holodnak:2015:CLS

[HIW15] John T. Holodnak, Ilse C. F. Ipsen, and Thomas Wentworth. Conditioning of leverage scores and computation by QR decomposition. *SIAM Journal on Matrix Analysis and Applications*, 36 (3):1143–1163, ???? 2015. CODEN SJMAEL. ISSN 0895-4798 (print), 1095-7162 (electronic).

Ipsen:1987:SST

[IJ87a] I. Ipsen and E. Jessup. Solving the symmetric tridiagonal eigenvalue problem on the hypercube. Technical Report YALEU/DCS/RR-548, Department of Computer Science, Yale University, New Haven, CT, USA, 1987.

Ipsen:1987:TMS

[IJ87b] Ilse C. F. Ipsen and Elizabeth R. Jessup. Two methods for solving the symmetric tridiagonal eigenvalue problem on the hypercube. In *Hypercube multiprocessors 1987 (Knoxville, TN, 1986)*, pages 627–638. Society for Industrial and Applied Mathematics, Philadelphia, PA, USA, 1987.

Ipsen:1990:SST

[IJ90] Ilse C. F. Ipsen and Elizabeth R. Jessup. Solving the symmetric tridiagonal eigenvalue problem on the hypercube. *SIAM Journal on Scientific and Statistical Computing*, 11(2):203–229, 1990. CODEN SIJCD4. ISSN 0196-5204.

Ipsen:2005:CAP

[IK05] Ilse C. F. Ipsen and Steve Kirkland. Convergence analysis of a PageRank updating algorithm by Langville and Meyer. *SIAM Journal on Matrix Analysis and Applications*, 27(4):952–967, 2005. CODEN SJMAEL. ISSN 0895-4798 (print), 1095-7162 (electronic).

Ipsen:2006:CAP

[IK06] Ilse C. F. Ipsen and Steve Kirkland. Convergence analysis of a PageRank updating algorithm by Langville and Meyer. *SIAM Journal on Matrix Analysis and Applications*, 27(4):952–967, 2006. CODEN SJMAEL. ISSN 0895-4798 (print), 1095-7162 (electronic).

Ipsen:2011:RDN

[IKP11] I. C. F. Ipsen, C. T. Kelley, and S. R. Pope. Rank-deficient nonlinear least squares problems and subset selection. *SIAM Journal on Numerical Analysis*, 49 (3):1244–1266, ???? 2011. CODEN SJNAAM. ISSN 0036-1429 (print), 1095-7170 (electronic). URL `http://epubs.siam.org/sinum/resource/1/sjnaam/v49/i3/p1244_s1`.

Ipsen:1994:USM

[IM94] Ilse C. F. Ipsen and Carl D. Meyer. Uniform stability of Markov chains. *SIAM Journal on Matrix Analysis and Applications*, 15(4):1061–1074, 1994. CODEN

SJMAEL. ISSN 0895-4798 (print), 1095-7162 (electronic).

Ipsen:1995:ABC

[IM95] Ilse C. F. Ipsen and Carl D. Meyer. The angle between complementary subspaces. *American Mathematical Monthly*, 102(10): 904–911, ???? 1995. CODEN AMMYAE. ISSN 0002-9890 (print), 1930-0972 (electronic).

Ipsen:1998:IBK

[IM98] Ilse C. F. Ipsen and Carl D. Meyer. The idea behind Krylov methods. *American Mathematical Monthly*, 105(10):889–899, 1998. CODEN AMMYAE. ISSN 0002-9890 (print), 1930-0972 (electronic).

Ipsen:2009:PIC

[IMŠ+09a] Ilse Ipsen, Julio Moro, Peter Šemrl, Jia-Yu Shao, and Pei Yuan Wu. Preface to the 14th ILAS Conference Proceedings, Shanghai 2007. *Linear Algebra and its Applications*, 430(5–6):1441, 2009. CODEN LAAPAW. ISSN 0024-3795 (print), 1873-1856 (electronic). Held at Shanghai University, Shanghai, July 16–20, 2007.

