A Bibliography of Publications by, and about, C. William Gear

Nelson H. F. Beebe
University of Utah
Department of Mathematics, 110 LCB
155 S 1400 E RM 233
Salt Lake City, UT 84112-0090
USA

Tel: +1 801 581 5254
FAX: +1 801 581 4148

E-mail: `beebe@math.utah.edu`, `beebe@acm.org`, `beebe@computer.org` (Internet)
WWW URL: `https://www.math.utah.edu/~beebe/`

30 September 2024
Version 1.01

Abstract

This bibliography records publications of C. William Gear.

Title word cross-reference

References

Aslam:1989:AIO

[AG89] Sohail Aslam and C. W. Gear. Asynchronous integration of ordinary differential equations on multiprocessors. Technical Report UIUCDCS-R-89-1525; UILU-ENG-89-1744, Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL, USA, July 1989. 31 pp.

Artstein:2011:ACD

[AGK+11] Zvi Artstein, C. William Gear, Ioannis G. Kevrekidis, Marshall Slemrod, and Edriss S. Titi. Analysis and computation of a discrete KdV–Burgers type equation with fast dispersion and slow diffusion. *SIAM Journal on Numerical Analysis*, 49(5): 2124–2143, ???? 2011. CODEN SJNAAM. ISSN 0036-1429 (print), 1095-7170 (electronic). URL `http://epubs.siam.org/sinum/resource/1/sjnaam/v49/i5/p2124_s1`.

Anonymous:1994:PIW

[Ano94] Anonymous, editor. *Proceedings of the 1994 IEEE Workshop on Motion of Non-Rigid and Articulated Objects, November 11–12, 1994, Austin, Texas.* IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 1994. ISBN 0-8186-6435-5 (paper), 0-8186-6436-3 (microfiche). LCCN TA1634 .I33 1994. URL http://ieeexplore.ieee.org/servlet/opac?punumber=1000; http://www.gbv.de/dms/bowker/toc/9780818664359.pdf.

Anonymous:1998:NRI

[Ano98] Anonymous. NEC Research Institute: an industrial lab with a basic mission. *SIAM News*, ??(??):??, December 16, 1998. ISSN 0036-1437. URL https://www.siam.org/news/news.php?id=898.

Anonymous:2022:CG

[Ano22a] Anonymous. Charles Gear. *New York Times*, ??(??):??, April 3, 2022. CODEN NYTIAO. ISSN 0362-4331 (print), 1542-667X, 1553-8095. URL https://www.legacy.com/us/obituaries/nytimes/name/charles-gear-obituary. Similar text to [Ano22b].

Anonymous:2022:CWGa

[Ano22b] Anonymous. Charles William Gear. Town Topics: Princeton Weekly Community Newspaper., March 3, 2022. URL https://www.towntopics.com/wordpress/2022/03/30/obituaries-3-30-2022/.

Anonymous:2022:CWGb

[Ano22c] Anonymous. Charles William Gear. Mather-Hodge Funeral Home Web site, March 15, 2022. URL https://www.tributearchive.com/obituaries/24425308/charles-william-gear. Reprint of [Ano22b].

Anonymous:2022:CWGc

[Ano22d] Anonymous. Charles William Gear. University of Illinois Web site., October 14, 2022. URL https://cs.illinois.edu/news/remembering-department-head-faculty-member-charles-william-bill-gear. Reprint of [Ano22b].

Anonymous:2022:CWGd

[Ano22e] Anonymous. Charles William Gear obituary. Web site [with unwanted software installation], 2022. URL https://www.echovita.com/us/obituaries/nj/princeton/charles-william-gear-14446209.

Arden:1980:WCA

[Ard80] Bruce W. Arden, editor. *What Can Be Automated?: The Computer Science and Engineering Research Study (COSERS)*, volume 3 of *The MIT Press series in computer science*. MIT Press, Cambridge, MA, USA, 1980. ISBN 0-262-01060-7, 0-

262-51026-X (paperback). 23 + 934 pp. LCCN QA76 .W49.

Barnes:1988:CSD

[BBE^{+}88] B. H. Barnes, J. D. Bjornson, G. L. Engle, C. W. Gear, P. M. Lewis, R. E. Miller, and M. Mulder. Computer science: the discipline and the profession. Report SPC-TN-88-001, Software Productivity Consortium, Reston, VA, USA, 1988. ???? pp.

Brown:1973:DDP

[BG73] Roy Leonard Brown and C. William (Charles William) Gear. Documentation for DFASUB — a program for the solution of simultaneous implicit differential and nonlinear equations. Technical Report UIUCDCS-R-73-575, Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL, USA, July 1, 1973. 37 pp.

Bellen:1987:NMO

[BGR87] A. (Alfredo) Bellen, C. William (Charles William) Gear, and E. (Elvira) Russo, editors. *Numerical methods for ordinary differential equations: proceedings of the workshop held in L'Aguila (Italy), Sept. 16–18, 1987*, volume 1386 of *Lecture Notes in Mathematics*. Springer-Verlag, Berlin, Germany / Heidelberg, Germany / London, UK / etc., 1987. ISBN 0-387-51478-3, 3-540-51478-3, 3-540-48174-5 (e-book), 3-540-51485-6 (print). LCCN QA3.L 28 No.1386.

Bertalan:2017:CGD

[BWL^{+}17] Tom Bertalan, Yan Wu, Carlo Laing, C. William Gear, and Ioannis G. Kevrekidis. Coarse-grained descriptions of dynamics for networks with both intrinsic and structural heterogeneities. *Frontiers in Computational Neuroscience*, 11, June 2017. ISSN 1662-5188.

Cash:1983:BRKa

[Cas83a] J. R. Cash. Block Runge–Kutta methods for the numerical integration of initial value problems in ordinary differential equations. Part I. The nonstiff case. *Mathematics of Computation*, 40(161): 175–191, January 1983. CODEN MCMPAF. ISSN 0025-5718 (print), 1088-6842 (electronic). URL `https://www.ams.org/journals/mcom/1983-40-161/S0025-5718-1983-0679439-3?active=current`.

Cash:1983:BRKb

[Cas83b] J. R. Cash. Block Runge-Kutta methods for the numerical integration of initial value problems in ordinary differential equations. II. The stiff case. *Mathematics of Computation*, 40(161): 193–206, January 1983. CODEN MCMPAF. ISSN 0025-5718 (print), 1088-6842 (electronic). URL `https://www.ams.org/journals/mcom/1983-40-161/S0025-5718-1983-0679440-X`.

Calahan:1969:ICP

[CG69] D. A. Calahan and C. W. Gear. An ill-conditioning problem with implicit integration. *Proceedings of the IEEE*, 57(10): 1775–1776, October 1969. CODEN IEEPAD. ISSN 0018-9219 (print), 1558-2256 (electronic).

Calahan:1970:ICP

[CG70] Donald A. Calahan and C. W. Gear. An ill-conditioning problem with implicit integration. Report, Defense Technical Information Center, Ft. Belvoir, VA, USA, May 1970.

Chronopoulos:1987:IPS

[CG87a] A. T. Chronopoulos and C. W. Gear. Implementation of preconditioned s-step conjugate gradient: Methods on a multiprocessor system with memory hierarchy. Report UIUCDCS-R-87-1347, Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL, USA, August 1987. 26 pp.

Chronopoulos:1987:ISM

[CG87b] A. T. Chronopoulos and C. W. Gear. Implementation of s-step methods on parallel vector architectures. Report UIUCDCS-R-87-1346 (UILU-ENG-87-1734, DOE/ER/25026-7), Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL, USA, June 1987. 24 pp.

Chronopoulos:1987:SIM

[CG87c] A. T. Chronopoulos and C. W. Gear. s-step iterative methods for symmetric linear systems. Technical Report UIUCDCS-R-87-1345 (UILU-ENG-87-1733, DOE/ER/25026-6), Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL, USA, June 1987. 25 pp.

Chronopoulos:1989:EIP

[CG89a] A. T. Chronopoulos and C. W. Gear. On the efficient implementation of preconditioned s-step conjugate gradient methods on multiprocessors with memory hierarchy. *Parallel Computing*, 11(1):37–53, July 1989. CODEN PACOEJ. ISSN 0167-8191 (print), 1872-7336 (electronic).

Chronopoulos:1989:SIM

[CG89b] A. T. Chronopoulos and C. W. Gear. s-step iterative methods for symmetric linear systems. *Journal of Computational and Applied Mathematics*, 25(2): 153–168, February 1989. CODEN JCAMDI. ISSN 0377-0427 (print), 1879-1778 (electronic). URL `http://www.sciencedirect.com/science/article/pii/0377042789900459`.

Campbell:1995:IGN

[CG95] Stephen L. Campbell and C. William Gear. The index of general nonlinear DAEs. *Numerische Mathematik*, 72(2): 173–196, December 1995. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.de/link/service/journals/00211/bibs/5072002/`

50720173.htm; http://science.springer.de/nmee/bibs/5072002/50720173.htm.

Cisternas:2003:EFM

[CGLK03] Jaime Cisternas, C. William Gear, Simon Levin, and Ioannis G. Kevrekidis. Equation-free modelling of evolving diseases: coarse-grained computations with individual-based models. *arXiv.org*, ??(??):1–16, October 9, 2003. URL https://arxiv.org/abs/nlin/0310011.

Cisternas:2004:EFM

[CGLK04] Jaime Cisternas, C. William Gear, Simon Levin, and Ioannis G. Kevrekidis. Equation-free modelling of evolving diseases: coarse-grained computations with individual-based models. *Proceedings of the Royal Society A: Mathematical, Physical, and Engineering Sciences*, 460(2050):2761–2779, 2004. CODEN PRLAAZ. ISSN 1364-5021 (print), 1471-2946 (electronic).

Crane:1987:HAC

[Cra87] G. E. Crane, editor. *HSNC'87: ACM Conference on the History of Scientific and Numeric Computation, conference proceedings: papers presented at the Conference, Princeton, New Jersey, May 13-15, 1987*. ACM Press, New York, NY 10036, USA, October 1987. ISBN 0-89791-229-2. LCCN QA76 .A25 1987.

Cybenko:1993:BRC

[Cyb93] George Cybenko. Book review: *Computation and Cognition* (C. William Gear, ed.). *SIAM Review*, 35(1):147–148, March 1993. CODEN SIREAD. ISSN 0036-1445 (print), 1095-7200 (electronic).

Duff:1985:SRIa

[DEGR85a] Iain S. Duff, A. M. Erisman, C. W. Gear, and J. K. Reid. Some remarks on inverses of sparse matrices. Technical Report CSS 171, AERE Harwell Laboratory, Chilton, Oxon, England, 1985.

