

A Bibliography of Publications by, and about, Wallace Givens

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Abstract

1 [Hop97]. **163** [Cla81]. **1986** [CRTQ86].

This bibliography records publications of Wallace Givens.

3D [PW18].

539 [HH04, LHKK79]. **5425** [Mar67].

Title word cross-reference

653 [HK87]. **663** [LN88].

1024 [Giv68]. *H* [LZW⁺18]. *k* [Kon02]. *LU* [Abd18, Mar18]. *QR* [CM99, FA17, GHL⁺19, Gen75, GO95, HS86, HK06, Ips84, Kon02, SM02, SVTD19]. *QZ* [MM86, Mär87].

830 [HH04].

***36** [Ano93].

-algorithm [MM86]. **-Algorithmus** [MM86]. **-Decomposition** [SM02, SVTD19]. **-matrices** [LZW⁺18]. **-terminology** [FC06].

abbreviation [Giv68]. **adaptive** [Del98]. **ahead** [ZHF95a, ZHF95b]. **Algebra** [DG82, Dod83, HK87, LHKK79, LN88, Giv51]. **Algorithm** [BG88, Cla81, MBM98, PW18, YLL⁺23, BKŽ16, BKŽ17, Del98, HB97, LCZ97, Mär87, Meg93, MAMB14, MCLM20, YJ01, ZQW14, ZHF95a, ZHF95b, dMdsK07, Cla81, DG82, Dod83, HK87, HH04, HH18, LHKK79, LN88, MM86]. **Algorithms**

[CD94, PR87, Bor21, CRTQ86, HGP86, Kon02, PC99, PR89, SAMAN18].

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References

AbderramanMarrero:2018:RGA

- [Abd18] J. Abderramán Marrero. A reliable Givens- LU approach for solving opposite-bordered tridiagonal linear systems. *Computers and Mathematics with Applications*, 76(10):2409–2420, November 15, 2018. CODEN CMAPDK. ISSN 0898-1221 (print), 1873-7668 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S0898122118304644>.

- Acerbi:2011:LGF**
- [Ace11] Fabio Acerbi. The language of the “Givens”: its forms and its use as a deductive tool in Greek mathematics. *Archive for History of Exact Sciences*, 65(2): 119–153, 2011. CODEN AHE-SAN. ISSN 0003-9519 (print), 1432-0657 (electronic).
- Anonymous:1993:JWG**
- [Ano93] Anonymous. James Wallace Givens Jr. *36. Princeton Alumni Weekly Web site, 1993. URL <https://paw.princeton.edu/memorial/james-wallace-givens-jr-36>.
- Bennett:1938:PSE**
- [BB38] A. A. Bennett and J. H. Butchart. Problems and solutions: Elementary problems: Solutions: E289. *American Mathematical Monthly*, 45(3):186–187, March 1938. CODEN AMMYAE. ISSN 0002-9890 (print), 1930-0972 (electronic). See also [CBK⁺37].
- Butchart:1938:PSEa**
- [BC38] J. H. Butchart and W. B. Clarke. Problems and solutions: Elementary problems: Solutions: E293. *American Mathematical Monthly*, 45(3):189, March 1938. CODEN AMMYAE. ISSN 0002-9890 (print), 1930-0972 (electronic). See also [BGW38b, CBK⁺37].
- Bindel:2000:CGR**
- [BDKM00] D. Bindel, J. Demmel, W. Kahan, and O. Marques. On computing Givens rotations reliably and efficiently. LAPACK Working Note 148, Department of Computer Science, University of Tennessee, Knoxville, Tennessee, TN 37996, USA, October 2000. URL <http://www.netlib.org/lapack/lapack/lawns/lawn148.ps>; <http://www.netlib.org/lapack/lawnspdf/lawn148.pdf>. UT-CS-00-449, October 2000. Published in [BDKM02].
- Bindel:2002:CGR**
- [BDKM02] David Bindel, James Demmel, William Kahan, and Osni Marques. On computing Givens rotations reliably and efficiently. *ACM Transactions on Mathematical Software*, 28(2):206–238, June 2002. CODEN ACMSCU. ISSN 0098-3500 (print), 1557-7295 (electronic). See original LAPACK Working note in [BDKM00].
- Burrows:1964:BRP**
- [BG64] James W. Burrows and Wallace Givens. Book review: *On a Property of a Unitary Matrix* (J. L. Brenner and F. T. Smith). *SIAM Review*, 6(4): 460–461, 1964. CODEN SIREAD. ISSN 0036-1445 (print), 1095-7200 (electronic).
- Bernstein:1988:OGA**
- [BG88] Herbert J. Bernstein and Max Goldstein. Optimizing Givens’ algorithm for multiprocessors. *SIAM Journal on Scientific and Statistical Computing*, 9(3):601–

602, May 1988. CODEN SIJCD4. ISSN 0196-5204.

Butchart:1938:PSE

- [BGW38a] J. H. Butchart, Wallace Givens, and R. J. Walker. Problems and solutions: Elementary problems: Solutions: E293. *American Mathematical Monthly*, 45(8): 552–553, October 1938. CODEN AMMYAE. ISSN 0002-9890 (print), 1930-0972 (electronic). See also [BC38, CBK⁺37].

Butchart:1938:PSEb

- [BGW38b] J. H. Butchart, Wallace Givens, and R. J. Walker. Problems and solutions: Elementary problems: Solutions: E293. *American Mathematical Monthly*, 45(8): 552–553, October 1938. CODEN AMMYAE. ISSN 0002-9890 (print), 1930-0972 (electronic). See also [BC38, CBK⁺37].

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, September 1987. CODEN SIJCD4. ISSN 0196-5204.

Bilski:2016:AGR

- [BKŻ16] Jarosław Bilski, Bartosz Kowalczyk, and Jacek M. Żurada. Application of the Givens rotations in the neural network learning algorithm. In *Artificial intelligence and soft computing. 15th international conference, ICAISC*

2016, Zakopane, Poland, June 12–16, 2016. Proceedings. Part I, pages 46–56. Springer-Verlag, Berlin, Germany / Heidelberg, Germany / London, UK / etc., 2016. ISBN 3-319-39377-4; 3-319-39378-2.

Bilski:2017:PIG

- [BKŻ17] Jarosław Bilski, Bartosz Kowalczyk, and Jacek M. Żurada. Parallel implementation of the Givens rotations in the neural network learning algorithm. In *Artificial intelligence and soft computing. 16th international conference, ICAISC 2017, Zakopane, Poland, June 11–15, 2017. Proceedings. Part I*, pages 14–24. Springer-Verlag, Berlin, Germany / Heidelberg, Germany / London, UK / etc., 2017. ISBN 3-319-59062-6; 3-319-59063-4.

Blais:1985:LSF

- [Bla85] J. A. R. Blais. Least-squares filtering and smoothing using Givens transformations. *Manuscripta Geodaetica*, 10:208–212, 1985. ISSN 0340-8825.