Ipsen:2009:SID

[IMŠ+09b] Ilse Ipsen, Julio Moro, Peter Šemrl, Jia-Yu Shao, and Pei Yuan Wu. Special issue devoted to the 14th ILAS (International Linear Algebra Society) conference, Shanghai, China, July 16–20, 2007. *Linear Algebra and its Applications*, 430(5–6):1441–1724, 2009. CODEN LAAPAW. ISSN 0024-3795 (print), 1873-1856 (electronic).

Ipsen:2009:RPB

[IN09] I. C. F. Ipsen and B. Nadler. Refined perturbation bounds for eigenvalues of Hermitian and non-Hermitian matrices. *SIAM Journal on Matrix Analysis and Applications*, 31(1):40–53, 2009. CODEN SJMAEL. ISSN 0895-4798 (print), 1095-7162 (electronic).

Ipsen:1983:SMC

[Ips83] Ilse C. F. Ipsen. *Stable Matrix Computations in VLSI*. Ph.D. thesis, Department of Computer Science, The Pennsylvania State University, University Park, PA, USA, 1983. 198 pp.

Ipsen:1984:PMU

[Ips84a] I. Ipsen. A parallel QR method using fast Givens' rotations. Technical Report YALEU/DCS/RR-299, Department of Computer Science, Yale University, New Haven, CT, USA, 1984.

Ipsen:1984:SVD

[Ips84b] I. Ipsen. Singular value decomposition with systolic arrays. In *Proceedings of the Society of Photo-Optical Engineers*. Society of Photo-Optical Engineers, Bellingham, WA, 1984.

Ipsen:1987:SAP

[Ips87] I. Ipsen. Systolic algorithms for the parallel solution of dense symmetric positive-definite Toeplitz systems. Technical Report

YALEU/DCS/RR-539, Department of Computer Science, Yale University, New Haven, CT, USA, May 1987.

Ipsen:1988:SAP

[Ips88] Ilse C. F. Ipsen. Systolic algorithms for the parallel solution of dense symmetric positive-definite Toeplitz systems. In Schultz [Sch88], pages 85–108. ISBN 0-387-96733-8. LCCN QA76.5.N79 1988.

Ipsen:1990:SRG

[Ips90] I. C. F. Ipsen. Some remarks on the generalised Bareiss and Levinson algorithms. In Golub and Dooren [GD88], pages 189–214. ISBN 0-387-52300-6 (New York), 3-540-52300-6 (Berlin). LCCN QA184 .N39 1988.

Ipsen:1991:SRG

[Ips91] Ilse Ipsen. Some remarks on the generalised Bareiss and Levinson algorithms. In *Numerical linear algebra, digital signal processing and parallel algorithms (Leuven, 1988)*, volume 70 of *NATO Adv. Sci. Inst. Ser. F Comput. Systems Sci.*, pages 189–214. Springer-Verlag, Berlin, Germany / Heidelberg, Germany / London, UK / etc., 1991.

Ipsen:1994:HII

[Ips94] Ilse C. F. Ipsen. A history of inverse iteration. In B. Huppert and H. Schneider, editors, *Helmut Wielandt, Mathematische Werke, Mathematical Works, Volume II: Matrix Theory and Analysis*, page ?? Walter de Gruyter, Berlin, Germany, 1994. To appear.

Ipsen:1996:HWC

[Ips96a] I. C. F. Ipsen. Helmut Wielandt's contributions to the numerical solution of complex eigenvalue problems. In Bertram Huppert and Hans Schneider, editors, *Helmut Wielandt, Mathematische Werke, Mathematical Works*, volume II: Matrix Theory and Analysis, pages 453–463. Walter de Gruyter, Berlin, Germany, 1996. ISBN 3-11-012452-1. LCCN QA3.W52 1993.

Ipsen:1996:HII

[Ips96b] I. C. F. Ipsen. A history of inverse iteration. In Bertram Huppert and Hans Schneider, editors, *Helmut Wielandt, Mathematische Werke, Mathematical Works*, volume II: Matrix Theory and Analysis, pages 464–472. Walter de Gruyter, Berlin, Germany, 1996. ISBN 3-11-012452-1. LCCN QA3.W52 1993.