Duff:1985:SRIb

[DEGR85b] Iain S. Duff, A. M. Erisman, C. William (Charles William) Gear, and John Ker Reid. Some remarks on inverses of sparse matrices. Technical memorandum 51, Argonne National Laboratory, Argonne, IL, USA, 1985. 11 pp.

Duff:1988:SSG

[DEGR88] Iain S. Duff, A. M. Erisman, C. W. Gear, and J. K. Reid. Sparsity structure and Gaussian elimination. *ACM SIGNUM Newsletter*, 23(2):2–8, April 1988. CODEN SNEWD6. ISSN 0163-5778 (print), 1558-0237 (electronic). URL https://dl.acm.org/doi/10.1145/47917.47918.

Dill:1971:GSS

[DG71] C. Dill and C. W. Gear. A graphical search for stiffly stable methods for ordinary differential equations. *Journal of the ACM*, 18(1):75–79, January

1971. CODEN JACOAH. ISSN 0004-5411 (print), 1557-735X (electronic). URL https://dl.acm.org/doi/10.1145/321623.321631.

Duff:1985:CSIa

[DG85a] Iain S. Duff and C. W. Gear. Computing the structural index. Report 137, AERE Harwell. Computer Science and Systems Division, Harwell, UK, 1985. 13 pp.

Duff:1985:CSIb

[DG85b] Iain S. Duff and C. W. Gear. Computing the structural index. Technical memorandum 50, Argonne National Laboratory, Argonne, IL, USA, 1985. 13 pp.

Duff:1986:CSI

[DG86] I. S. Duff and C. W. Gear. Computing the structural index. *SIAM Journal of Algebraic Discrete Methods*, 7(4):594–603, 1986. CODEN SJAMDU. ISSN 0196-5212 (print), 2168-345X (electronic).

Dsilva:2016:DDR

[DTG+16] Carmeline J. Dsilva, Ronen Talmon, C. William Gear, Ronald R. Coifman, and Ioannis G. Kevrekidis. Data-driven reduction for a class of multiscale fast–slow stochastic dynamical systems. *SIAM Journal on Applied Dynamical Systems*, 15 (3):1327–1351, ???? 2016. CODEN SJADAY. ISSN 1536-0040.

Enright:1989:IMN

[EGJ+89] W. H. Enright, C. W. Gear, K. R. Jackson, L. R. Petzold, and R. D. Skeel. International Meeting on the Numerical Solution of Ordinary Differential Equations. *SIAM Journal on Scientific and Statistical Computing*, 10(5):913–1051, September 1989. CODEN SIJCD4. ISSN 0196-5204. URL https://epubs.siam.org/toc/sijcd4/10/5.

Fosdick:1962:RSS

[FGH62] Lloyd Dudley Fosdick, C. William (Charles William) Gear, and N. Hamilton. A report on a Special Summer 1962 Computer Program for Undergraduates. Technical report, University of Illinois, Graduate College, Digital Computer Laboratory, Urbana, IL, USA, October 9, 1962. i + 27 pp.

Freeman:1980:TSR

[Fre80] Herbert Freeman, editor. *Tutorial and selected readings in interactive computer graphics: initially presented at February 25–28 spring COMPCON 80, twentieth IEEE Computer Society international conference, Jack Tar Hotel, San Francisco, California*. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 1980. LCCN T385 .T87.

Georgiou:2017:EAS

[GBRG+17] Anastasia S. Georgiou, Juan M. Bello-Rivas, Charles William Gear, Hau-Tieng Wu, Eliodoro

Chiavazzo, and Ioannis G. Kevrekidis. An exploration algorithm for stochastic simulators driven by energy gradients. *Entropy*, 19(7):294–316, June 2017. CODEN ENTRFG. ISSN 1099-4300.

Gear:2004:MDC

[GCDK04] C. W. Gear, L. Chen, P. G. Debenedetti, and I. G. Kevrekidis. From molecular dynamics to coarse self-similar solutions: a simple example using equation-free computation. *JNNFM*, ??(??):215–223, ???? 2004.

Gear:2015:MDP

[GCK15] C. W. Gear, E. Chiavazzo, and I. G. Kevrekidis. Manifolds defined by points: Parameterizing and boundary detection. Report, Princeton University, Princeton, NJ 08544, USA, August 30, 2015. 15 pp. URL `http://www.princeton.edu/~wgear/manifolds.pdf`.

Gear:1975:PSM

[GDL75] C. William Gear, F. Dorr, and Charles L. Lawson, editors. *Proceedings of the SIGNUM meeting on Software for partial differential equations: Moffitt Field California USA December 8–9, 1975*, ACM Conferences. ACM Press, New York, NY 10036, USA, 1975. ISBN 1-4503-7793-9. LCCN ???? ACM SIGNUM Newsletter, vol. 10, no. 4, Dec. 1975.

Gear:1960:SSI

[Gea60] Charles William Gear. *Singular Shock Intersections in Plane Flow*. Ph.D. thesis, Department of Mathematics, University of Illinois, Urbana, IL, USA, May 27, 1960. iv + 89 pp. URL `https://www.proquest.com/pqdtglobal/docview/301841563/`.

Gear:1963:AI

[Gea63a] C. W. Gear. Author index. *IEEE Transactions on Electronic Computers*, EC-12(3):351, June 1963. CODEN IEECA8. ISSN 0367-7508. URL `http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=4037886`.

Gear:1963:SSB

[Gea63b] C. W. Gear. Singular solutions at boundary intersections in two dimensional quasi-linear homogeneous partial differential equations. Report 156, Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL, USA, October 21, 1963. 20 pp.

Gear:1964:OAF

[Gea64a] C. W. Gear. Optimization of the address field compilation in the ILLIAC 2 assembler. *The Computer Journal*, 6(4):332–335, January 1964. CODEN CMPJA6. ISSN 0010-4620 (print), 1460-2067 (electronic). URL `http://comjnl.oxfordjournals.org/content/6/4/332.full.pdf+html`; `http://www3.oup.co.`

uk/computer_journal/hdb/Volume_06/Issue_04/tiff/332.tif; http://www3.oup.co.uk/computer_journal/hdb/Volume_06/Issue_04/tiff/333.tif; http://www3.oup.co.uk/computer_journal/hdb/Volume_06/Issue_04/tiff/334.tif; http://www3.oup.co.uk/computer_journal/hdb/Volume_06/Issue_04/tiff/335.tif.

Gear:1964:SSB

[Gea64b] C. W. Gear. Singular solutions at boundary intersections in two dimensional quasi-linear homogeneous partial differential equations. *Journal of Mathematics and Physics (MIT)*, 43 (1–4):100–110, April 1964. CODEN JMPHA9. ISSN 0097-1421. URL https://onlinelibrary.wiley.com/doi/epdf/10.1002/sapm1964431100.

Gear:1964:HMI

[Gea64c] C. William (Charles William) Gear. Hybrid methods for initial value problems in ordinary differential equations. Technical Report COO-415-1012, University of Illinois, Urbana, IL, USA, June 19, 1964. ii + 27 pp. Revised 9 November 1964.

Gear:1965:HSC

[Gea65a] C. W. Gear. High speed compilation of efficient object code. *Communications of the ACM*, 8 (8):483–488, August 1965. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

Gear:1965:HMI

[Gea65b] C. W. Gear. Hybrid methods for initial value problems in ordinary differential equations. *Journal of the Society for Industrial and Applied Mathematics: Series B, Numerical Analysis*, 2(1):69–86, ???? 1965. ISSN 0887-459X (print), 1095-7170 (electronic).

Gear:1965:RIS

[Gea65c] C. W. Gear. R65-56: *IBM System 360 Engineering*, J. L. Brown, D. T. Doody, J. W. Fairclough, P. Fagg, J. Greene, and J. A. Hipp (IBM Corp.). (Proc. 1964 FJCC, vol. 26, pp. 205–231). *IEEE Transactions on Electronic Computers*, EC-14(4):670–671, August 1965. CODEN IEECA8. ISSN 0367-7508. URL http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=4038537.

Gear:1965:FTT

[Gea65d] C. William (Charles William) Gear. A fast translation technique which partially optimizes the object code. Report COO-1469-0001, Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL, USA, April 5, 1965. iii + 15 pp.

Gear:1966:NIOb

[Gea66a] C. W. Gear. Numerical integration in ordinary differential equations operating under ILLIAC II time-sharing system. *Communications of the ACM*, 9(7):475, July 1966. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

Gear:1966:NSO

[Gea66b] C. William Gear. Numerical solution of ordinary differential equations at a remote terminal. In David F. Weinberg and William P. Mancina, editors, *Proceedings of the 21st National Conference, ACM 1966, USA, 1966*, pages 43–49. ACM Press, New York, NY 10036, USA, 1966. ISBN 1-4503-7915-X.

Gear:1966:TSI

[Gea66c] C. William (Charles William) Gear. Time sharing at Illinois: experience and plans. Technical Report 217, Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL, USA, 1966. 14 pp.

Gear:1966:NIOa

[Gea66d] Charles William Gear. The numerical integration of ordinary differential equations of various orders. Report ANL-7126, Argonne National Laboratory, Argonne, IL, USA, January 1966. 36 pp.

Gear:1967:NIO

[Gea67a] C. W. Gear. The numerical integration of ordinary differential equations. *Mathematics of Computation*, 21(98):146–156, April 1967. CODEN MCMPAF. ISSN 0025-5718 (print), 1088-6842 (electronic).

Gear:1967:NIS

[Gea67b] C. William (Charles William) Gear. Numerical integration of stiff ordinary differential equations. Report 221 (COO-1469-0051), Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL, USA, 1967. iv + 20 pp.

Gear:1968:GSM

[Gea68] C. W. Gear. Generalized simulation and modeling: the user interface required and some problems to be solved. Report COO-1469-0105, University of Illinois, Urbana, IL, USA, 1968. 20 pp.

Gear:1969:AIS

[Gea69a] C. W. Gear. The automatic integration of stiff ordinary differential equations. In *Information Processing 68 (Proc. IFIP Congress, Edinburgh, 1968), Vol. 1: Mathematics, Software*, pages 187–193. North-Holland Publishing Co., Amsterdam, The Netherlands, 1969.

Gear:1969:GCA

[Gea69b] C. W. Gear. Graphical computer aided programming systems. In Parslow et al. [PPG69], pages 109–117. ISBN 0-306-30393-0. LCCN T385 .I5 1968. URL `http://link.springer.com/10.1007/978-1-4757-1320-6`.