Biloti:2013:SNG

- [BMY13] R. Biloti, L. C. Matioli, and Jinyun Yuan. A short note on a generalization of the Givens transformation. *Computers and Mathematics with Applications*, 66(1):56–61, August 2013. CODEN CMAPDK. ISSN 0898-1221 (print), 1873-7668 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S0898122113002228>. ■

- [Bor21] Carlos F. Borges. Fast compensated algorithms for the reciprocal square root, the reciprocal hypotenuse, and Givens rotations. *arXiv.org*, ??(?):1–11, February 23, 2021. URL <https://arxiv.org/abs/2103.08694>.
- [Bro98] Eli Brookner. *Givens Orthonormal Transformation*, pages 283–314. Wiley, New York, NY, USA, April 1998. ISBN 0-471-18407-1 (print), 0-471-22419-7 (e-book).
- [BW84] Douglas M. Bates and Dennis A. Wolf. Non-negative regression by Givens rotations. *Communications in Statistics: Simulation and Computation*, 13(6): 841–850, 1984. CODEN CSS-CDB. ISSN 0361-0918.
- [BY09] Zhong-Zhi Bai and Jun-Feng Yin. Modified incomplete orthogonal factorization methods using Givens rotations. *Computing: Archiv für Informatik und Numerik*, 86(1):53–69, September 2009. CODEN CMPA2. ISSN 0010-485X (print), 1436-5057 (electronic). URL <http://www.springerlink.com/openurl.asp?genre=article&issn=0010-485X&volume=86&issue=1&page=53>.
- [Cam38] W. B. Campbell. Problems and solutions: Elementary problems: Solutions: E288. *American Mathematical Monthly*, 45(10): 692, December 1938. CODEN AMMYAE. ISSN 0002-9890 (print), 1930-0972 (electronic). See also [CBK⁺37, CB38].
- [Cau58] Robert L. Causey. On some error bounds of Givens. *Journal of the ACM*, 5(2):127–131, April 1958. CODEN JACOA. ISSN 0004-5411 (print), 1557-735X (electronic).
- [CB38] W. B. Campbell and J. H. Butchart. Problems and solutions: Elementary problems: Solutions: E288. *American Mathematical Monthly*, 45(3): 186, March 1938. CODEN AMMYAE. ISSN 0002-9890 (print), 1930-0972 (electronic). See also [CBK⁺37, Cam38].
- [CBK⁺37] W. B. Campbell, A. A. Bennett, Meyer Karlin, V. Thébault, K. W. Miller, and J. H. Butchart. Problems and solutions: Elementary problems: Problems for solution: E288–E293. *American Mathematical Monthly*, 44(7):478–479, August/September 1937. CODEN AMMYAE. ISSN 0002-9890 (print), 1930-0972 (electronic). See also [BB38, BC38, BGW38b, CB38, Cam38, KS38, MS38, TB38].

- Cosnard:1994:OAP**
- [CD94] Michel Cosnard and El Mostafa Daoudi. Optimal algorithms for parallel Givens factorization on a coarse-grained PRAM. *Journal of the ACM*, 41(2): 399–421, March 1994. CODEN JACOAH. ISSN 0004-5411 (print), 1557-735X (electronic). URL <http://www.acm.org/pubs/toc/Abstracts/0004-5411/174660.html>.
- Cosnard:1986:PSG**
- [CDMR86] M. Cosnard, M. Daoudi, J. M. Muller, and Y. Robert. On parallel and systolic Givens factorizations of dense matrices. In Cosnard et al. [CRTQ86], pages 245–258. ISBN 0-444-70104-4. LCCN QA76.5 .I618 1986.
- Cosnard:1989:CPG**
- [CDR89] M. Cosnard, E. M. Daoudi, and Y. Robert. Complexity of the parallel Givens factorization on shared memory architectures. In Hristo Djidjev, editor, *Optimal algorithms, Proceedings of the International Symposium, Varna, Bulgaria 1989*, volume 401 of *Lecture Notes in Computer Science*, pages 86–105. Springer-Verlag, Berlin, Germany / Heidelberg, Germany / London, UK / etc., 1989. ISBN 0-387-51859-2.
- Clarke:1981:AGA**
- [Cla81] M. R. B. Clarke. Algorithm AS 163: A Givens algorithm for moving from one linear model to another without going back to the data. *Applied Statistics*, 30(2):198–203, June 1981. CODEN APSTAG. ISSN 0035-9254 (print), 1467-9876 (electronic). URL <http://lib.stat.cmu.edu/apstat/163>.
- Carrig:1999:POC**
- [CM99] James J. Carrig, Jr. and Gerard G. L. Meyer. A parameterized ordering for cache-, register- and pipeline-efficient Givens QR decomposition. *Advances in Computational Mathematics*, 10(1):97–113, January 1999. CODEN ACMHEX. ISSN 1019-7168 (print), 1572-9044 (electronic). URL <http://link.springer.com/article/10.1023/A:1018970413988>.
- Cosnard:1988:SGF**
- [CR88] Michel Cosnard and Yves Robert. Systolic Givens factorization of dense rectangular matrices. *International Journal of Computer Mathematics*, 25(3-4): 287–298, 1988. CODEN IJCMAT. ISSN 0020-7160.
- Cosnard:1986:PAA**
- [CRTQ86] Michel Cosnard, Yves Robert, Maurice Tchente, and Patrice Quinton, editors. *Parallel algorithms & architectures: proceedings of the International Workshop on Parallel Algorithms & Architectures, Centre National de Rencontres Mathématiques, Luminy, France, 14–18 April, 1986*. North-Holland Publishing Co., Amsterdam, The Netherlands, 1986. ISBN 0-444-70104-4. LCCN QA76.5 .I618 1986.

- [CUM86] **Chang:1986:PGT**
H. Y. Chang, S. Utku, and R. J. Melosh. A parallel Givens tridiagonalization stratagem using scattered column decomposition. *Computer-Aided Civil and Infrastructure Engineering*, 1(1):45–51, July 1986. CODEN CCIEFR. ISSN 1093-9687 (print), 1467-8667 (electronic).
- [Del98] **Delmas:1998:PAG**
Jean-Pierre Delmas. Performances analysis of a Givens parametrized adaptive eigenspace algorithm. *Signal Processing*, 68(1):87–105, 1998. ISSN 0165-1684 (print), 1872-7557 (electronic).
- [DG82] **Dodson:1982:RBL**
David S. Dodson and Roger G. Grimes. Remark on “Algorithm 539: Basic Linear Algebra Subprograms for Fortran usage [F1]”. *ACM Transactions on Mathematical Software*, 8(4):403–404, December 1982. CODEN ACMSCU. ISSN 0098-3500 (print), 1557-7295 (electronic). See [LHKK79, Dod83, HK87, LN88].
- [dMdSK07] **deMoraes:2007:SOD**
Rodolpho Vilhena de Moraes, Aurea Aparecida da Silva, and Helio Koiti Kuga. Simple orbit determination using GPS based on a least-squares algorithm employing sequential Givens rotations. *Math. Probl. Eng.*, 2007:8, 2007. ISSN 1024-123X. Id/No 49781.
- [Dod83] **Dodson:1983:CRB**
David S. Dodson. Corrigendum: Remark on “Algorithm 539: Basic Linear Algebra Subroutines for FORTRAN usage”. *ACM Transactions on Mathematical Software*, 9(1):140, March 1983. CODEN ACMSCU. ISSN 0098-3500 (print), 1557-7295 (electronic). See [LHKK79, DG82, HK87, LN88].
- [Döh88] **Dohler:1988:SGR**
Raimund Döhler. Squared Givens rotation. Preprint 69, Sect. Math., TU Karl-Marx-Stadt, Karl-Marx-Stadt, East Germany, 1988. 15 pp.
- [Döh89] **Dohler:1989:SCS**
Raimund Döhler. Statistical computations by squared Givens rotation. Preprint 16, Sect. Math., TU Karl-Marx-Stadt, Karl-Marx-Stadt, East Germany, 1989. 16 pp.
- [Döh91] **Dohler:1991:SGR**
R. Döhler. Squared Givens rotation. *IMA Journal of Numerical Analysis*, 11(1):1–5, 1991. CODEN IJNADH. ISSN 0272-4979 (print), 1464-3642 (electronic).
- [DS88] **Dittrich:1988:GRI**
Andreas Dittrich and Hartmut Schmeck. Givens’ rotation on an instruction systolic array. In ????, editor, *Parallel processing by cellular automata and arrays, Proceedings of the 4th International Workshop, Parcella*,

Berlin 1988, Math. Res., volume 342 of *Lecture Notes in Computer Science*, pages 340–346. Springer-Verlag, Berlin, Germany / Heidelberg, Germany / London, UK / etc., 1988.