Ipsen:1997:CEI

[Ips97] Ilse C. F. Ipsen. Computing an eigenvector with inverse iteration. *SIAM Review*, 39(2):254–291, June 1997. CODEN SIREAD. ISSN 0036-1445 (print), 1095-7200 (electronic). URL `http://epubs.siam.org/sam-bin/dbq/article/30077`.

Ipsen:1998:RPR

[Ips98] Ilse C. F. Ipsen. Relative perturbation results for matrix eigenvalues and singular values. *Acta Numerica*, 7:151–201, 1998. CODEN

ANUMFU. ISBN 0-521-64316-3. ISSN 0962-4929 (print), 1474-0508 (electronic).

Ipsen:2000:EBG

[Ips00a] I. C. F. Ipsen. Expressions and bounds for the GMRES residual. *BIT Numerical Mathematics*, 40(3):524–535, September 2000. CODEN BITTEL, NBITAB. ISSN 0006-3835 (print), 1572-9125 (electronic).

Ipsen:2000:ARP

[Ips00b] Ilse C. F. Ipsen. Absolute and relative perturbation bounds for invariant subspaces of matrices. *Linear Algebra and its Applications*, 309(1–3):45–56, April 15, 2000. CODEN LAAPAW. ISSN 0024-3795 (print), 1873-1856 (electronic). URL http://www.elsevier.nl/gej-ng/10/30/19/126/25/28/abstract.html; http://www.elsevier.nl/gej-ng/10/30/19/126/25/28/article.pdf. Proceedings of the International Workshop on Accurate Solution of Eigenvalue Problems (University Park, PA, 1998).

Ipsen:2000:ORT

[Ips00c] Ilse C. F. Ipsen. An overview of relative $\sin\Theta$ theorems for invariant subspaces of complex matrices. *Journal of Computational and Applied Mathematics*, 123 (1–2):131–153, 2000. CODEN JCAMDI. ISSN 0377-0427 (print), 1879-1778 (electronic). Numerical analysis 2000, Vol. III. Linear algebra.

Ipsen:2001:NPN

[Ips01] Ilse C. F. Ipsen. A note on preconditioning nonsymmetric matrices. *SIAM Journal on Scientific Computing*, 23(3):1050–1051, 2001. CODEN SJOCE3. ISSN 1064-8275 (print), 1095-7197 (electronic).

Ipsen:2003:NUA

[Ips03] Ilse C. F. Ipsen. A note on unifying absolute and relative perturbation bounds. *Linear Algebra and its Applications*, 358:239–253, 2003. CODEN LAAPAW. ISSN 0024-3795 (print), 1873-1856 (electronic). Special issue on accurate solution of eigenvalue problems (Hagen, 2000).

Ipsen:2005:PT

[Ips05] Ilse Ipsen. Problems and techniques. *SIAM Review*, 47(4): 707, December 2005. CODEN SIREAD. ISSN 0036-1445 (print), 1095-7200 (electronic). URL http://epubs.siam.org/sam-bin/dbq/article/97156.

Ipsen:2006:PTa

[Ips06a] Ilse Ipsen. Problems and techniques. *SIAM Review*, 48(1):41–42, ???? 2006. CODEN SIREAD. ISSN 0036-1445 (print), 1095-7200 (electronic).

Ipsen:2006:PTb

[Ips06b] Ilse Ipsen. Problems and techniques. *SIAM Review*, 48(2):305, ???? 2006. CODEN SIREAD. ISSN 0036-1445 (print), 1095-7200 (electronic).

Ipsen:2006:PTc

[Ips06c] Ilse Ipsen. Problems and techniques. *SIAM Review*, 48(3):485, ???? 2006. CODEN SIREAD. ISSN 0036-1445 (print), 1095-7200 (electronic).

Ipsen:2006:PTd

[Ips06d] Ilse Ipsen. Problems and techniques. *SIAM Review*, 48(4): 679–680, ???? 2006. CODEN SIREAD. ISSN 0036-1445 (print), 1095-7200 (electronic).

Ipsen:2006:SIA

[Ips06e] Ilse C. F. Ipsen. Special issue on accurate solution of eigenvalue problems. *SIAM Journal on Matrix Analysis and Applications*, 28 (4):ix, 2006. CODEN SJMAEL. ISSN 0895-4798 (print), 1095-7162 (electronic).