Gear:1969:SST

[Gea69c] C. W. Gear. A simple set of test matrices for eigenvalue programs. *Mathematics of Com-*

putation, 23(105):119–125, January 1969. CODEN MCMPAF. ISSN 0025-5718 (print), 1088-6842 (electronic).

Gear:1969:COP

[Gea69d] C. William Gear. *Computer Organization and Programming*. McGraw-Hill computer science series. McGraw-Hill, New York, NY, USA, 1969. xiv + 397 pp. LCCN ????

Gear:1969:IGM

[Gea69e] C. William (Charles William) Gear. An interactive graphic modeling system. Report C00-1469-0115, Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL, USA, April 1969. 47 pp.

Gear:1970:RAI

[Gea70a] C. W. Gear. Rational approximations by implicit Runge–Kutta schemes. *BIT (Nordisk tidskrift for informationsbehandling)*, 10(1):20–22, March 1970. CODEN BITTEL, NBITAB. ISSN 0006-3835 (print), 1572-9125 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=article&issn=0006-3835&volume=10&issue=1&spage=20`.

Gear:1970:SMS

[Gea70b] C. W. Gear. The simulation and modeling system: a snapshot view. Technical Report COO-1469-0158, Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL, USA, February 1970. 102 + 13 pp.

Gear:1970:SNS

[Gea70c] C. William Gear. The simultaneous numerical solution of differential–algebraic equations. Technical report, Stanford Linear Accelerator Center, Stanford University, Stanford, CA, USA, 1970. 25 pp.

Gear:1971:SNS

[Gea71a] C. W. Gear. The simultaneous numerical solution of differential–algebraic equations. *IEEE Transactions on Circuit Theory*, CT-18(1):89–95, January 1971. CODEN IECTAF. ISSN 0018-9324 (print), 2374-9555 (electronic).

Gear:1971:AAD

[Gea71b] C. William Gear. ACM Algorithm 407: DIFSUB for solution of ordinary differential equations [D2]. *Communications of the ACM*, 14(3):185–190, March 1971. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). See certification [Nik73].

Gear:1971:AIO

[Gea71c] C. William Gear. The automatic integration of ordinary differential equations. *Communications of the ACM*, 14(3):176–179, March 1971. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic).

Gear:1971:NIV

[Gea71d] Charles William Gear. *Numerical Initial Value Problems in Ordinary Differential Equations*. Prentice-Hall series in automatic computation. Prentice-Hall, Upper Saddle River, NJ 07458, USA, 1971. ISBN 0-13-626606-1 (hardcover). xvii + 253 pp. LCCN QA372 .G4.

Gear:1972:MCR

[Gea72] C. William Gear, editor. *MICRO 5: Conference Record of the 5th Annual Workshop on Microprogramming, Urbana, Illinois, September 25–26, 1972*. ACM Press, New York, NY 10036, USA, 1972. ISBN 1-4503-7369-0. LCCN QA76.6 .G437 1972.

Gear:1973:ICSc

[Gea73a] C. W. Gear. *Introduction to Computer Science*. SRA computer science series. Science Research Associates, Chicago, IL, USA, 1973. ISBN 0-574-16136-8. xiii + 461 pp. LCCN QA76 .G38.

Gear:1973:ICSa

[Gea73b] C. W. Gear. *Introduction to computer science: Instructor's guide*. Science Research Associates, Chicago, IL, USA, 1973. ISBN 0-574-18471-6. 62 pp. LCCN QA76 .G292.

Gear:1973:AEE

[Gea73c] C. William (Charles William) Gear. Asymptotic estimation of errors and derivatives for the numerical solution of ordinary differential equations. Report UIUCDCS-R-73-598 (C00-2383-0001), Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL, USA, 1973. 16 pp.

Gear:1973:NNE

[Gea73d] C. William (Charles William) Gear. A note on the nonexistence of multivalue *A*-stable methods of order greater than two. Technical Report UIUCDCS-R-73-569, Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL, USA, 1973. 3 pp.

Gear:1973:TMI

[Gea73e] C. William (Charles William) Gear. *Transparency masters: Introduction to computer science*. Science Research Associates, Chicago, IL, USA, 1973. 126 pp. LCCN QA76 .G38.

Gear:1973:ICSb

[Gea73f] Charles W. Gear. *Introduction to computer science: short edition*. Computer science series. Science Research Associates, Chicago, IL, USA, 1973. xi + 338 pp. LCCN QA76 G292I.

Gear:1974:EEC

[Gea74a] C. William Gear. Error estimation and control in O.D.E. integration. In Roger C. Brown and Donald E. Glaze, editors, *Proceedings of the 1974 ACM Annual Conference, San Diego, California, USA, November 1974*, *Volume 2*, page 746. ACM Press, New York, NY 10036, USA, 1974. ISBN 1-4503-7850-1. LCCN QA76 .B769 1974.

Gear:1974:EED

[Gea74b] C. William Gear. Estimation of errors and derivatives in ordinary differential equations. In *Information processing 74 (Proc. IFIP Congress, Stockholm, 1974)*, pages 447–451. North-Holland Publishing Co., Amsterdam, The Netherlands, 1974.

Gear:1974:SMR

[Gea74c] C. William (Charles William) Gear. Some matrix results for stable m-dimensional rotations. Report UIUCDCS-R-74-634, Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL, USA, 1974. 7 pp. URL `http://books.google.com/books?id=qOcVHRThOkEC; http://catalog.hathitrust.org/api/volumes/oclc/1218283.html`.

Gear:1974:WDW

[Gea74d] C. William (Charles William) Gear. What do we need in programming languages for mathematical software? Report UIUCDCS-R-74-652 (COO-2383-0009), Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL, USA, 1974. 22 + 1 pp.

Gear:1974:COP

[Gea74e] Charles W. Gear. *Computer Organization and Programming*. McGraw-Hill computer science series. McGraw-Hill, New York, NY, USA, second edition, 1974. ISBN 0-07-023076-5. xiv + 454 pp. LCCN QA76.6 .G38 1974.

Gear:1975:NES

[Gea75] C. W. Gear. Numerical errors in sparse linear equations. Technical Report F 75/885, Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL, USA, 1975. 5 pp.

Gear:1976:SNM

[Gea76a] C. W. Gear. The stability of numerical methods for second order ordinary differential equations. Report R 1976/7., NASA Langley Research Center. Institute for Computer Applications in Science and Engineering [ICASE], Hampton, VA, USA, 1976. 14 pp.

Gear:1976:FDS

[Gea76b] C. William (Charles William) Gear. Future developments in stiff integration techniques: stability of methods that do not use an exact Jacobian. Report UIUCDCS-R-76-839 (COO-2383-0035), Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL, USA, 1976. 15 pp.

Gear:1976:ICS

[Gea76c] C. William (Charles William) Gear. *Introduction to Computer Science*. Computer science series / Science Research

Associates. Science Research Associates, Chicago, IL, USA, 1976. ISBN 0-574-16136-8 (paperback). xvi + 461 pp. LCCN QA76.5.

Gear:1977:ODE

[Gea77a] C. W. Gear. Ordinary differential equation techniques for partial differential equations. In Klaus-Jürgen Bathe, John Tinsley Oden, and Walter Wunderlich, editors, *Formulations and computational algorithms in finite element analysis (U.S.–Germany Sympos., Mass. Inst. Tech., Cambridge, Mass., 1976)*, pages 691–717. MIT Press, Cambridge, MA, USA, 1977. ISBN 0-262-02127-7. LCCN TA347.F5 F67 1977.

Gear:1977:SCB

[Gea77b] C. W. Gear. Simulation: Conflicts between real-time and software. In Rice [Ric77], page ?? ISBN 0-12-587260-7. LCCN QA3 .U45 no. 39; QA297 .M36 1977. URL `https://www.sciencedirect.com/book/9780125872607/mathematical-software`.

Gear:1977:ICS

[Gea77c] C. William Gear. *Introduction to computer science*. Computer science series. Shuang Yeh, Taipei, Taiwan, 1977. xiii + 461 pp. LCCN QA76 G38.

Gear:1978:AAC

[Gea78a] C. W. Gear. *Applications and Algorithms in Computer Science*, volume A,1 of *Introduction to computers, structured programming, and applications*. Science Research Associates, Chicago, IL, USA, 1978. ISBN 0-574-21189-6. vi + 179 pp. LCCN QA76 .G37.

Gear:1978:SNM

[Gea78b] C. William Gear. The stability of numerical methods for second order ordinary differential equations. *SIAM Journal on Numerical Analysis*, 15(1):188–197, February 1978. CODEN SJNAAM. ISSN 0036-1429 (print), 1095-7170 (electronic).

Gear:1978:RKS

[Gea78c] C. William (Charles William) Gear. Runge–Kutta starters for multistep methods. Report UIUCDCS-R-78-938, Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL, USA, 1978. 34 pp.

Gear:1978:AAS

[Gea78d] Charles W. Gear. *Applications and algorithms in science and engineering*, volume A2 of *Introduction to computers, structured programming, and applications*. Science Research Associates, Chicago, IL, USA, 1978. ISBN 0-574-21188-8 (paperback). vi + 179 pp. LCCN QA76.5; Q183.9 .G4.

Gear:1978:BLM

[Gea78e] Charles W. Gear. *BASIC language manual*, volume L4 of *Introduction to computers, struc-*

tured programming, and applications. Science Research Associates, Chicago, IL, USA, 1978. ISBN 0-574-21195-0. 67 pp. LCCN QA76.73.B3 G4.

Gear:1978:FWL

[Gea78f] Charles W. Gear. *FORTRAN and WATFIV language manual*, volume L1 of *Introduction to computers, structured programming, and applications.* Science Research Associates, Chicago, IL, USA, 1978. ISBN 0-574-21192-6. 108 pp. LCCN QA76.73.F25 G4.

Gear:1978:IG

[Gea78g] Charles W. Gear. *Instructor's Guide*, volume I of *Introduction to computers, structured programming, and applications.* Science Research Associates, Chicago, IL, USA, 1978. 44 pp. LCCN ????

Gear:1978:PP

[Gea78h] Charles W. Gear. *PL/1 and PL??*, volume L3 of *Introduction to computers, structured programming, and applications.* Science Research Associates, Chicago, IL, USA, 1978. ISBN 0-574-21194-2. 110 pp. LCCN QA76.73.P23 G43.

Gear:1978:SVS

[Gea78i] Charles William Gear. Stability of variable-step methods for ordinary differential equations. Technical Report UIUCDCS-R-78-1723, Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL, USA, 1978. 11 pp.