Dittrich:1989:GRI

- [DS89] Andreas Dittrich and Hartmut Schmeck. Given's rotation on an instruction systolic array. In Gottfried Wolf, Tamás Legendi, and Udo Schendel, editors, *Proceedings / Parcella 1988: Fourth International Workshop on Parallel Processing by Cellular Automata and Arrays, Berlin, GDR, October 17–21, 1988*, volume 342 of *Lecture Notes in Comput. Sci.*, pages 340–346. Springer-Verlag, Berlin, Germany / Heidelberg, Germany / London, UK / etc., 1989. ISBN 3-540-50647-0.

Duato:1988:PPS

- [Dua88] J. Duato. Parallel processing of the square root free Givens rotations by means of a transputer network. In Enzo Chiricozzi and Arnaldo DAmico, editors, *Parallel processing and applications, Proceedings of the International Conference, L'Aquila, Italy, 23–25 September 1987*, pages 257–264. North-Holland Publishing Co., Amsterdam, The Netherlands, 1988. ISBN 0-444-70412-4. LCCN QA76.5 .I546 1987.

Duff:1974:PSR

- [Duf74] Iain S. Duff. Pivot selection and row ordering in Givens reduction

on sparse matrices. *Computing: Archiv für Informatik und Numerik*, 13(3–4):239–248, September 1974. CODEN CMPTA2. ISSN 0010-485X (print), 1436-5057 (electronic).

Dieci:2000:OIB

- [DV00] Luca Dieci and Erik S. Van Vleck. Orthonormal integrators based on Householder and Givens transformations. *arxiv.org*, ??(??):1–25, December 2, 2000. URL <https://arxiv.org/abs/math/0012007>.

Dieci:2003:OIB

- [DV03] Luca Dieci and Erik S. Van Vleck. Orthonormal integrators based on Householder and Givens transformations. *Future Generation Computer Systems*, 19(3):363–373, April 2003. CODEN FGSEVI. ISSN 0167-739X (print), 1872-7115 (electronic).

Delvaux:2008:GWR

- [DV08] Steven Delvaux and Marc Van Barel. A Givens-weight representation for rank structured matrices. *SIAM Journal on Matrix Analysis and Applications*, 29(4):1147–1170, 2008. CODEN SJMAEL. ISSN 0895-4798 (print), 1095-7162 (electronic).

Fan:2017:GRB

- [FA17] Wen Fan and Amir Alimohammad. Givens rotation-based *QR* decomposition for MIMO systems. *IET Communications*, 11(12):1838–1845, August 2017.

- [FC06] **Fournarakis:2006:GGA**
 Philippos Fournarakis and Jean Christianidis. Greek geometrical analysis: a new interpretation through the “Givens”-terminology. *Bollettino di Storia delle Scienze Matematiche*, 26(1):33–56, 2006. ISSN 0392-4432 (print), 1724-1650 (electronic).
- [GH80] **George:1980:SSL**
 Alan George and Michael T. Heath. Solution of sparse linear least squares problems using Givens rotations. *Linear Algebra and its Applications*, 34(??):69–83, December 1980. CODEN LAAPAW. ISSN 0024-3795 (print), 1873-1856 (electronic). URL <http://www.sciencedirect.com/science/article/pii/0024379580901597>.
- [FsH20] **Fisher:2020:CSP**
 Lance A. Fisher and Hyeon seung Huh. Combining sign and parametric restrictions in SVARs by utilising Givens rotations. *Studies in Nonlinear Dynamics & Econometrics*, 24(3):19–??, 2020. ISSN 1558-3708. Paper Number 20180104.
- [GHL+19] **Gan:2019:EEH**
 Yuquan Gan, Bingliang Hu, Weihua Liu, Shuang Wang, Geng Zhang, Xiangpeng Feng, and Desheng Wen. Endmember extraction from hyperspectral imagery based on *QR* factorisation using Givens rotations. *IET Image Processing*, 13(2):332–343, February 2019.
- [Gen73] **Gentleman:1973:LSC**
 W. Morven Gentleman. Least squares computations by Givens transformations without square roots. *Journal of the Institute of Mathematics and its Applications*, 12(??):329–336, 1973. CODEN JMTAA8. ISSN 0020-2932.
- [Giv34] **Givens:1934:PDS**
 J. W. Givens, Jr. Projective differentiation of spinors. *Proceedings of the National Academy of Sciences of the United States of America*, 20:232–233, 1934. CODEN PNASA6. ISSN 0027-8424 (print), 1091-6490 (electronic).
- [Gen75] **Gentleman:1975:EAD**
 W. Morven Gentleman. Error analysis of *QR* decompositions by Givens transformations. *Linear Algebra and its Applications*, 10(3):189–197, June 1975. CODEN LAAPAW. ISSN 0024-3795 (print), 1873-1856 (electronic). URL <http://www.sciencedirect.com/science/article/pii/0024379575900683>.
- [Giv36] **Givens:1936:TCL**
 James W. Givens, Jr. *Tensor Coordinates of Linear Spaces*. Ph.D. dissertation, Princeton University, Princeton, NJ, USA, 1936. 40 pp. URL <https://catalog.princeton.edu/catalog/9926918853506421>; <https://www.proquest.com/docview/301771617/>.

- [Giv37a] **Givens:1937:TCLa**
Wallace Givens. Tensor coordinates of linear spaces. *Annals of Mathematics (2)*, 38(2):355–385, 1937. CODEN ANMAAH. ISSN 0003-486X (print), 1939-8980 (electronic).
- [Giv37b] **Givens:1937:TCL**
Wallace Givens. Tensor coordinates of linear spaces. In ????, editor, *C. R. Congr. internat. Math., Oslo 1936*, volume 2, pages 176–177. ????, ????, 1937.
- [Giv40] **Givens:1940:FSL**
Wallace Givens. Factorization and signatures of Lorentz matrices. *Bulletin of the American Mathematical Society*, 46:81–85, 1940. CODEN BAMOAD. ISSN 0002-9904 (print), 1936-881x (electronic).
- [Giv47] **Givens:1947:PSL**
Wallace Givens. Parametric solution of linear homogeneous Diophantine equations. *Bulletin of the American Mathematical Society*, 53:780–783, 1947. CODEN BAMOAD. ISSN 0002-9904 (print), 1936-881x (electronic).
- [Giv51] **Givens:1951:RPC**
Wallace Givens. Recent publications: *College Algebra*, by E. B. Miller and R. M. Thrall. *American Mathematical Monthly*, 58(3):200–201, March 1951. CODEN AMMYAE. ISSN 0002-9890 (print), 1930-0972 (electronic).
- [Giv52] **Givens:1952:FVM**
Wallace Givens. Fields of values of a matrix. *Proceedings of the American Mathematical Society*, 3:206–209, 1952. CODEN PAM-YAR. ISSN 0002-9939 (print), 1088-6826 (electronic).
- [Giv53] **Givens:1953:MCE**
Wallace Givens. A method of computing eigenvalues and eigenvectors suggested by classical results on symmetric matrices. In *Simultaneous linear equations and the determination of eigenvalues*, volume 29 of *National Bureau of Standards Applied Mathematics Series*, pages 117–122. United States Government Printing Office, Washington, DC, USA, 1953.
- [Giv54] **Givens:1954:NCC**
Wallace Givens. Numerical computation of the characteristic values of a real symmetric matrix. Report ORNL 1574, Oak Ridge National Laboratory, Oak Ridge, TN, USA, 1954. vi + 107 pp.
- [Giv57] **Givens:1957:CVV**
Wallace Givens. The characteristic value-vector problem. *Journal of the ACM*, 4(3):298–307, July 1957. CODEN JACOAH. ISSN 0004-5411 (print), 1557-735X (electronic).
- [Giv58a] **Givens:1958:CPU**
Wallace Givens. Computation of plane unitary rotations transforming a general matrix to triangular form. *Journal of the*