Ipsen:2006:SIP

[Ips06f] Ilse C. F. Ipsen. Special issue: Proceedings of the international workshop on accurate solution of eigenvalue problems, Hagen, Germany, June 29–July 1, 2004. *SIAM Journal on Matrix Analysis and Applications*, 28(4): 907–1203, 2006. CODEN SJMAEL. ISSN 0895-4798 (print), 1095-7162 (electronic).

Ipsen:2007:I

[Ips07a] Ilse Ipsen. Introduction. *SIAM Review*, 49(4):593, ???? 2007. CODEN SIREAD. ISSN 0036-1445 (print), 1095-7200 (electronic).

Ipsen:2007:PT

[Ips07b] Ilse Ipsen. Problems and techniques. *SIAM Review*, 49(1):33–34, ???? 2007. CODEN SIREAD. ISSN 0036-1445 (print), 1095-7200 (electronic).

Ipsen:2007:PTa

[Ips07c] Ilse Ipsen. Problems and techniques. *SIAM Review*, 49(1):33–34, ???? 2007. CODEN SIREAD. ISSN 0036-1445 (print), 1095-7200 (electronic).

Ipsen:2007:PTb

[Ips07d] Ilse Ipsen. Problems and techniques. *SIAM Review*, 49(2):209, ???? 2007. CODEN SIREAD. ISSN 0036-1445 (print), 1095-7200 (electronic).

Ipsen:2007:PTc

[Ips07e] Ilse Ipsen. Problems and techniques. *SIAM Review*, 49(3): 419–420, ???? 2007. CODEN SIREAD. ISSN 0036-1445 (print), 1095-7200 (electronic).

Ipsen:2007:PTd

[Ips07f] Ilse Ipsen. Problems and techniques. *SIAM Review*, 49(4):593, ???? 2007. CODEN SIREAD. ISSN 0036-1445 (print), 1095-7200 (electronic).

Ipsen:2007:U

[Ips07g] Ilse Ipsen. Untitled. *SIAM Review*, 49(3):419–420, ???? 2007. CODEN SIREAD. ISSN 0036-1445 (print), 1095-7200 (electronic).

Ipsen:2008:I

[Ips08a] Ilse Ipsen. Introduction. *SIAM Review*, 50(1):35, ???? 2008. CODEN SIREAD. ISSN 0036-1445 (print), 1095-7200 (electronic).

Ipsen:2008:PTa

[Ips08b] Ilse Ipsen. Problems and techniques. *SIAM Review*, 50(1):35, ???? 2008. CODEN SIREAD. ISSN 0036-1445 (print), 1095-7200 (electronic).

Ipsen:2008:PTd

[Ips08c] Ilse Ipsen. Problems and techniques. *SIAM Review*, 50(4):721, ???? 2008. CODEN SIREAD. ISSN 0036-1445 (print), 1095-7200 (electronic).

Ipsen:2008:PTIa

[Ips08d] Ilse Ipsen. Problems and techniques — introduction. *SIAM Review*, 50(3):483, ???? 2008. CODEN SIREAD. ISSN 0036-1445 (print), 1095-7200 (electronic).

Ipsen:2008:PTIb

[Ips08e] Ilse Ipsen. Problems and techniques — introduction. *SIAM Review*, 50(2):273, ???? 2008. CODEN SIREAD. ISSN 0036-1445 (print), 1095-7200 (electronic).

Ipsen:2009:PTa

[Ips09a] Ilse Ipsen. Problems and techniques. *SIAM Review*, 51(1):127, ???? 2009. CODEN SIREAD. ISSN 0036-1445 (print), 1095-7200 (electronic).

Ipsen:2009:PTb

[Ips09b] Ilse Ipsen. Problems and techniques. *SIAM Review*, 51(2):337, ???? 2009. CODEN SIREAD. ISSN 0036-1445 (print), 1095-7200 (electronic).

Ipsen:2009:PTc

[Ips09c] Ilse Ipsen. Problems and techniques. *SIAM Review*, 51(3):543, ???? 2009. CODEN SIREAD. ISSN 0036-1445 (print), 1095-7200 (electronic).