Gear:1979:EN

[Gea79a] C. W. Gear. Editor's note. *ACM Transactions on Mathematical Software*, 5(4):373, December 1979. CODEN ACMSCU. ISSN 0098-3500 (print), 1557-7295 (electronic).

Gear:1979:NSS

[Gea79b] C. W. Gear. Numerical software: Science or alchemy? Technical Report UIUCDCS-R-79-969, Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL, USA, 1979. 25 pp.

Gear:1979:IVP

[Gea79c] C. William (Charles William) Gear. Initial value problems: practical theoretical developments. Report UIUCDCS-R-79-962 (UILU-ENG 79-1708), Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL, USA, 1979. 32 pp.

Gear:1979:OTA

[Gea79d] C. William (Charles William) Gear. ODEs, is there anything left to do? Report UIUCDCS-R-79-983 (UILU-ENG 79 1731, COO-2383-0061), Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL, USA, 1979. 28 + 2 pp.

Gear:1980:AMMa

[Gea80a] C. W. Gear. Automatic multirate methods for ordinary differential equations. Technical Report UIUCDCS-R-80-1000 (UILU-ENG 80 1701, COO-2383-0062), Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL, USA, 1980. 14 pp.

Gear:1980:BRN

[Gea80b] C. W. Gear. Book review: *Numerical Solution of Differential Equations* (Isaac Fried). *SIAM Review*, 22(4):512–513, October 1980. CODEN SIREAD. ISSN 0036-1445 (print), 1095-7200 (electronic).

Gear:1980:IVP

[Gea80c] C. W. Gear. Initial value problems: practical theoretical developments. In *Computational techniques for ordinary differential equations (Proc. Conf. Univ. Manchester, Manchester, 1978)*, Inst. Math. Appl. Conf. Ser., pages 143–162. Academic Press, New York, NY, USA, 1980. ISBN 0-12-285780-1. LCCN QA370 .C64 1978.

Gear:1980:MIS

[Gea80d] C. W. Gear. Method and initial stepsize selection in multistep ODE solvers. Report UIUCDCS-R-80-1006 (UILU-ENG 80 1708, COO-2383-0066), Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL, USA, February 1980. 33 pp.

Gear:1980:NSS

[Gea80e] C. W. Gear. Numerical software: Science or alchemy? In Marshall C. Yovits, editor, *Advances in Computers*, volume 19, pages 229–248. Elsevier, Amsterdam, The Netherlands, 1980. ISSN 0065-2458.

Gear:1980:RKS

[Gea80f] C. W. Gear. Runge–Kutta starters for multistep methods. *ACM Transactions on Mathematical Software*, 6(3):263–279, September 1980. CODEN ACMSCU. ISSN 0098-3500 (print), 1557-7295 (electronic).

Gear:1980:UMD

[Gea80g] C. W. Gear. Unified modified divided difference implementation of Adams and BDF: Formulas. Report UIUCDCS-R-80-1014 (UILU-ENG 80 1711, C00-2383-0067), Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL, USA, March 1980. 23 pp.

Gear:1980:AMMb

[Gea80h] C. William Gear. Automatic multirate methods for ordinary differential equation. In Simon H. Lavington, editor, *Information Processing, Proceedings of the 8th IFIP Congress 1980, Tokyo, Japan — October 6-9, 1980 and Melbourne, Australia — October 14-17, 1980*, pages 717–722. North-Holland Publishing Co., Amsterdam, The Netherlands, 1980. ISBN 0-444-86034-7. LCCN QA75.5 .I532 1980.

Gear:1980:ADT

[Gea80i] C. William (Charles William) Gear. Automatic detection and treatment of oscillatory and/or stiff ordinary differential equations. Report UIUCDCS-R-80-1019 (COO-2383-0068, Conf-8004115-1, UILU-ENG-80-1721), Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL, USA, June 1980. 21 pp. URL `http://books.google.com/books?id=EOzcR\_C2tk8C; http://catalog.hathitrust.org/api/volumes/oclc/7575084.html`.

Gear:1981:CMS

[Gea81a] C. W. Gear. Computational methods and software for ODEs and their applications: Annual progress report. Technical Report DOE/ER/02383-T4, Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL, USA, 1981. 6 pp.

Gear:1981:NSO

[Gea81b] C. W. Gear. Numerical solution of ordinary differential equations: Is there anything left to do? *SIAM Review*, 23(1):10–24, January 1981. CODEN SIREAD. ISSN 0036-1445 (print), 1095-7200 (electronic).

Gear:1982:ADT

[Gea82a] C. W. Gear. Automatic detection and treatment of oscillatory and/or stiff ordinary differential equations. *Lecture Notes in Mathematics*, 968: 190–206, 1982. CODEN LNMAA2. ISBN 3-540-11970-1 (print), 3-540-39374-9 (e-book). ISSN 0075-8434 (print), 1617-9692 (electronic). URL `http://link.springer.com/chapter/10.1007/BFb0064888/`.

Gear:1982:BFS

[Gea82b] C. W. Gear. Boot finding in simulation and ODE solution. Report UIUCDCS-R-82-1116, Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL, USA, December 1982. 8 pp.

Gear:1982:ESC

[Gea82c] C. W. Gear. Efficient step-size control for output and discontinuities. Technical Report UIUCDCS-R-82-1111 (UILU-ENG 82 1737, COO-2383-0090), Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL, USA, November 1982. 8 pp.

Gear:1982:SSW

[Gea82d] C. W. Gear. Stiff software: what do we have and what do we need? Report UIUCDCS-R-82-1109, Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL, USA, November 1982. 35 pp.

Gear:1982:RFS

[Gea82e] C. William (Charles William) Gear. Root finding in simulation and ODE solution. Technical Report UIUCDCS-R-82-1116 (UILU-ENG 82 1743), Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL, USA, December 1982. 6 + 3 pp.

Gear:1983:NSO

[Gea83a] C. W. Gear. Numerical solution of ordinary differential equations: is there anything left to do? *Applied Mathematics & Mathematics of Computation. Yingyong Shuxue yu Jisuan Shuxue*, (4):33–42, 1983. Translated from the English by Li Xing Chen.

Gear:1983:PP

[Gea83b] C. W. Gear. *Programming in Pascal*. Science Research Associates, Chicago, IL, USA, 1983. ISBN 0-574-21360-0. 248 pp. LCCN QA76.73.P2 G4 1983.

Gear:1984:DAE

[Gea84a] C. W. Gear. Differential–algebraic equations. In Haug [Hau84], page ?? ISBN 0-387-12887-5 (U.S.), 3-540-12887-5. LCCN TJ173 .N38 1983.

Gear:1984:ENS

[Gea84b] C. W. Gear. Erratum: "Numerical solution of ordinary differential equations: is there anything left to do?" [Appl. Math. Math. Comput. **1983**, no. 4, 33–42]. *Applied Mathematics & Mathematics of Computation. Yingyong Shuxue yu Jisuan Shuxue*, (1):10, 1984.

Gear:1984:NSP

[Gea84c] C. W. Gear. The numerical solution of problems which may have high frequency components. In Haug [Hau84], page ?? ISBN 0-387-12887-5 (U.S.), 3-540-12887-5. LCCN TJ173 .N38 1983.

Gear:1984:MSI

[Gea84d] C. William (Charles William) Gear. Maintaining solution invariants in the numerical solution of ODEs. Technical memorandum 40, Argonne National Laboratory, Argonne, IL, USA, 1984. 14 pp.

Gear:1985:BRD

[Gea85a] C. W. Gear. Book review: *Discretization Methods for Stable Initial Value Problems* (Eckart Gekeler). *SIAM Review*, 27 (2):269, ???? 1985. CODEN SIREAD. ISSN 0036-1445 (print), 1095-7200 (electronic).

Gear:1985:COP

[Gea85b] Charles W. Gear. *Computer Organization and Programming: with an Emphasis on the Personal Computer*. McGraw Hill computer science series; McGraw Hill series in computer organization and architecture. McGraw-Hill, New York, NY, USA, fourth edition, 1985. ISBN 0-07-023049-8. xiii + 414 pp. LCCN QA76.6 .G38 1985.

Gear:1986:DAE

[Gea86a] C. W. Gear. Differential-algebraic equation index transformations. Report UIUCDCS-

R-86-1314 (UILU-ENG-86-1780 COO-2383-0126), Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL, USA, December 1986. 17 pp.

Gear:1986:MSI

[Gea86b] C. W. Gear. Maintaining solution invariants in the numerical solution of ODEs. *SIAM Journal on Scientific and Statistical Computing*, 7(3):734–743, July 1986. CODEN SIJCD4. ISSN 0196-5204.

Gear:1986:PPO

[Gea86c] C. W. Gear. The potential for parallelism in ordinary differential equations. Report UIUCDCS-R-86-1246, Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL, USA, 1986. 18 pp.

Gear:1986:CAAb

[Gea86d] C. William Gear. *Computer Applications and Algorithms*. Science Research Associates, Chicago, IL, USA, February 1986. ISBN 0-02-341206-2. ???? pp. LCCN ????

Gear:1986:CAAa

[Gea86e] Charles William Gear. *Computer applications and algorithms*. Science Research Associates, Chicago, IL, USA, 1986. ISBN 0-574-21970-6. x + 244 pp. LCCN QA76.6 .G375 1986.

Gear:1987:CCK

[Gea87a] C. W. Gear. Condensed chemical kinetic equations. Report UIUCDCS-R-87-1383 (UILU-ENG-87-1772), Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL, USA, October 1987. 6 pp.

Gear:1987:DOC

[Gea87b] C. W. Gear. DAEs: ODEs with constraints and invariants. Report UIUCDCS-R-87-1385 (UILU-ENG-87-1774), Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL, USA, November 1987. 14 pp.

Gear:1987:E

[Gea87c] C. W. Gear. Editorial. *SIAM Journal on Scientific and Statistical Computing*, 8(1):vi, ???? 1987. CODEN SIJCD4. ISSN 0196-5204.

Gear:1987:PMO

[Gea87d] C. W. Gear. Parallel methods for ordinary differential equations. Report UIUCDCS-R-87-1369, Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL, USA, 1987. 28 pp.

Gear:1988:DAE

[Gea88a] C. W. Gear. Differential-algebraic equation index transformations. *SIAM Journal on Scientific and Statistical Computing*, 9(1):39–47, January

1988. CODEN SIJCD4. ISSN 0196-5204.

Gear:1988:IFS

[Gea88b] C. W. Gear. Implementation of fitted second order ODE integrators. Report UIUCDCS-R-88-1441 (UILU-ENG-88-1746, DOE/ER/25026-22), Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL, USA, July 1988. 7 pp.