Society for Industrial and Applied Mathematics, 6(1):26–50, March 1958. CODEN JSIMAV. ISSN 0368-4245 (print), 1095-712X (electronic).

Givens:1958:CMC

[Giv58b] Wallace Givens. Conference on matrix computations. *Journal of the ACM*, 5(1):100–115, January 1958. CODEN JACOA. ISSN 0004-5411 (print), 1557-735X (electronic).

Givens:1959:RPI

[Giv59] Wallace Givens. Recent publications: *Introduction to the Theory of Determinants and Matrices*, by Edward Tankard Browne. *American Mathematical Monthly*, 66(3):247–248, March 1959. CODEN AMMYAE. ISSN 0002-9890 (print), 1930-0972 (electronic).

Givens:1962:RSS

[Giv62] Wallace Givens. Reports of sections and societies: Mathematics (section a). *Science*, 135(3503):547–549, February 16, 1962. CODEN SCIEAS. ISSN 0036-8075 (print), 1095-9203 (electronic). URL <http://science.sciencemag.org/content/135/3503/547.full.pdf>.

Givens:1968:LEP

[Giv68] Wallace Givens. Letter to the Editor: proposed abbreviation for 1024: bK. *Communications of the ACM*, 11(6):391, June 1968. CODEN CACMA2.

ISSN 0001-0782 (print), 1557-7317 (electronic).

George:1987:HRV

[GL87] Alan George and Joseph W. H. Liu. Householder reflections versus Givens rotations in sparse orthogonal decomposition. *Linear Algebra and its Applications*, 88/89(??):223–238, 1987. CODEN LAAPAW. ISSN 0024-3795 (print), 1873-1856 (electronic).

Genz:1991:FGG

[GLJ⁺91] Alan Genz, Zongli Lin, Charles Jones, Dali Luo, and Thorsten Prenzel. Fast Givens goes slow in MATLAB. *ACM SIGNUM Newsletter*, 26(2):11–16, April 1991. CODEN SNEWD6. ISSN 0163-5778 (print), 1558-0237 (electronic).

George:1984:ROS

[GLN84] Alan George, Joseph Liu, and Esmond Ng. Row-ordering schemes for sparse Givens transformations. I. bipartite graph model. *Linear Algebra and its Applications*, 61(??):55–81, September 1984. CODEN LAAPAW. ISSN 0024-3795 (print), 1873-1856 (electronic). URL <http://www.sciencedirect.com/science/article/pii/0024379584900223>.

George:1986:ROSa

[GLN86a] Alan George, Joseph Liu, and Esmond Ng. Row-ordering schemes for sparse Givens transformations. II. implicit graph model. *Linear Algebra and*

- its Applications*, 75(??):203–223, March 1986. CODEN LAAPAW. ISSN 0024-3795 (print), 1873-1856 (electronic). URL <http://www.sciencedirect.com/science/article/pii/0024379586901904>. [GS91]
- George:1986:ROsb**
- [GLN86b] Alan George, Joseph Liu, and Esmond Ng. Row-ordering schemes for sparse Givens transformations. III. Analyses for a model problem. *Linear Algebra and its Applications*, 75(??):225–240, March 1986. CODEN LAAPAW. ISSN 0024-3795 (print), 1873-1856 (electronic). URL <http://www.sciencedirect.com/science/article/pii/0024379586901916>. [GV87]
- Gillespie:1995:OGR**
- [GO95] M. I. Gillespie and D. D. Olesky. Ordering Givens rotations for sparse QR factorization. *SIAM Journal on Matrix Analysis and Applications*, 16(3):1024–1041, July 1995. CODEN SJMAEL. ISSN 0895-4798 (print), 1095-7162 (electronic). URL <http://epubs.siam.org/sam-bin/dbq/article/25334>. [Han74]
- Golub:1991:DJW**
- [GP91] G. Golub and B. Parlett. Dedication to J. Wallace Givens. *SIAM Journal on Matrix Analysis and Applications*, 12(1):U1, January 1991. CODEN SJMAEL. ISSN 0895-4798 (print), 1095-7162 (electronic). [HB97]
- Gotze:1991:SRD**
- J. Götze and U. Schwiegelshohn. A square root and division free Givens rotation for solving least squares problems on systolic arrays. *SIAM Journal on Scientific and Statistical Computing*, 12(4):800–807, July 1991. CODEN SIJCD4. ISSN 0196-5204.
- Gaylord:1987:MTU**
- T. Gaylord and E. Vecriest. Matrix triangularization using arrays of integrated optical Givens rotation devices. *Computer*, 20(12):59–66, 1987.
- Hammarling:1974:NMG**
- Sven Hammarling. A note on modifications to the Givens plane rotation. *Journal of the Institute of Mathematics and its Applications*, 13(??):215–218, 1974. CODEN JMATAA8. ISSN 0020-2932.
- Hanson:1973:FGT**
- Richard J. Hanson. Is the fast Givens transformation really fast? *ACM SIGNUM Newsletter*, 8(4):7, October 1973. CODEN SNEWD6. ISSN 0163-5778 (print), 1558-0237 (electronic).
- Hong:1997:GRB**
- X. Hong and S. A. Billings. Givens rotation based fast backward elimination algorithm for RBF neural network pruning. *IEE Proceedings. Control Theory and Applications*, 144(5):381–384, 1997. ISSN 1350-2379.

URL eprints.whiterose.ac.uk/80893/1/acse%20research%20report%20643.pdf.

Head-Gordon:1986:PAS

- [HGP86] M. Head-Gordon and P. Piela. Parallel algorithms for solving linear equations using Givens transformations. *Computers and Mathematics with Applications*, 12 (Part A)(9):987–990, September 1986. CODEN CMAPDK. ISSN 0898-1221 (print), 1873-7668 (electronic). URL <http://www.sciencedirect.com/science/article/pii/0898122186900234>.

Hanson:2004:AAV

- [HH04] Richard J. Hanson and Tim Hopkins. Algorithm 830: Another visit with standard and modified Givens transformations and a remark on Algorithm 539. *ACM Transactions on Mathematical Software*, 30(1):86–94, March 2004. CODEN ACMSCU. ISSN 0098-3500 (print), 1557-7295 (electronic). See [LHKK79].