Ipsen:2009:PTI

[Ips09d] Ilse Ipsen. Problems and techniques: Introduction. *SIAM Review*, 51(4):705, ???? 2009. CODEN SIREAD. ISSN 0036-1445 (print), 1095-7200 (electronic).

Ipsen:2009:NMA

[Ips09e] Ilse C. F. Ipsen. *Numerical matrix analysis*. Society for Industrial and Applied Mathematics, Philadelphia, PA, USA, 2009. ISBN 0-89871-676-4. xiv + 128 pp. LCCN QA275 .I67 2009. URL `http://www.loc.gov/catdir/enhancements/fy0912/2009008514-b.htm; http://www.loc.gov/catdir/enhancements/fy0912/2009008514-d.htm; http://www.loc.gov/catdir/enhancements/fy0912/2009008514-t.htm`.

Ipsen:2009:SIA

[Ips09f] Ilse C. F. Ipsen. Special issue on accurate solution of eigenvalue problems. *SIAM Journal on Matrix Analysis and Applications*, 31

(1):vii, 2009. CODEN SJMAEL. ISSN 0895-4798 (print), 1095-7162 (electronic).

Ipsen:2010:ERPa

[Ips10a] Ilse Ipsen. Expository research papers. *SIAM Review*, 52(1):55, ???? 2010. CODEN SIREAD. ISSN 0036-1445 (print), 1095-7200 (electronic).

Ipsen:2010:ERPb

[Ips10b] Ilse Ipsen. Expository research papers. *SIAM Review*, 52(2):267, ???? 2010. CODEN SIREAD. ISSN 0036-1445 (print), 1095-7200 (electronic).

Ipsen:2010:ERPc

[Ips10c] Ilse Ipsen. Expository research papers. *SIAM Review*, 52(3):453, ???? 2010. CODEN SIREAD. ISSN 0036-1445 (print), 1095-7200 (electronic).

Ipsen:2010:ERPd

[Ips10d] Ilse Ipsen. Expository research papers. *SIAM Review*, 52(4):675, ???? 2010. CODEN SIREAD. ISSN 0036-1445 (print), 1095-7200 (electronic).

Ipsen:2010:EIS

[Ips10e] Ilse C. F. Ipsen. The eigenproblem and invariant subspaces: perturbation theory. In *G. W. Stewart: selected works with commentaries*, Contemp. Mathematicians, pages 71–93. Birkhäuser Verlag, Basel, Switzerland, 2010.

Ipsen:2011:ERPa

[Ips11a] Ilse Ipsen. Expository research papers. *SIAM Review*, 53(1):69, ???? 2011. CODEN SIREAD. ISSN 0036-1445 (print), 1095-7200 (electronic). URL `http://epubs.siam.org/sirev/resource/1/siread/v53/i1/p69_s1`.

Ipsen:2011:ERPb

[Ips11b] Ilse Ipsen. Expository research papers. *SIAM Review*, 53(2):289, ???? 2011. CODEN SIREAD. ISSN 0036-1445 (print), 1095-7200 (electronic). URL `http://epubs.siam.org/sirev/resource/1/siread/v53/i2/p289_s1`.

Ipsen:2011:ERPc

[Ips11c] Ilse Ipsen. Expository research papers. *SIAM Review*, 53(3):503, ???? 2011. CODEN SIREAD. ISSN 0036-1445 (print), 1095-7200 (electronic). URL `http://epubs.siam.org/sirev/resource/1/siread/v53/i3/p503_s1`.

Ipsen:2011:ERPd

[Ips11d] Ilse Ipsen. Expository research papers. *SIAM Review*, 53(4):721, ???? 2011. CODEN SIREAD. ISSN 0036-1445 (print), 1095-7200 (electronic). URL `http://epubs.siam.org/sirev/resource/1/siread/v53/i4/p721_s1`.

Ipsen:2012:ERP

[Ips12a] Ilse Ipsen. Expository research papers. *SIAM Review*,

53(4):721, ???? 2012. CODEN SIREAD. ISSN 0036-1445 (print), 1095-7200 (electronic). URL `http://epubs.siam.org/sirev/resource/1/siread/v53/i4/p721_s1`.