Gear:1988:LCR

[Gea88c] C. W. Gear. Logarithmically connected, repetitive computer: Networks and numerical applications. Report UIUCDCS-R-88-402 (UILU-ENG-88-1706, DOE/ER/25026-18), Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL, USA, January 1988. 17 pp.

Gear:1988:MPA

[Gea88d] C. W. Gear. Massive parallelism across the method in ODEs. Report UIUCDCS-R-88-1442 (UILU-ENG-88-1747, DOE/ER/25026-23), Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL, USA, July 1988. 9 pp.

Gear:1988:PMO

[Gea88e] C. W. Gear. Parallel methods for ordinary differential equations. *Calcolo: a quarterly on numerical analysis and theory of computation*, 25(1–2):1–20, 1988. CODEN CALOBK. ISSN 0008-0624 (print), 1126-5434 (electronic).

Gear:1989:DOC

[Gea89a] C. W. Gear. DAEs: ODEs with constraints and invariants. *Lecture Notes in Mathematics*, 1386:54–68, 1989. CODEN LNMAA2. ISBN 3-540-51478-3 (print), 3-540-48144-3 (e-book). ISSN 0075-8434 (print), 1617-9692 (electronic). URL `http://link.springer.com/chapter/10.1007/BFb0089231/`.

Gear:1989:DAE

[Gea89b] C. W. Gear. Differential algebraic equations, indices, and integral algebraic equations. Report UIUCDCS-R-89-1505 (UILU-ENG-88-1724), Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL, USA, April 1989. 11 pp.

Gear:1990:DAE

[Gea90a] C. W. Gear. Differential algebraic equations, indices, and integral algebraic equations. *SIAM Journal on Numerical Analysis*, 27(6):1527–1534, December 1990. CODEN SJNAAM. ISSN 0036-1429 (print), 1095-7170 (electronic).

Gear:1990:WMS

[Gea90b] C. W. Gear. Waveform methods for space and time parallelism. In Tetsuro Yamamoto, editor, *Advances in Computational Mathematics: Proceedings of the International Symposium* *on Computational Mathematics, Matsuyama, Japan 30 August–4 September 1990*, pages 137–148. North-Holland Publishing Co., Amsterdam, The Netherlands, 1990. ISBN 0-444-89421-7 (hardcover). LCCN QA297 .I56 1990.

Gear:1991:WMS

[Gea91a] C. W. Gear. Waveform methods for space and time parallelism. *Journal of Computational and Applied Mathematics*, 38(1–3):137–147, December 23, 1991. CODEN JCAMDI. ISSN 0377-0427 (print), 1879-1778 (electronic). URL `http://www.sciencedirect.com/science/article/pii/037704279190166H`.

Gear:1991:ISM

[Gea91b] C. William Gear. Inside SIAM's mysterious journal publication process. *SIAM News*, 24(2):6, March 1991. ISSN 0036-1437.

Gear:1991:CC

[Gea91c] Charles William Gear, editor. *Computation and Cognition: Proceedings of the First NEC Research Symposium*, Proceedings of the First NEC Research Symposium. Society for Industrial and Applied Mathematics, Philadelphia, PA, USA, 1991. ISBN 0-89871-272-6. LCCN QA76.27 .N43 1989.

Gear:1992:INM

[Gea92] C. W. Gear. Invariants and numerical methods for ODEs. *Physica. D, Nonlinear phenomena*, 60(1–4):303–310, 1992. CODEN PDNPDT. ISSN 0167-2789 (print), 1872-8022 (electronic). Experimental mathematics: computational issues in nonlinear science (Los Alamos, NM, 1991).

Gear:1993:MPA

[Gea93] C. W. Gear. Massive parallelism across space in ODEs. *Applied Numerical Mathematics: Transactions of IMACS*, 11(1–3):27–43, January 1993. CODEN ANMAEL. ISSN 0168-9274 (print), 1873-5460 (electronic). Parallel methods for ordinary differential equations (Grado, 1991).

Gear:1994:FGM

[Gea94] C. W. Gear. Feature grouping in moving objects. In Anonymous [Ano94], pages 214–219. ISBN 0-8186-6435-5 (paper), 0-8186-6436-3 (microfiche). LCCN TA1634 .I33 1994. URL `http://ieeexplore.ieee.org/servlet/opac?punumber=1000; http://www.gbv.de/dms/bowker/toc/9780818664359.pdf`.

Gear:1998:MGM

[Gea98] C. W. Gear. Multibody grouping from motion images. *International Journal of Computer Vision*, 29(2):133–150, August 1998. CODEN IJCVEQ. ISSN 0920-5691 (print), 1573-1405 (electronic).

Gear:2001:PIM

[Gea01] C. W. Gear. Projective integration methods for distributions. Report, Princeton University, Princeton, NJ 08544, USA, November 26, 2001. 1–9 pp. URL `https://www.princeton.edu/~wgear/pdf.pdf`.

Gear:2002:FSS

[Gea02] C. W. Gear. Finding stationary states of noisy processes. Report, Princeton University, Princeton, NJ 08544, USA, October 3, 2002. 1–5 pp. URL `https://www.princeton.edu/~wgear/steadystate.pdf`.

Gear:2006:TEM

[Gea06] C. W. Gear. Towards explicit methods for differential algebraic equations. *BIT Numerical Mathematics*, 46(3):505–514, September 2006. CODEN BITTEL, NBITAB. ISSN 0006-3835 (print), 1572-9125 (electronic).

Gear:2007:BDF

[Gea07] Bill Gear. Backward differentiation formulas. Scholarpedia Web site: report 2(8):3162, 2007. URL `http://www.scholarpedia.org/article/Backward_differentiation_formulas`.

Gear:2008:OCW

[Gea08] C. W. Gear. Optimum choice of weights in slope calculation. Report, Princeton University, Princeton, NJ 08544, USA, July 23, 2008. 4 pp. URL `http://www.princeton.edu/~wgear/BestSlope.pdf`.

Gear:2009:IFS

[Gea09] C. W. Gear. Invariants of fast solutions of KdV–Burgers equations. Report, Princeton University, Princeton, NJ 08544, USA, September 12, 2009. URL `http://www.princeton.edu/~wgear/KdFInv.pdf`.

Gear:2012:PNL

[Gea12] C. Gear. Parameterization of non-linear manifolds. *arXiv.org*, ??(??):1–11, August 2012. URL `https://arxiv.org/abs/1208.5246`.

Gear:2015:PNL

[Gea15] C. W. Gear. Parameterization of non-linear manifolds. Report, Department of Chemical and Biological Engineering, Princeton University, Princeton, NJ 08544, USA, August 22, 2015. 11 pp. URL `http://www.princeton.edu/~wgear/Parameterization.pdf`.

Gear:2022:CWG

[Gea22] C. W. Gear. C. W. Gear (Bill). Princeton University Web site., 2022. URL `http://www.princeton.edu/~wgear/`.

Gustavson:1978:AAB

[GG78] Frances G. Gustavson and Charles W. Gear. *Applications and Algorithms in Business*, volume A3 of *Introduction to computers, structured programming, and applications*. Science Research Associates, Chicago, IL, USA, 1978. ISBN 0-574-21190-X. viii + 134 pp. LCCN HF5548.2 .G87.

Gear:1982:AMH

[GG82] C. W. Gear and K. A. Gallivan. Automatic methods for highly oscillatory ordinary differential equations. In Watson [Wat82], pages 115–124. CODEN LNMAA2. ISBN 0-387-11199-9 (softcover), 3-540-11199-9 (softcover), 3-540-39009-X (e-book). ISSN 0075-8434 (print), 1617-9692 (electronic). LCCN QA3 .L28 no. 912; QA1 .L471; QA297 .D915n 1981. URL `http://link.springer.com/chapter/10.1007/BFb0093152/`.

Gear:2010:CVS

[GGK10] C. W. Gear, D. Givon, and I. G. Kevrekidis. Computing on virtual slow manifolds of fast stochastic systems. *JNAIAM. J. Numer. Anal. Ind. Appl. Math.*, 5(1–2):61–72, 2010. ISSN 1790-8140 (print), 1790-8159 (electronic).

Gupta:1985:ILM

[GGL85] G. K. Gupta, C. W. Gear, and B. Leimkuhler. Implementing linear multistep formulas for solving DAEs. Report UIUCDCS-R-85-1205 (UILU-ENG-85-1709, COO-2383-0107), Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL, USA, April 1985. 32 pp.

Gear:1981:DAE

[GHP81] C. W. Gear, H. H. Hsu, and L. Petzold. Differential–algebraic equations revisited. In ????, editor, *Proceedings of the Oberwolfach Workshop on Stiff Equations (June 29–July 3, 1981, Oberwolfach, West Germany)*, page ?? ????, ????, 1981.

Gear:1991:SWM

[GJ91] C. W. Gear and Fen-Lien Juang. The speed of waveform methods for ODEs. In *Applied and industrial mathematics (Venice, 1989)*, volume 56 of *Math. Appl.*, pages 37–48. Kluwer Academic Publishers Group, Norwell, MA, USA, and Dordrecht, The Netherlands, 1991. ISBN 0-7923-0521-3. LCCN TA331 .A63 1990.

Gear:2002:BPM

[GK02a] C. W. Gear and Ioannis G. Kevrekidis. Boundary processing for Monte Carlo simulations in the gap-tooth scheme. Report, Princeton University, Princeton, NJ 08544, USA, October 31, 2002. 1–8 pp. URL `http://arxiv.org/abs/physics/0211043`; `https://www.princeton.edu/~wgear/gaptoothboundary.pdf`.

Gear:2002:PMS

[GK02b] C. W. Gear and Ioannis G. Kevrekidis. Projective methods for stiff differential equations: *problems with gaps in their eigenvalue spectrum*. Report NECI-TR 2001-029, Princeton University, Princeton, NJ 08544, USA, February 4, 2002. 1–32 pp. URL `https://www.princeton.edu/~wgear/projectivefull.pdf`.

Gear:2003:PMS

[GK03a] C. W. Gear and Ioannis G. Kevrekidis. Projective methods for stiff differential equations: Problems with gaps in their eigenvalue spectrum. *SIAM Journal on Scientific Computing*, 24(4):1091–1106, July 2003. CODEN SJOCE3. ISSN 1064-8275 (print), 1095-7197 (electronic). URL http://epubs.siam.org/sam-bin/dbq/article/38815.

Gear:2003:TPM

[GK03b] C. W. Gear and Ioannis G. Kevrekidis. Telescopic projective methods for parabolic differential equations. *Journal of Computational Physics*, 187(1):95–109, May 1, 2003. CODEN JCTPAH. ISSN 0021-9991 (print), 1090-2716 (electronic). URL http://www.sciencedirect.com/science/article/pii/S0021999103000822.