Hanson:2018:RAM

- [HH18] Richard J. Hanson and Tim Hopkins. Remark on Algorithm 539: A Modern Fortran Reference Implementation for Carefully Computing the Euclidean Norm. *ACM Transactions on Mathematical Software*, 44(3):24:1–24:23, April 2018. CODEN ACMSCU. ISSN 0098-3500 (print), 1557-7295 (electronic). URL [https://](https://dl.acm.org/citation.cfm?id=3134441)

dl.acm.org/citation.cfm?id=3134441. See [LHKK79].

Hanson:1987:ATA

- [HK87] R. J. Hanson and F. T. Krogh. Algorithm 653: Translation of Algorithm 539: PC-BLAS Basic Linear Algebra Subprograms for FORTRAN usage with the INTEL 8087, 80287 numeric data processor. *ACM Transactions on Mathematical Software*, 13(3):311–317, September 1987. CODEN ACMSCU. ISSN 0098-3500 (print), 1557-7295 (electronic). URL <http://www.acm.org/pubs/citations/journals/toms/1987-13-3/p311-hanson/>. See [LHKK79, DG82, Dod83, LN88].

Hofmann:2006:PGS

- [HK06] Marc Hofmann and Erricos John Kontoghiorghes. Pipeline Givens sequences for computing the QR decomposition on a EREW PRAM. *Parallel Computing*, 32(3):222–230, March 2006. CODEN PACOEJ. ISSN 0167-8191 (print), 1872-7336 (electronic).

Hume:1981:SOL

- [HLP81] David Hume, James Litsey, and Robert Plemmons. Software for ordering large sparse least squares problems prior to Givens reduction. In ????, editor, *Numerical analysis and computers, Proceedings of the 1981 Army Conference*, volume ARO Report 83-1, pages 267–282. ????, ????, 1981.

Hawthorne:1963:PSS

- [HM63] Frank Hawthorne and D. C. B. Marsh. Problems and solutions: Solutions of elementary problems: E1521. *American Mathematical Monthly*, 70(3):331–332, March 1963. CODEN AMMYAE. ISSN 0002-9890 (print), 1930-0972 (electronic). See also [HRH⁺62].

Hopkins:1997:RBL

- [Hop97] Tim Hopkins. Restructuring the BLAS Level 1 routine for computing the modified Givens transformation. *ACM SIGNUM Newsletter*, 32(4):2–14, October 1997. CODEN SNEWD6. ISSN 0163-5778 (print), 1558-0237 (electronic).

Hawthorne:1962:EPS

- [HRH⁺62] Frank Hawthorne, Azriel Rosenfeld, J. G. Hocking, Albert Wilansky, and Sidney Heller. Elementary problems and solutions: Problems for solution: E1521–E1525. *American Mathematical Monthly*, 69(6):566, June/July 1962. CODEN AMMYAE. ISSN 0002-9890 (print), 1930-0972 (electronic). See also [HM63, HYG63, HT63, RP63, WW63].

Heath:1986:PGM

- [HS86] M. T. Heath and D. C. Sorensen. A pipelined Givens method for computing the QR factorization of a sparse matrix. *Linear Algebra and its Applications*, 77(??):189–203, May 1986. CO-

DEN LAAPAW. ISSN 0024-3795 (print), 1873-1856 (electronic). URL <http://www.sciencedirect.com/science/article/pii/0024379586901680>.

Hocking:1963:PSS

- [HT63] J. G. Hocking and Rory Thompson. Problems and solutions: Solutions of elementary problems: E1523. *American Mathematical Monthly*, 70(3):333, March 1963. CODEN AMMYAE. ISSN 0002-9890 (print), 1930-0972 (electronic). See also [HRH⁺62].

Hanson:1979:MPU

- [HW79] Richard J. Hanson and John A. Wisniewski. A mathematical programming updating method using modified Givens transformations and applied to LP problems. *Communications of the ACM*, 22(4):245–251, April 1979. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

Heller:1963:PSS

- [HYG63] Sidney Heller, J. E. Yeager, and Wallace Givens. Problems and solutions: Solutions of elementary problems: E1525. *American Mathematical Monthly*, 70(3):334, March 1963. CODEN AMMYAE. ISSN 0002-9890 (print), 1930-0972 (electronic). See also [HRH⁺62].

Ipsen:1984:PMU

- [Ips84] 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.
- [Ji88] Xingzhi Ji. Overcoming the interruption in HR iteration and fast pseudo-Givens transformations. *Journal of Fudan University. Natural Science*, 27(2):149–152, 1988. ISSN 0427-7104.
- [JO03] D. Janovská and G. Opfer. Givens' transformation applied to quaternion valued vectors. *BIT Numerical Mathematics*, 43(5):991–1002, December 2003. CODEN BIT-TEL, NBITAB. ISSN 0006-3835 (print), 1572-9125 (electronic). URL <http://www.springerlink.com/openurl.asp?genre=article&issn=0006-3835&volume=43&issue=5&page=991>.
- [JO04] Drahoslava Janovská and Gerhard Opfer. Givens' reduction of quaternion-valued matrices to upper Hessenberg form. In ????, editor, *Numerical mathematics and advanced applications. Proceedings of ENUMATH 2003, the 5th European conference on numerical mathematics and advanced applications, Prague, Czech Republic, August 18–22, 2003*, pages 510–520. Springer-Verlag, Berlin, Germany / Heidelberg, Germany / London, UK / etc., 2004. ISBN 3-540-21460-7.
- [JO05] Drahoslava Janovská and Gerhard Opfer. Fast Givens transformation for quaternion valued matrices applied to Hessenberg reductions. *Electronic Transactions on Numerical Analysis*, 20:1–26, 2005. CODEN ???? ISSN 1068-9613 (print), 1097-4067 (electronic). URL <http://etna.mcs.kent.edu/vol.20.2005/pp1-26.dir/pp1-26.pdf>.
- [Joh61] Donald E. Johansen. A modified Givens method for the eigenvalue evaluation of large matrices. *Journal of the ACM*, 8(3):331–335, July 1961. CODEN JACOAH. ISSN 0004-5411 (print), 1557-735X (electronic).
- [KK78] J. S. Kowalik and S. P. Kumar. Fast Givens transformations applied to the homogeneous optimization method. *Applied Mathematics and Computation*, 4(3):239–252, ???? 1978.