Ipsen:2012:RS

[Ips12b] Ilse Ipsen. Research spotlights. *SIAM Review*, 54(1): 119, ???? 2012. CODEN SIREAD. ISSN 0036-1445 (print), 1095-7200 (electronic). URL `http://epubs.siam.org/sirev/resource/1/siread/v54/i1/p119_s1`.

Ipsen:2012:U

[Ips12c] Ilse Ipsen. Untitled. *SIAM Review*, 54(1):119–120, ???? 2012. CODEN SIREAD. ISSN 0036-1445 (print), 1095-7200 (electronic).

Ipsen:2008:PBD

[IR08] Ilse C. F. Ipsen and Rizwana Rehman. Perturbation bounds for determinants and characteristic polynomials. *SIAM Journal on Matrix Analysis and Applications*, 30(2):762–776, 2008. CODEN SJMAEL. ISSN 0895-4798 (print), 1095-7162 (electronic).

Ipsen:1985:IPA

[IS85] I. Ipsen and Y. Saad. The impact of parallel architectures on the solution of eigenvalue problems. Technical Report YALEU/DCS/RR-444, Department of Computer Science, Yale University, New Haven, CT, USA, December 1985.

Ipsen:1986:IPA

[IS86] I. C. F. Ipsen and Y. Saad. The impact of parallel architectures on the solution of eigenvalue problems. In Cullum and Willoughby [CW86], pages 37–49. ISBN 0-444-70074-9. LCCN QA193 .I261 1985.

Ipsen:2007:PCS

[IS07] Ilse C. F. Ipsen and Teresa M. Selee. PageRank computation, with special attention to dangling nodes. *SIAM Journal on Matrix Analysis and Applications*, 29(4): 1281–1296, 2007. CODEN SJMAEL. ISSN 0895-4798 (print), 1095-7162 (electronic).

Ipsen:2008:PCS

[IS08] Ilse C. F. Ipsen and Teresa M. Selee. PageRank computation, with special attention to dangling nodes. *SIAM Journal on Matrix Analysis and Applications*, 29(4): 1281–1296, ???? 2008. CODEN SJMAEL. ISSN 0895-4798 (print), 1095-7162 (electronic).

Ipsen:2011:ECD

[IS11] Ilse C. F. Ipsen and Teresa M. Selee. Ergodicity coefficients defined by vector norms. *SIAM Journal on Matrix Analysis and Applications*, 32(1):153–200, ???? 2011. CODEN SJMAEL. ISSN 0895-4798 (print), 1095-7162 (electronic). URL `http://epubs.siam.org/simax/resource/1/sjmael/v32/i1/p153_s1`.

Ipsen:2025:SRI

[IS25] Ilse C. F. Ipsen and Arvind K. Saibaba. Stable rank and intrinsic dimension of real and complex matrices. *SIAM Journal on Matrix Analysis and Applications*, 46 (3):1988–2007, ???? 2025. CODEN SJMAEL. ISSN 0895-4798 (print), 1095-7162 (electronic). URL `https://epubs.siam.org/doi/10.1137/24M1681537`.

Ipsen:1984:CDL

[ISS84] I. Ipsen, Y. Saad, and M. H. Schultz. Complexity of dense linear system solution on a multiprocessor ring. Technical Report 349, Computer Science Department, Yale University, New Haven, CT, USA, 1984.

Ipsen:1986:CDL

[ISS86] Ilse C. F. Ipsen, Youcef Saad, and Martin H. Schultz. Complexity of dense-linear-system solution on a multiprocessor ring. *Linear Algebra and its Applications*, 77:205–239, 1986. CODEN LAAPAW. ISSN 0024-3795 (print), 1873-1856 (electronic). Special volume on parallel computing.

Ipsen:2006:MPA

[IW06] Ilse C. F. Ipsen and Rebecca S. Wills. Mathematical properties and analysis of Google's PageRank. *Bol. Soc. Esp. Mat. Apl. S$\vec{e}$MA*, 34:191–196, 2006. ISSN 1575-9822.