Gear:2003:CDM

[GK03c] C. William Gear and Ioannis G. Kevrekidis. Constraint-defined manifolds: a legacy code approach to low-dimensional computation. *arXiv.org*, ??(??):1–12, December 15, 2003. URL https://arxiv.org/abs/physics/0312094.

Gear:2004:CPF

[GK04] C. W. Gear and Ioannis G. Kevrekidis. Computing in the past with forward integration. *Physics Letters A*, 321(5–6):335–343, 2004. CODEN PYLAAG. ISSN 0375-9601 (print), 1873-2429 (electronic).

Gear:2005:CDM

[GK05] C. William Gear and Ioannis G. Kevrekidis. Constraint-defined manifolds: a legacy code approach to low-dimensional computation. *Journal of Scientific Computing*, 25(1–2):17–28, October 2005. CODEN JSCOEB. ISSN 0885-7474 (print), 1573-7691 (electronic). URL http://link.springer.com/article/10.1007/BF02728980; http://link.springer.com/article/10.1007/s10915-004-4630-x; http://link.springer.com/content/pdf/10.1007/BF02728980; http://link.springer.com/content/pdf/10.1007/s10915-004-4630-x; http://www.springerlink.com/openurl.asp?genre=article&issn=0885-7474&volume=25&issue=1&spage=17-28.

Gear:2004:EFC

[GKH04] C. W. Gear, I. G. Kevrekidis, and G. Hummer. Equation-free: the computer-assisted analysis of complex, multiscale systems. *A.I.Ch.E Journal*, 50(7):1346–1354, ???? 2004.

Gear:2005:PSM

[GKKZ05] C. W. Gear, T. J. Kaper, I. G. Kevrekidis, and A. Zagaris. Projecting to a slow manifold: Singularly perturbed systems and legacy codes. *SIAM Journal on Applied Dynamical Systems*, 4(3):711–732, 2005. CODEN SJADAY. ISSN 1536-0040.

URL http://epubs.siam.org/sam-bin/dbq/article/60829.

Gear:2002:CIB

[GKT02] C. W. Gear, Ioannis G. Kevrekidis, and Constantinos Theodoropoulos. "Coarse" integration/bifurcation analysis via microscopic simulators: micro-Galerkin methods. *Computers & Chemical Engineering*, 26(7–8):941–963, August 2002. CODEN CCENDW. ISSN 0098-1354 (print), 1873-4375 (electronic).

Gear:200x:CIB

[GKT0x] C. W. Gear, Ioannis G. Kevrekidis, and Constantinos Theodoropoulos. "Coarse" integration/bifurcation analysis via microscopic simulators: micro-Galerkin methods. Report, Department of Chemical Engineering. Princeton University, Princeton, NJ 08544, USA, 200x. 1–37 pp. URL https://www.princeton.edu/~wgear/coarseproj.pdf.

Gear:1985:AIE

[GLG85] C. W. Gear, B. Leimkuhler, and G. K. Gupta. Automatic integration of Euler–Lagrange equations with constraints. *Journal of Computational and Applied Mathematics*, 12–13(??):77–90, May 1985. CODEN JCAMDI. ISSN 0377-0427 (print), 1879-1778 (electronic). URL http://www.sciencedirect.com/science/article/pii/0377042785900081.

Gear:2003:GTM

[GLK03] C. William Gear, Ju Li, and Ioannis G. Kevrekidis. The gap-tooth method in particle simulations. *Physics Letters A*, 316(3–4):190–195, 2003. CODEN PYLAAG. ISSN 0375-9601 (print), 1873-2429 (electronic).

Gear:1981:SOD

[GO81] C. W. Gear and O. Oesterby. Solving ordinary differential equations with discontinuities. Report UIUCDCS-R-81-1064 (UILU-ENG 81 1727, COO-2383-0079), Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL, USA, September 1981. 67 pp.

Gear:1984:SOD

[GØ84] C. William Gear and Ole Østerby. Solving ordinary differential equations with discontinuities. *ACM Transactions on Mathematical Software*, 10 (1):23–44, March 1984. CODEN ACMSCU. ISSN 0098-3500 (print), 1557-7295 (electronic).

Gear:1979:NCR

[GOP+79] C. W. Gear, J. M. Ortega, B. Parlett, J. R. Rice, M. Schultz, L. F. Shampine, and P. Wolfe. Numerical computation: a report on past, present, and future research. *ACM SIGNUM Newsletter*, 14 (si-1):1–48, February 1979. CODEN SNEWD6. ISSN 0163-5778 (print), 1558-0237 (electronic). Also published in [GOP+80].

Gear:1980:NCR

[GOP+80] C. W. Gear, J. M. Ortega, B. Parlett, J. R. Rice, M. Schultz, L. F. Shampine, and P. Wolfe. Numerical computation: a report on past, present, and future research. In Arden [Ard80], pages 51–136. ISBN 0-262-01060-7, 0-262-51026-X (paperback). LCCN QA76 .W49. Also published in [GOP+79].

Gear:1982:DAS

[GP82a] C. W. Gear and L. R. Petzold. Differential/algebraic systems and matrix pencils. Report UIUCDCS-R-82-1086 (UILU-ENG 82 1707, COO-2383-0083), Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL, USA, April 1982. 27 pp.

Gear:1982:OMS

[GP82b] C. W. Gear and L. R. Petzold. ODE methods for the solution of differential/algebraic systems. Report UIUCDCS-R-82-1103 (UILU-ENG 82 1727), Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL, USA, September 1982. 55 pp.

Gear:1982:SIO

[GP82c] C. William (Charles William) Gear and Linda Ruth Petzold. Singular implicit ordinary differential: Equations and constraints. Report UIUCDCS-R-82-1110 (UILU-ENG 82 1738, COO-2383-0089), Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL, USA, November 1982. 11 pp.

Gear:1983:DAS

[GP83a] C. W. Gear and L. R. Petzold. Differential/algebraic systems and matrix pencils. In Kågström and Ruhe [KR83], pages 75–89. CODEN LNMAA2. ISBN 0-387-11983-3 (print), 3-540-11983-3 (print), 3-540-39447-8 (e-book). ISSN 0075-8434 (print), 1617-9692 (electronic). LCCN QA3 .L28 no. 973. URL `http://link.springer.com/chapter/10.1007/BFb0062095/`.

Gear:1983:SIO

[GP83b] C. W. Gear and L. R. Petzold. Singular implicit ordinary differential equations and constraints. *Lecture Notes in Mathematics*, 1005:120–127, 1983. CODEN LNMAA2. ISBN 3-540-12334-2 (print), 3-540-40967-X (e-book). ISSN 0075-8434 (print), 1617-9692 (electronic). URL `http://link.springer.com/chapter/10.1007/BFb0112529/`.

Gear:1984:OMS

[GP84] C. W. Gear and L. R. Petzold. ODE methods for the solution of differential/algebraic systems. *SIAM Journal on Numerical Analysis*, 21(4):716–728, August 1984. CODEN SJNAAM. ISSN 0036-1429 (print), 1095-7170 (electronic).

Gear:1981:ISL

[GS81] C. W. Gear and Y. Saad. Iterative solution of linear equations in ODE codes. Report UIUCDCS-R-81-1054, Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL, USA, January 1981. 33 pp.

Gear:1983:ISL

[GS83] C. W. Gear and Y. Saad. Iterative solution of linear equations in ODE codes. *SIAM Journal on Scientific and Statistical Computing*, 4(4):583–601, December 1983. CODEN SIJCD4. ISSN 0196-5204.

Gear:1987:DOM

[GS87] C. W. Gear and R. Skeel. The development of ODE methods: a symbiosis between hardware and numerical analysis. In Crane [Cra87], pages 105–115. ISBN 0-89791-229-2. LCCN QA76 .A25 1987.

Gear:1989:SSS

[GS89] C. W. Gear and H. D. Simon. Special section on sparse matrix algorithms on supercomputers. *SIAM Journal on Scientific and Statistical Computing*, 10(6): 1135, ???? 1989. CODEN SIJCD4. ISSN 0196-5204.

Gear:1990:DOM

[GS90] C. W. Gear and R. D. Skeel. The development of ODE methods: a symbiosis between hardware and numerical analysis. In Nash [Nas90], pages 88–105. ISBN 0-201-50814-1. LCCN QA76.17 .H59 1990.

Gear:1973:EVM

[GT73] C. William (Charles William) Gear and K. W. Tu. The effect of variable mesh size on the stability of multistep methods. Technical Report UIUCDCS-R-73-570, Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL, USA, 1973. 33 pp.

Gear:1974:EVM

[GT74] C. W. Gear and K. W. Tu. The effect of variable mesh size on the stability of multistep methods. *SIAM Journal on Numerical Analysis*, 11(5):1025–1043, October 1974. CODEN SJNAAM. ISSN 0036-1429 (print), 1095-7170 (electronic).

Gear:1974:SAP

[GTW74] C. W. Gear, K. W. Tu, and D. S. Watanabe. The stability of automatic programs for numerical problems. In *Stiff differential systems (Proc. Internat. Sympos., Wildbad, Germany, 1973)*, The IBM Research Symposia Series, pages 111–121. Plenum Press, New York, NY, USA; London, UK, 1974.

Gear:1987:SCP

[GV87a] C. W. Gear and R. G. Voigt. Second Conference on Parallel Processing for Scientific Computing. *SIAM Journal on Scientific and Statistical Computing*, 8 (2):S139–S287, March 1987. CO-

DEN SIJCD4. ISSN 0196-5204. URL https://epubs.siam.org/toc/sijcd4/8/2.

Gear:1987:SPS

[GV87b] C. W. Gear and R. G. Voigt, editors. *Selected Papers from the Second Conference on Parallel Processing for Scientific Computing (Norfolk, VA, November 18–21, 1985)*. Society for Industrial and Applied Mathematics, Philadelphia, PA, USA, 1987. ISBN 0-89871-216-5 (paperback). LCCN QA76.5 .C61928 1985.

Gear:1987:NEa

[GV87c] C. William Gear and Robert G. Voigt. A note from the Editors. *SIAM Journal on Scientific and Statistical Computing*, 8(1): S1, ???? 1987. CODEN SIJCD4. ISSN 0196-5204.

Gear:1987:NEb

[GV87d] C. William Gear and Robert G. Voigt. A note from the editors. In Gear and Voigt [GV87b], page 1. ISBN 0-89871-216-5 (paperback). LCCN QA76.5 .C61928 1985.