Ji:1988:OIH

Janovska:2003:GTA

Janovska:2005:FGT

Johansen:1961:MGM

Jones:2006:BRB

Janovska:2004:GRQ

Kowalik:1978:FGT

- CODEN AMHCBQ. ISSN 0096-3003 (print), 1873-5649 (electronic). URL <http://www.sciencedirect.com/science/article/pii/0096300378900097>. [KS38]
- Kowalik:1983:IFG**
- [KKK83] J. S. Kowalik, S. P. Kumar, and E. R. Kamgnia. An implementation of the fast Givens transformations on a MIMD computer. *Zastosowania Matematyki*, 18:97–105, 1983. ISSN 0044-1899. [LCZ97]
- Kontoghiorghes:2000:PGS**
- [Kon00] Erricos John Kontoghiorghes. Parallel Givens sequences for solving the general linear model on a EREW PRAM. *Parallel Algorithms and Applications*, 15(1–2):57–75, 2000. CODEN PAAPEC. ISSN 1063-7192. URL <http://www.informaworld.com/smpp/content~content=a776636257>. Interface of parallel computing and statistics, economics, finance and optimization.
- Kontoghiorghes:2002:GGA**
- [Kon02] Erricos John Kontoghiorghes. Greedy Givens algorithms for computing the rank- k updating of the QR decomposition. *Parallel Computing*, 28(9):1257–1273, September 2002. CODEN PACOEJ. ISSN 0167-8191 (print), 1872-7336 (electronic). URL <http://www.elsevier.com/gej-ng/10/35/21/60/59/30/abstract.html>. [Liu86]
- Karlin:1938:PSE**
- Meyer Karlin and E. P. Starke. Problems and solutions: Elementary problems: Solutions: E290. *American Mathematical Monthly*, 45(3):187, March 1938. CODEN AMMYAE. ISSN 0002-9890 (print), 1930-0972 (electronic). See also [CBK⁺37].
- Liang:1997:HAG**
- [LHKK79] Chuanguang Liang, Xiaozhu Chen, and Liwei Zhang. On Huang’s algorithm and Givens’ transformation. *Journal of Mathematical Research & Exposition*, 17(2):287–291, 1997. ISSN 1000-341X.
- Lawson:1979:ABL**
- [LHKK79] C. L. Lawson, R. J. Hanson, D. R. Kincaid, and F. T. Krogh. Algorithm 539: Basic Linear Algebra Subprograms for Fortran usage [F1]. *ACM Transactions on Mathematical Software*, 5(3):324–325, September 1979. CODEN ACMSCU. ISSN 0098-3500 (print), 1557-7295 (electronic). See also [DG82, Dod83, HK87, LN88, HH04, HH18].
- Liu:1986:GRM**
- Joseph W. H. Liu. On general row merging schemes for sparse Givens transformations. *SIAM Journal on Scientific and Statistical Computing*, 7(4):1190–1211, October 1986. CODEN SIJCD4. ISSN 0196-5204.

Li:1990:ETM

- [LLR⁺90] Baoxin Li, A. G. Law, H. Raafat, P. H. Nguyen, and Y.-F. Yan. Eigenvalues of tridiagonal matrices: an alternative to Givens' method. *Computers and Mathematics with Applications*, 19(4):89–94, 1990. CODEN CMAPDK. ISSN 0898-1221 (print), 1873-7668 (electronic). URL <http://www.sciencedirect.com/science/article/pii/089812219090140F>. [MAMB14]

Louter-Nool:1988:ATA

- [LN88] Margreet Louter-Nool. Algorithm 663: Translation of Algorithm 539: Basic Linear Algebra Subprograms for FORTRAN usage in FORTRAN 200 for the Cyber 205. *ACM Transactions on Mathematical Software*, 14(2):177–195, June 1988. CODEN ACMSCU. ISSN 0098-3500 (print), 1557-7295 (electronic). URL <http://www.acm.org/pubs/citations/journals/toms/1988-14-2/p177-louter-nool/>. See [LHKK79, DG82, Dod83, HK87]. [Mar67]

Lindner:2017:RGR

- [LS17] Marko Lindner and Torge Schmidt. Recycling Givens rotations for the efficient approximation of pseudospectra of band-dominated operators. *Operators and Matrices*, 11(4):1171–1196, 2017. ISSN 1846-3886 (print), 1848-9974 (electronic). [Mär87]

Li:2018:CFM

[LZW⁺18] Jicheng Li, Guiling Zhang, Nana Wang, Guo Li, and Chengyi Zhang. Construction of full H -matrices with the given eigenvalues based on the Givens matrices. *Journal of Applied Analysis and Computation*, 8(1):81–104, 2018. ISSN 2156-907X (print), 2158-5644 (electronic).

Mesloub:2014:NAC

Ammar Mesloub, Karim Abed-Meraim, and Adel Belouchrani. A new algorithm for complex non-orthogonal joint diagonalization based on Shear and Givens rotations. *IEEE Transactions on Signal Processing*, 62(8):1913–1925, 2014. CODEN ITPRED. ISSN 1053-587X (print), 1941-0476 (electronic).

Marshall:1967:PSV

A. W. Marshall. *Problems and Solutions: 5425*, by V. R. R. Uppuluri, Wallace Givens, Ingram Olkin, Marvin Marcus, M. F. Neuts, and Duane W. Bailey. *American Mathematical Monthly*, 74(8):1021–1023, October 1967. CODEN AMMYAE. ISSN 0002-9890 (print), 1930-0972 (electronic).

Marchy:1987:MQA

H. P. März. On a modification of the QZ algorithm with fast Givens rotations. *Computing: Archiv für Informatik und Numerik*, 38(3):247–259, September 1987. CODEN CMPTA2.

ISSN 0010-485X (print), 1436-5057 (electronic).

Marrero:2018:RGA

- [Mar18] J. Abderramán Marrero. A reliable Givens-*LU* approach for solving opposite-bordered tridiagonal linear systems. *Computers and Mathematics with Applications*, 76(10):2409–2420, 2018. CODEN CMAPDK. ISSN 0898-1221 (print), 1873-7668 (electronic).

Murthy:1998:NAB

- [MBM98] K. N. Balasubramanya Murthy, K. Bhuvanewari, and C. Siva Ram Murthy. A new algorithm based on Givens rotations for solving linear equations on fault-tolerant mesh-connected processors. *IEEE Transactions on Parallel and Distributed Systems*, 9(8):825–??, August 1998. CODEN ITDSEO. ISSN 1045-9219 (print), 1558-2183 (electronic). URL <http://dlib.computer.org/td/books/td1998/pdf/10825.pdf>; <http://www.computer.org/tpds/td1998/10825abs.htm>.

Modi:1984:AGO

- [MC84] J. J. Modi and M. R. B. Clarke. An alternative Givens ordering. *Numerische Mathematik*, 43(1):83–90, January 1984. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic).

Miao:2020:UJD

- [MCLM20] Jifei Miao, Guanghui Cheng, Wenrui Li, and Eric Moreau. [OB94]

A unitary joint diagonalization algorithm for nonsymmetric higher-order tensors based on Givens-like rotations. *Numerical Linear Algebra with Applications*, 27(3):e2291:1–e2291:17, May 2020. CODEN NLAAEM. ISSN 1070-5325 (print), 1099-1506 (electronic).

Megson:1993:GBR

- [Meg93] G. M. Megson. The Givens–Batcher reduction algorithm and matrix triangularisation. *International Journal of Computer Mathematics*, 47(3-4):199–208, 1993. CODEN IJCMAT. ISSN 0020-7160.

Marchy-Michel:1986:MQA

- [MM86] Hans-Peter März-Michel. Eine Modifikation des *QZ*-Algorithmus mit schnellen Givens-Rotationen. (On a modification of the *QZ*-algorithm with fast Givens rotations). Technical report, Philosophische Fakultät II der Universität Zürich, Zürich, Switzerland, 1986. 91 pp.

Miller:1938:PSE

- [MS38] K. W. Miller and E. P. Starke. Problems and solutions: Elementary problems: Solutions: E292. *American Mathematical Monthly*, 45(3):188, March 1938. CODEN AMMYAE. ISSN 0002-9890 (print), 1930-0972 (electronic). See also [CBK⁺37].