Ipsen:2014:ECS

[IW14] Ilse C. F. Ipsen and Thomas Wentworth. The effect of coherence on sampling from matrices with orthonormal columns, and preconditioned least squares problems. *SIAM Journal on Matrix Analysis and Applications*, 35(4): 1490–1520, ???? 2014. CODEN SJMAEL. ISSN 0895-4798 (print), 1095-7162 (electronic).

Ipsen:2020:PEA

[IZ20] Ilse C. F. Ipsen and Hua Zhou. Probabilistic error analysis for inner products. *SIAM Journal on Matrix Analysis and Applications*, 41(4):1726–1741, ???? 2020. CODEN SJMAEL. ISSN 0895-4798 (print), 1095-7162 (electronic).

Jessup:1992:IAI

[JI92] Elizabeth R. Jessup and Ilse C. F. Ipsen. Improving the accuracy of inverse iteration. *SIAM Journal on Scientific and Statistical Computing*, 13(2):550–572, 1992. CODEN SIJCD4. ISSN 0196-5204.

Lewis:1994:ALA

[Lew94] John G. Lewis, editor. *Applied Linear Algebra: Proceedings of the Fifth SIAM Conference on Applied Linear Algebra, Snowbird, Utah, June 15–18, 1994*. Society for Industrial and Applied Mathematics, Philadelphia, PA, USA, 1994. ISBN 0-89871-336-6. LCCN QA184.S58 1994.

Rehman:2011:CCP

[RI11] Rizwana Rehman and Ilse C. F. Ipsen. Computing characteristic polynomials from eigenvalues. *SIAM Journal on Matrix Analysis and Applications*,

32(1):90–114, ???? 2011. CODEN SJMAEL. ISSN 0895-4798 (print), 1095-7162 (electronic). URL `http://epubs.siam.org/simax/resource/1/sjmael/v32/i1/p90_s1`.

Reid:2023:SPB

[RICO23] Tim W. Reid, Ilse C. F. Ipsen, Jon Cockayne, and Chris J. Oates. Statistical properties of BayesCG under the Krylov prior. *Numerische Mathematik*, 155(3-4):239–288, December 2023. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-023-01375-7`.

Rodrigue:1989:PPS

[Rod89] Garry Rodrigue, editor. *Parallel processing for scientific computing: Proceedings of the Third SIAM Conference held in Los Angeles, California, December 1–4, 1987*. Society for Industrial and Applied Mathematics, Philadelphia, PA, USA, 1989. ISBN 0-89871-228-9. LCCN QA76.5 .C61921 1987.

Saibaba:2017:RMF

[SAI17] Arvind K. Saibaba, Alen Alexanderian, and Ilse C. F. Ipsen. Randomized matrix-free trace and log-determinant estimators. *Numerische Mathematik*, 137(2):353–395, October 2017. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `https://link.springer.com/article/10.1007/s00211-017-0880-z`.

Schultz:1988:NAM

[Sch88] Martin Schultz, editor. *Numerical Algorithms for Modern Parallel Computer Architectures*, volume 13 of *The IMA volumes in mathematics and its applications*. Springer-Verlag, Berlin, Germany / Heidelberg, Germany / London, UK / etc., 1988. ISBN 0-387-96733-8. vi + 232 pp. LCCN QA76.5.N79 1988.

Wills:2008:ORG

[WI09] Rebecca S. Wills and Ilse C. F. Ipsen. Ordinal ranking for Google's PageRank. *SIAM Journal on Matrix Analysis and Applications*, 30(4):1677–1696, 2008/09. CODEN SJMAEL. ISSN 0895-4798 (print), 1095-7162 (electronic).

Wills:2009:ORG

[WI09] Rebecca S. Wills and Ilse C. F. Ipsen. Ordinal ranking for Google's PageRank. *SIAM Journal on Matrix Analysis and Applications*, 30(4):1677–1696, ???? 2009. CODEN SJMAEL. ISSN 0895-4798 (print), 1095-7162 (electronic).

Jiang:1994:NAP

[xJ94] Er xiong Jiang, editor. *Numerical Algebra, Proceedings of '92 Shanghai International Numerical Algebra and Its Applications Conference*. China Science and Technology Press, Shanghai, China, 1994. ISBN 7-5046-1864-0.