Gear:1973:SCV

[GW73] C. William (Charles William) Gear and D. S. Watanabe. Stability and convergence of variable order multistep methods. Report UIUCDCS-R-73-571, Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL, USA, 1973. 27 pp.

Gear:1974:SCV

[GW74] C. W. Gear and D. S. Watanabe. Stability and convergence of variable order multistep methods. *SIAM Journal on Numerical Analysis*, 11(5):1044–1058, October 1974. CODEN SJNAAM. ISSN 0036-1429 (print), 1095-7170 (electronic).

Gear:1984:MLM

[GW84] C. W. Gear and D. R. Wells. Multirate linear multistep methods. *BIT (Nordisk tidskrift for informationsbehandling)*, 24(4): 484–502, December 1984. CODEN BITTEL, NBITAB. ISSN 0006-3835 (print), 1572-9125 (electronic). URL http://www.springerlink.com/openurl.asp?genre=article&issn=0006-3835&volume=24&issue=4&spage=484.

Gear:1986:RTI

[GW86] C. W. Gear and Dianhan Wang. Real-time integration formulas with: Off-step inputs and their stability. Report UIUCDCS-R-86-1277 (UILU-ENG-86-1731 COO-2383-0123), Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL, USA, June 1986. 12 + 8 pp.

Gear:1987:ESS

[GW87] C. W. Gear and D. Wang. Explicit stiff stability via splitting and the parallel solution of ODEs. Report UIUCDCS-R-87-1328, Department of Computer Science, University of Illinois at

Urbana-Champaign, Urbana, IL, USA, 1987. 11 pp.

Gear:1989:RTI

[GW89] C. W. Gear and Dian Han Wang. Real-time integration formulas with off-step inputs and their stability. *Applied Mathematics and Computation*, 31(Special issue):132–147, ???? 1989. CODEN AMHCBQ. ISSN 0096-3003 (print), 1873-5649 (electronic). Proceedings of the 1986 ODE Conference: Numerical ordinary differential equations (Albuquerque, NM, 1986).

Gear:1993:PAT

[GX93] C. W. Gear and Xuhai Xu. Parallelism across time in ODEs. *Applied Numerical Mathematics: Transactions of IMACS*, 11(1–3):45–68, January 1993. CODEN ANMAEL. ISSN 0168-9274 (print), 1873-5460 (electronic). Parallel methods for ordinary differential equations (Grado, 1991).

Haigh:2005:ICW

[Hai05] Thomas Haigh. An interview with C. W. "Bill" Gear. SIAM Oral Histories., September 17–19, 2005. URL `http://history.siam.org/oralhistories/gear.htm`; `http://history.siam.org/pdfs2/CWGear_final.pdf`.

Haug:1984:CAA

[Hau84] Edward J. Haug, editor. *Computer Aided Analysis and Optimization of Mechanical System Dynamics*, volume 9 of *NATO ASI series. Series F, Computer and systems sciences*. Springer-Verlag, Berlin, Germany / Heidelberg, Germany / London, UK / etc., 1984. ISBN 0-387-12887-5 (U.S.), 3-540-12887-5. LCCN TJ173 .N38 1983.

Hamlin:1977:RSHa

[HG77a] Griffith Hamlin, Jr. and C. W. Gear. Raster-scan hidden surface algorithm techniques. Report R 1977/1, NASA Langley Research Center. Institute for Computer Applications in Science and Engineering [ICASE], Hampton, VA, USA, 1977. 27 pp.

Hamlin:1977:RSHb

[HG77b] Griffith Hamlin, Jr. and C. W. Gear. Raster-scan hidden surface algorithms. *Computer Graphics*, 11(2):206–213, July 1977. CODEN CGRADI, CPGPBZ. ISSN 0097-8930 (print), 1558-4569 (electronic).

Hamlin:1980:RSH

[HG80] G. Hamlin, Jr. and C. W. Gear. Raster-scan hidden surface algorithm techniques. In Freeman [Fre80], page ?? LCCN T385 .T87.

Hindmarsh:1974:GOD

[Hin74] A. C. Hindmarsh. GEAR: Ordinary differential equation system solver. Report UCID-30001 (revision 3), Lawrence Livermore Laboratory, Livermore, CA, USA, 1974.

Holiday:2019:MLP

[HKBR+19] Alexander Holiday, Mahdi Kooshkbaghi, Juan M. Bello-Rivas, C. William Gear, Antonios Zagaris, and Ioannis G. Kevrekidis. Manifold learning for parameter reduction. *Journal of Computational Physics*, 392(??):419–431, September 1, 2019. CODEN JCTPAH. ISSN 0021-9991 (print), 1090-2716 (electronic). URL `http://www.sciencedirect.com/science/article/pii/S0021999119302487`.

Juang:1989:AIW

[JG89] Fen-Lien Juang and C. W. Gear. Accuracy increase in waveform Gauss Seidel. Report UIUCDCS-R-89-1518 (UILU-ENG-89-1737, DOE/ER/25026/29), Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL, USA, June 1989. 27 pp.

Jamshidi:2014:TVR

[JGK14] A. A. Jamshidi, C. W. Gear, and I. G. Kevrekidis. Time varying radial basis functions. *Journal of Computational and Applied Mathematics*, 266(??):61–72, August 15, 2014. CODEN JCAMDI. ISSN 0377-0427 (print), 1879-1778 (electronic). URL `http://www.sciencedirect.com/science/article/pii/S0377042714000399`.

Kavousanakis:2007:PCP

[KEB+07] M. E. Kavousanakis, R. Erban, A. G. Boudouvis, C. W. Gear, and I. G. Kevrekidis. Projective and coarse projective integration for problems with continuous symmetries. *Journal of Computational Physics*, 225(1):382–407, July 1, 2007. CODEN JCTPAH. ISSN 0021-9991 (print), 1090-2716 (electronic). URL `http://www.sciencedirect.com/science/article/pii/S0021999106005973`.

Keiper:1989:GBM

[Kei89] Jerry Bruce Keiper. *Generalized BDF methods applied to Hessenberg form DAEs*. PhD thesis, University of Illinois, Urbana, IL, USA, July 1989. vii + 113 pp. URL `http://hdl.handle.net/2142/21587; https://www.proquest.com/pqdtglobal/docview/303708169`.

Keiper:1991:AGB

[KG91] J. B. Keiper and C. W. Gear. The analysis of generalized backwards difference formula methods applied to Hessenberg form differential–algebraic equations. *SIAM Journal on Numerical Analysis*, 28(3):833–858, June 1991. CODEN SJNAAM. ISSN 0036-1429 (print), 1095-7170 (electronic).

Kevrekidis:2002:EFC

[KGH+02] Ioannis G. Kevrekidis, C. William Gear, James M. Hyman, Panagiotis G. Kevrekidis, Olof Runborg, and Constantinos Theodoropoulos. Equation-free, coarse-grained multiscale computation: enabling microscopic simulators to perform system-level analysis. *arXiv.org*, ??(??): 1–73, September 10, 2002. URL https://arxiv.org/abs/physics/0209043.

Kevrekidis:2003:EFC

[KGH+03] Ioannis G. Kevrekidis, C. William Gear, James M. Hyman, Panagiotis G. Kevrekidis, Olof Runborg, and Constantinos Theodoropoulos. Equation-free, coarse-grained multiscale computation: enabling microscopic simulators to perform system-level analysis. *Communications in Mathematical Sciences*, 1(4):715–762, 2003. ISSN 1539-6746 (print), 1945-0796 (electronic). URL http://projecteuclid.org/euclid.cms/1119655353.

Kevrekidis:2022:OCWa

[KP22a] Yannis Kevrekidis and Linda Petzold. Obituary: Charles William Gear. *SIAM News*, 55(5):??, June 1, 2022. ISSN 0036-1437. URL https://sinews.siam.org/Details-Page/obituary-charles-william-gear.

Kevrekidis:2022:OCWb

[KP22b] Yannis Kevrekidis and Linda Petzold. Obituary: Charles William Gear. International Council for Industrial and Applied Mathematics Web site., 2022. URL https://iciam.org/news/22/7/4/obituary-charles-william-gear. Reprint of [KP22a].

Kaagstrom:1983:MPP

[KR83] Bo Kågström and Axel Ruhe, editors. *Matrix Pencils: Proceedings of a Conference Held at Pite Havsbad, Sweden, March 22–24, 1982*, volume 973 of *Lecture Notes in Mathematics*. Springer-Verlag, Berlin, Germany / Heidelberg, Germany / London, UK / etc., 1983. CODEN LNMAA2. ISBN 0-387-11983-3 (print), 3-540-11983-3 (print), 3-540-39447-8 (e-book). ISSN 0075-8434 (print), 1617-9692 (electronic). LCCN QA3 .L28 no. 973. URL http://link.springer.com/book/10.1007/BFb0062089; http://www.springerlink.com/content/978-3-540-39447-1.

Lee:2005:SOA

[LG05] Steven L. Lee and C. William Gear. Second-order accurate projective integrators for multiscale problems. Report UCRL-JRNL-212640, Lawrence Livermore National Laboratory, University of California, Livermore, CA, USA, June 1, 2005. 27 pp. URL http://www.princeton.edu/~wgear/SecondOrderLLNL.pdf.

Lee:2006:FLE

[LG06] S. L. Lee and C. W. Gear. On-the-fly local error estimation for projective integrators. Report UCRL-TR-224892, Lawrence Livermore National Laboratory, University of California, Livermore, CA, USA, October 2, 2006. 16 pp. URL http:

//www.princeton.edu/~wgear/LocalErrorLLNL.pdf.

Lee:2007:SOA

[LG07] Steven L. Lee and C. William Gear. Second-order accurate projective integrators for multiscale problems. *Journal of Computational and Applied Mathematics*, 201(1):258–274, April 1, 2007. CODEN JCAMDI. ISSN 0377-0427 (print), 1879-1778 (electronic). URL http://www.sciencedirect.com/science/article/pii/S037704270600104X.

Li:2003:DNC

[LKGK03] Ju Li, Panayotis G. Kevrekidis, C. William Gear, and Ioannis G. Kevrekidis. Deciding the nature of the coarse equation through microscopic simulations: The baby-bathwater scheme. *Multiscale Modeling and Simulation*, 1(3):391–407, 2003. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL http://epubs.siam.org/sam-bin/dbq/article/41916.

Li:2007:DNC

[LKGK07] Ju Li, Panayotis G. Kevrekidis, C. William Gear, and Ioannis G. Kevrekidis. Deciding the nature of the coarse equation through microscopic simulations: The baby-bathwater scheme. *SIAM Review*, 49(3):469–487, ???? 2007. CODEN SIREAD. ISSN 0036-1445 (print), 1095-7200 (electronic).