Olszanskyj:1994:CGR

Serge J. Olszanskyj and Adam W. Bojanczyk. Compact Givens rep-

- resentation of the orthogonal factor in recursive least squares. In *Applied linear algebra. Proceedings of the 5th SIAM conference, held in Snowbird, UT, USA, June 15-18, 1994*, pages 255–259. Society for Industrial and Applied Mathematics, Philadelphia, PA, USA, 1994. ISBN 0-89871-336-6.
- [Ost87] George Ostrouchov. Symbolic Givens reduction and row-ordering in large sparse least squares problems. *SIAM Journal on Scientific and Statistical Computing*, 8(3):248–264, May 1987. CODEN SIJCD4. ISSN 0196-5204.
- [PC99] Philippe Pango and Benoît Champagne. On the efficient use of Givens rotations in SVD-based subspace tracking algorithms. *Signal Processing*, 74(3):253–277, 1999. ISSN 0165-1684 (print), 1872-7557 (electronic).
- [PDW02] A. T. Papadopoulos, I. S. Duff, and A. J. Wathen. Incomplete orthogonal factorization methods using Givens rotations II: implementation and results. Report RAL-TR-2002-019 and NA-02-07, Rutherford Appleton Laboratory and Oxford University Computing Services, Chilton, Oxon, England and Oxford, Oxon, UK, 2002. pp. URL <http://epubs.cclrc.ac.uk/bitstream/290/raltr-2002019.pdf>. To appear in BIT.
- [PJM⁺21] Arya A. Pourzanjani, Richard M. Jiang, Brian Mitchell, Paul J. Atzberger, and Linda R. Petzold. Bayesian inference over the Stiefel manifold via the Givens representation. *Bayesian Analysis*, 16(2):639–666, June 2021. CODEN ???? ISSN 1931-6690 (print), 1931-6690 (electronic). URL <https://projecteuclid.org/journals/bayesian-analysis/volume-16/issue-2/Bayesian-Inference-over-the-Stiefel-Manifold-via-the-Givens-Representation/>10.1214/20-BA1202.full.
- [Poo93] James C. T. Pool. James Wallace Givens, Jr. (1910–1993). *SIAM News*, ??(??):??, July 1993. ISSN 0036-1437. Reprinted in [Poo94].
- [Poo94] James C. T. Pool. James Wallace Givens, Jr. (1910–1993). *Notices of the American Mathematical Society*, 41(1):29–30, January 1994. CODEN AMNOAN. ISSN 0002-9920 (print), 1088-9477 (electronic). URL <https://www.ams.org/journals/notices/199401/>. Reprinted from [Poo93].
- [PR87] A. Pothen and P. Raghavan. Distributed orthogonal factorization: Givens and Householder al-

gorithms. Technical Report CS-87-24, Department of Computer Science, Pennsylvania State University, State College, PA, USA, 1987.

Pothen:1989:DOF

- [PR89] Alex Pothen and Padma Raghavan. Distributed orthogonal factorization: Givens and Householder algorithms. *SIAM Journal on Scientific and Statistical Computing*, 10(6):1113–1134, November 1989. CODEN SIJCD4. ISSN 0196-5204 (print), 2168-3417 (electronic).

Poczekajlo:2018:ARP

- [PW18] Paweł Poczekajło and Krzysztof Wawryn. Algorithm for realisation, parameter analysis, and measurement of pipelined separable 3D finite impulse response filters composed of Givens rotation structures. *IET Signal Processing*, 12(7):857–867, September 2018.

Papay:1996:PGL

- [PZN96] J. Papay, M. J. Zemerly, and G. R. Nudd. Pipelining the Givens linear solver on distributed memory machines. *Supercomputer*, 12(3):37–43, August 1996. CODEN SPCOEL. ISSN 0168-7875.

Rodriguez-Alvarez:2010:SGR

- [RASSI10] María-José Rodríguez-Alvarez, Filomeno Sánchez, Antonio Soriano, and Amadeo Iborra. Sparse Givens resolution of large system of linear equations: applications

to image reconstruction. *Mathematical and Computer Modelling*, 52(7-8):1258–1264, 2010. CODEN MCMOEG. ISSN 0895-7177 (print), 1872-9479 (electronic). URL hdl.handle.net/10251/58006.

Rath:1982:FGR

- [Rat82] Wolfgang Rath. Fast Givens rotations for orthogonal similarity transformations. *Numerische Mathematik*, 40(1):47–56, November 1982. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic).

Rosenfeld:1963:PSSa

- [RP63] Azriel Rosenfeld and J. L. Pietenpol. Problems and solutions: Solutions of elementary problems: E1522. *American Mathematical Monthly*, 70(3):332–333, March 1963. CODEN AMMYAE. ISSN 0002-9890 (print), 1930-0972 (electronic). See also [HRH⁺62].

Rajasethupathy:1994:TRS

- [RTDL94] K. S. Rajasethupathy, Gwan-Ming Thio, S. K. Dhall, and S. Lakshmivarahan. Tridiagonalizing a real symmetric matrix: a parallel direct approach using Givens' transformation. *Parallel Algorithms and Applications*, 2(4):305–313, 1994. CODEN PAAPEC. ISSN 1063-7192. URL <http://www.informaworld.com/smpp/content/content=a772397563>.

Rollett:1961:ESC

- [RW61] J. S. Rollett and J. H. Wilkinson. An efficient scheme for the co-diagonalization of a symmetric matrix by Givens' method in a computer with a two-level store. *The Computer Journal*, 4(2):177–180, July 1961. CODEN CMPJA6. ISSN 0010-4620 (print), 1460-2067 (electronic). URL <http://comjnl.oxfordjournals.org/content/4/2/177.full.pdf+html>; http://www3.oup.co.uk/computer_journal/hdb/Volume_04/Issue_02/040177.sgm.abs.html; http://www3.oup.co.uk/computer_journal/hdb/Volume_04/Issue_02/tiff/177.tif; http://www3.oup.co.uk/computer_journal/hdb/Volume_04/Issue_02/tiff/178.tif; http://www3.oup.co.uk/computer_journal/hdb/Volume_04/Issue_02/tiff/179.tif; http://www3.oup.co.uk/computer_journal/hdb/Volume_04/Issue_02/tiff/180.tif. [SM02]

Rollett:1962:LEG

- [RW62] J. S. Rollett and J. H. Wilkinson. Letter to the Editor: [Givens and Householder processes]. *The Computer Journal*, 4(4):279, January 1962. CODEN CMPJA6. ISSN 0010-4620 (print), 1460-2067 (electronic). URL <http://comjnl.oxfordjournals.org/cgi/reprint/4/4/279>; <http://comjnl.oxfordjournals.org/content/4/4/279.full.pdf+html>. [SPC⁺16]

Shah:2018:BSS

- [SAMAN18] Syed Awais Wahab Shah, Karim Abed-Meraim, and Tareq Y. Al-Naffouri. Blind source separation algorithms using hyperbolic and Givens rotations for high-order QAM constellations. *IEEE Transactions on Signal Processing*, 66(7):1802–1816, 2018. CODEN ITPRED. ISSN 1053-587X (print), 1941-0476 (electronic).

Sergyienko:2002:IGQ

- Anatoli Sergyienko and Oleg Maslennikov. Implementation of Givens QR -decomposition in FPGA. *Lecture Notes in Computer Science*, 2328:458–465, 2002. CODEN LNCSD9. ISBN 3-540-43792-4. ISSN 0302-9743 (print), 1611-3349 (electronic). URL <http://link.springer-ny.com/link/service/series/0558/bibs/2328/23280458.htm>; <http://link.springer-ny.com/link/service/series/0558/papers/2328/23280458.pdf>.

Souloumiac:2009:NJD

- [Sou09] Antoine Souloumiac. Nonorthogonal joint diagonalization by combining Givens and hyperbolic rotations. *IEEE Transactions on Signal Processing*, 57(6):2222–2231, 2009. CODEN ITPRED. ISSN 1053-587X (print), 1941-0476 (electronic).