Leimkuhler:1987:OCS

[LPG87] B. J. Leimkuhler, L. R. Petzold, and C. W. Gear. On obtaining a consistent set of initial values for a system of differential-algebraic equations. Report UIUCDCS-R-87-1344 (UILU-ENG-87-1732, DOE/ER/25026-5), Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL, USA, May 1987. i + 40 pp.

Leimkuhler:1991:AMC

[LPG91] B. Leimkuhler, L. R. Petzold, and C. W. Gear. Approximation methods for the consistent initialization of differential-algebraic equations. *SIAM Journal on Numerical Analysis*, 28(1):205–226, February 1991. CODEN SJNAAM. ISSN 0036-1429 (print), 1095-7170 (electronic).

Liu:2015:ASD

[LSGK15a] Ping Liu, Giovanni Samaey, C. William Gear, and Ioannis G. Kevrekidis. On the acceleration of spatially distributed agent-based computations: a patch dynamics scheme. *Applied Numerical Mathematics: Transactions of IMACS*, 92(??):54–69, June 2015. CODEN ANMAEL. ISSN 0168-9274 (print), 1873-5460 (electronic). URL http://www.sciencedirect.com/science/article/pii/S0168927414002086.

Liu:2015:EFM

[LSGK15b] Ping Liu, C. I. Siettos, C. W. Gear, and I. G. Kevrekidis.

Equation-free model reduction in agent-based computations: coarse-grained bifurcation and variable-free rare event analysis. *Mathematical Modelling of Natural Phenomena*, 10(3):71–90, 2015. ISSN 0973-5348 (print), 1760-6101 (electronic).

Nash:1990:HSC

[Nas90] Stephen G. Nash, editor. *A History of Scientific Computing*. ACM Press history series. Addison-Wesley and ACM Press, Addison-Wesley and New York, NY 10036, USA, 1990. ISBN 0-201-50814-1. xix + 359 pp. LCCN QA76.17 .H59 1990.

Nikolai:1973:CAD

[Nik73] Paul J. Nikolai. Certification of "Algorithm 407: DIFSUB for solution of ordinary differential equations". *Communications of the ACM*, 16(7):448, July 1973. CODEN CACMA2. ISSN 0001-0782 (print), 1557-7317 (electronic). See [Gea71b].

Parslow:1969:CGT

[PPG69] R. D. Parslow, R. W. Prowse, and Richard Elliot Green, editors. *Computer Graphics: Techniques and Applications*. Plenum Press, New York, NY, USA; London, UK, 1969. ISBN 0-306-30393-0. LCCN T385 .I5 1968. URL `http://link.springer.com/10.1007/978-1-4757-1320-6`.

Petzold:1997:DCW

[PSA+97] Linda R. Petzold, Robert D. Skeel, U. Ascher, K. Burrage, S. L. Campbell, G. H. Golub, E. Hairer, J. M. Hyman, C. Lubich, R. D. Russell, J. M. SanzSerna, and A. Stuart. Dedication to C. William Gear on the occasion of his 60th birthday. *SIAM Journal on Scientific Computing*, 18(1):vii–ix, January 1997. CODEN SJOCE3. ISSN 1064-8275 (print), 1095-7197 (electronic).

Rice:1979:NCN

[RGO+79] J. R. Rice, C. W. Gear, J. Ortega, B. Parlett, M. Schultz, L. F. Shampine, P. Wolfe, and J. F. Traub. Numerical computation: its nature and research directions. *ACM SIGNUM Newsletter*, 14(3S (Special issue)):1–48, February 1979. CODEN SNEWD6. ISSN 0163-5778 (print), 1558-0237 (electronic). URL `https://dl.acm.org/doi/10.1145/1057517.1057518`.

Rice:1977:MSI

[Ric77] John R. Rice, editor. *Mathematical software III: Proceedings of a symposium conducted by the Mathematics Research Center, the University of Wisconsin–Madison, March 28–30, 1977*, number 39 in Publication of the Mathematics Research Center, the University of Wisconsin, Madison. Academic Press, New York, NY, USA, 1977. ISBN 0-12-587260-7. LCCN QA3 .U45 no. 39; QA297 .M36 1977. URL `https://www.sciencedirect.com/book/`

9780125872607/mathematical-software.

Rice:1974:MSP

[RLC+74] John R. Rice, Charles L. Lawson, William J. Cody, C. William Gear, Hans J. Oser, and Barry W. Boehm. A panel session: Mathematical software: patterns for the future. In *American Federation of Information Processing Societies: 1974 National Computer Conference, 6–10 May 1974, Chicago, Illinois, USA*, volume 43 of *AFIPS Conference Proceedings*, page 971. AFIPS Press, Arlington, VA, USA, 1974.

Rico-Martinez:2004:CPK

[RMGK04] R. Rico-Martínez, C. W. Gear, and Ioannis G. Kevrekidis. Coarse projective kMC integration: forward/reverse initial and boundary value problems. *Journal of Computational Physics*, 196(2):474–489, May 20, 2004. CODEN JCTPAH. ISSN 0021-9991 (print), 1090-2716 (electronic). URL http://www.sciencedirect.com/science/article/pii/S0021999103006053.

Shampine:1976:UVS

[SG76] Lawrence F. Shampine and C. William (Charles William) Gear. A user's view of solving stiff ordinary differential equations. Report UIUCDCS-R-76-829 (COO-2383-0036), Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL, USA, 1976. iii + 30 pp.

Shampine:1979:UVS

[SG79] L. F. Shampine and C. W. Gear. A user's view of solving stiff ordinary differential equations. *SIAM Review*, 21(1):1–17, January 1979. CODEN SIREAD. ISSN 0036-1445 (print), 1095-7200 (electronic).

Suleiman:1987:TSS

[SG87] M. Suleiman and C. W. Gear. Treating a single, stiff, second-order ODE directly. Report UIUCDCS-R-87-1391 (UILU-ENG-87-1781), Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL, USA, 1987. 35 pp.

Suleiman:1989:TSS

[SG89] M. B. Suleiman and C. W. Gear. Treating a single, stiff, second-order ODE directly. *Journal of Computational and Applied Mathematics*, 27(3):331–348, November 1989. CODEN JCAMDI. ISSN 0377-0427 (print), 1879-1778 (electronic). URL http://www.sciencedirect.com/science/article/pii/0377042789900216.

Skeel:1992:DVS

[SG92] Robert D. Skeel and C. W. Gear. Does variable step size ruin a symplectic integrator? *Physica. D, Nonlinear phenomena*, 60(1–4):311–313, 1992. CODEN PDNPDT. ISSN 0167-2789 (print), 1872-8022 (electronic). Experimental mathematics: computational issues in nonlinear science (Los Alamos, NM, 1991).

Setayeshgar:2003:ACI

[SGOK03] S. Setayeshgar, C. W. Gear, H. G. Othmer, and I. G. Kevrekidis. Application of coarse integration to bacterial chemotaxis. *arXiv.org*, ??(??):1–22, August 10, 2003.

Setayeshgar:2005:ACI

[SGOK05] S. Setayeshgar, C. W. Gear, H. G. Othmer, and I. G. Kevrekidis. Application of coarse integration to bacterial chemotaxis. *Multiscale Modeling and Simulation*, 4(1):307–327, 2005. CODEN MMSUBT. ISSN 1540-3459 (print), 1540-3467 (electronic). URL `http://epubs.siam.org/sam-bin/dbq/article/60087`.

Skeel:1979:SMN

[SGW79] R. D. Skeel, C. William (Charles William) Gear, and D. S. Watanabe, editors. *1979 SIGNUM Meeting on Numerical Ordinary Differential Equations: April 3–5, 1979, University Inn, Champaign, Illinois*. National Technical Information Service, Washington, DC, USA, 1979. 2 microfiches (128 frames) pp. LCCN ????

Skeel:1997:DCW

[Ske97] Robert D. Skeel. Dedicated to C. William Gear on the occasion of his 60th birthday. *SIAM Journal on Scientific Computing*, 18(1):vii–x + 1–314, 1997. CODEN SJOCE3. ISSN 1064-8275 (print), 1095-7197 (electronic). Including papers from the International Conference on Scientific Computation and Differential Equations (SciCADE 95) held at Stanford University, Stanford, CA, 1995, SIAM J. Sci. Comput. **18** (1997), no. 1.

Watson:1982:NAP

[Wat82] George Alistair Watson, editor. *Numerical Analysis: Proceedings of the 9th Biennial Conference, held at Dundee, Scotland, June 23–26, 1981*, volume 912 of *Lecture Notes in Mathematics*. Springer-Verlag, Berlin, Germany / Heidelberg, Germany / London, UK / etc., 1982. CODEN LNMAA2. ISBN 0-387-11199-9 (softcover), 3-540-11199-9 (softcover), 3-540-39009-X (e-book). ISSN 0075-8434 (print), 1617-9692 (electronic). LCCN QA3 .L28 no. 912; QA1 .L471; QA297 .D915n 1981. URL `http://www.springerlink.com/content/978-3-540-39009-1`.

Willoughby:1973:BRN

[Wil73] Ralph A. Willoughby. Book review: *Numerical Initial Value Problems in Ordinary Differential Equations* (C. William Gear). *SIAM Review*, 15(3):676–678, ???? 1973. CODEN SIREAD. ISSN 0036-1445 (print), 1095-7200 (electronic).

Xuhai:1990:PPM

[XG90] Xu Xuhai and C. W. Gear. Potential performance of methods for parallelism across time in ODEs. Report UIUCDCS-R-90-1587 (DOE/ER/25026/35), Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL, USA, April 1990. 19 + 18 pp.

Zagaris:2009:AAC

[ZGKK09] Antonios Zagaris, C. William Gear, Tasso J. Kaper, and Yannis G. Kevrekidis. Analysis of the accuracy and convergence of equation-free projection to a slow manifold. *Mathematical modelling and numerical analysis = Modelisation mathématique et analyse numérique: M^2AN*, 43 (4):757–784, 2009. CODEN RMMAEV. ISSN 0764-583X (print), 1290-3841 (electronic).

Zagaris:2012:SSC

[ZVG+12] Antonios Zagaris, Christophe Vandekerckhove, C. William Gear, Tasso J. Kaper, and Ioannis G. Kevrekidis. Stability and stabilization of the constrained runs schemes for equation-free projection to a slow manifold. *Discrete and Continuous Dynamical Systems. Series A*, 32 (8):2759–2803, 2012. ISSN 1078-0947 (print), 1553-5231 (electronic).