Sharma:2016:DFT

- Namita Sharma, Preeti Ranjan Panda, Francky Catthoor,

- Min Li, and Prashant Agrawal. Data flow transformation for energy-efficient implementation of Givens rotation-based QRD. *ACM Transactions on Embedded Computing Systems*, 15(1):18:1–18:??, February 2016. CODEN ????? ISSN 1539-9087 (print), 1558-3465 (electronic). [Tan83]
- [Ste97] D. E. Stewart. A graph-theoretic model of symmetric Givens operations and its implications. *Linear Algebra and its Applications*, 257(1–3):311–320, May ??, 1997. CODEN LAAPAW. ISSN 0024-3795 (print), 1873-1856 (electronic). URL http://www.elsevier.com/cgi-bin/cas/tree/store/laa/cas_sub/browse/browse.cgi?year=1997&volume=257&issue=1-3&aid=9600157. [Stewart:1997:GTM]
- [SVTD19] Alexey V. Sokolovskiy, Evgeny A. Veisov, Valery N. Tyapkin, and Dmitry D. Dmitriev. Hardware architectures of the QR-decomposition based on a Givens rotation technique. *Zhurnal Sibirskogo Federal'nogo Universiteta. Matematika i Fizika*, 12(5):606–613, 2019. ISSN 1997-1397 (print), 2313-6022 (electronic). [Sokolovskiy:2019:HAQ]
- [Tan82] Teruo Tanaka. Givens' method and Householder's method for solution of sparse least squares problem. *Proceedings of the Institute of Statistical Mathematics*, 30(2):77–93 (1983), 1982. ISSN 0912-6112. [Tanaka:1982:GMH]
- [Tan83] Teruo Tanaka. Givens' method and Householder's method for the solution of sparse least squares problems. *Proceedings of the Institute of Statistical Mathematics*, 30, 1983. ISSN 0563-685X. [Tanaka:1983:GMH]
- [TB38] V. Thébault and J. E. Burnam. Problems and solutions: Elementary problems: Solutions: E291. *American Mathematical Monthly*, 45(3):187, March 1938. CODEN AMMYAE. ISSN 0002-9890 (print), 1930-0972 (electronic). See also [CBK⁺37]. [Thebault:1938:PSEd]
- [VG55] Oswald Veblen and J. W. Givens. *Geometry of complex domains, a seminar conducted by Professors Oswald Veblen and John von Neumann, 1935–36*. The Institute for Advanced Study, Princeton, NJ, USA, 1955. iii + 259 pp. Lectures by O. Veblen and J. W. Givens. Notes by A. H. Taub and J. W. Givens. Revised edition. [Veblen:1955:GCD]
- [VKS+15] I. E. Venetis, A. Kouris, A. Sobczyk, E. Gallopoulos, and A. H. Sameh. A direct tridiagonal solver based on Givens rotations for GPU architectures. *Parallel Computing*, 49(??):101–116, November 2015. CODEN PACOEJ. ISSN 0167- [Venetis:2015:DTS]

- 8191 (print), 1872-7336 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S0167819115000605>. [Xu88]
- [Wil57] J. H. Wilkinson. The calculation of the eigenvectors of codiagonal matrices produced by the Givens and Lanczos processes. In *Conference Proceedings*, pages 112:1–112:15. Weapons Research Establishment, Salisbury, Australia, 1957.
- [Wu16] Jianwei Wu. Simple technique to determine the Givens-rotation matrix in the two-source ICA problem for skewed sources. *Electronics Letters*, 52(8):613–615, April 2016. CODEN ELLEAK. ISSN 0013-5194 (print), 1350-911X (electronic).
- [WW63] Albert Wilansky and W. C. Waterhouse. Problems and solutions: Solutions of elementary problems: E1524. *American Mathematical Monthly*, 70(3):333–334, March 1963. CODEN AMMYAE. ISSN 0002-9890 (print), 1930-0972 (electronic). See also [HRH⁺62].
- [Xie88] Yicheng Xie. Application of fast Givens transformation in recursively estimating the parameters by least squares. *Journal of Nanjing Aeronautical Institute*, 20(3):70–74, 1988. ISSN 1000-1956.
- [Xu88] Lan Xu. A fast Givens transformation for a complex matrix. *Journal of East China Normal University. Natural Science Edition*, 1988(3):15–21, 1988. ISSN 1000-5641.
- [YH09] Jun-Feng Yin and Ken Hayami. Preconditioned GMRES methods with incomplete Givens orthogonalization method for large sparse least-squares problems. *Journal of Computational and Applied Mathematics*, 226(1):177–186, April 1, 2009. CODEN JCAMDI. ISSN 0377-0427 (print), 1879-1778 (electronic). URL <http://www.sciencedirect.com/science/article/pii/S0377042708002422>.
- [YJ01] Qing You Yan and Zhong Xiao Jia. The algorithm of special symplectic Householder transformations and symplectic Givens transformations. *J. Dalian Univ. Technol.*, 41(4):399–404, 2001. ISSN 1000-8608.
- [YLL⁺23] Mao-Hsu Yen, Hoang-Yang Lu, Shao-Yueh Lin, Ken-Hua Lu, and Chia-Chen Chan. A partial-Givens-rotation-based symbol detector for GSM MIMO systems: Algorithm and VLSI implementation. *IEEE Systems Journal*, 17(4):6322–6333, 2023.

- [Yoo05] Charles Nelson Yood. *Argonne National Laboratory and the Emergence of Computer and Computational Science, 1946–1992*. Ph.D. thesis, Department of History, The Pennsylvania State University, University Park, State College, PA, August 2005. x + 356 pp. URL <https://www.proquest.com/pqdtglobal/docview/305420479>. **Yood:2005:ANL**
- [ZQW14] Wen Zhang, Sanzheng Qiao, and Yimin Wei. The diagonal reduction algorithm using fast Givens. In *Computer mathematics. 9th Asian symposium, ASCM 2009, Fukuoka, Japan, December 14–17, 2009, 10th Asian symposium, ASCM 2012, Beijing, China, October 26–28, 2012. Contributed papers and invited talks*, pages 453–465. Springer-Verlag, Berlin, Germany / Heidelberg, Germany / London, UK / etc., 2014. ISBN 3-662-43798-8; 3-662-43799-6. **Zhang:2014:DRA**
- [Yub91] Èval’d Yubi. Transformation of the simplex tableau by Givens rotations. *Eesti NSV Teaduste Akadeemia Toimetised. Füsika-Matemaatika. Izvestiya Akademii Nauk Èstonskoï SSR. Seriya Fizika-Matematika*, 40 (2):75–79, 1991. ISSN 0367-1429. **Yubi:1991:TST**
- [ZHF95a] Huirao Zheng, Xiao Hu, and Yunlan Fang. A column eliminating-ahead parallel algorithm for Givens orthogonal triangularization. *Journal of Wuhan University. Natural Science Edition*, 41(3):299–304, 1995. ISSN 1671-8836. **Zheng:1995:CEA**
- [ZHF95b] Huirao Zheng, Xiao Hu, and Yunlan Fang. Implementation of the column eliminating-ahead parallel algorithm for Givens orthogonal reduction. *Journal of Wuhan University. Natural Science Edition*, 41(5):569–574, 1995. ISSN 1671-8836. **Zheng:1995:ICE**
- [ZXLL17] Yong-Ping Zhao, Peng-Peng Xi, Bing Li, and Zhi-Qiang Li. Sparse kernel minimum squared error using Householder transformation and Givens rotation. *Applied Intelligence*, 48(2):390–415, July 2017. CODEN APITE4. ISSN 0924-669X (print), 1573-7497 (electronic). **Zhao:2017:SKM**