A Bibliography of Publications of Nicholas Ian Gould

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Abstract

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l[1] [GOT03a]. CUTEst [GOT15]. P^4 [ADGR90, DAGR87]. P^5 [ADGR90, DAGR87].

-penalty [GOT03a].

14th [Ame94].

65th [GLT04b].

7th [DMW06].

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Ranck [DAGR87]. **Range** [GGM+82a, GGM+82b]. **Range-space** [GGM+82a, GGM+82b]. **Rank** [CGT14b, CGT13b, CGT91c, GOST02]. **Rank-Deficient** [CGT14b, CGT13b]. **Reflections** [Gou03]. **region** [BGG15, CGT09, CGT88a, CGT89a, CGT92b, CGST93d, CGST94a, CGST96b, CGOT00, CGT00b, FGL+02, GN98, GLRT99, GT03a, GT03c, GST05, GOST05, GT06, GT07, GRT10, GR12]. **regularisation** [CGT11a, CGT11b]. **regularisations** [CGT09]. **regularised** [GRT10]. **Regularization** [CGT14b, CGT12a, CGT12c, CGT13b, GPT12]. **Regularized** [CGT10, DGSW06, BCG+10, CGL20, DGSW05, DGSW07]. **Related** [DG00]. **Release** [CGT92a, CGT92j, CGT92e, CGT92d, CGT92g, CGT96]. **Relevance** [CGT14b, CGT13b]. **residual** [BCG+10]. **Results** [GOT02, GLR15, BCG+97b, CGT11a, CGT92d, GS03, GHS05a]. **Revised** [DMW06, CGST94a]. **revisited** [GOT03b]. **Roger** [GLT04b]. **Rosenbrock** [CGT13a].

Saddle [DGSW06, DGSW10, GS10, DGSW05, DGSW07, GS09, GOR14, GOP16]. **Saddle-Point** [DGSW06, DGSW10, DGSW05, DGSW07, GOR14]. **safe** [GOT03c, GOT15]. **Scale** [CGT89b, CGT90b, CGT92j, CGT92f, DLG94, ACD+93, BCG+97a, BCG+97b, CGT89c, CGT90a, CGT90c, CGT92g, CGT92e, CGT93, CGT94c, CGT94d, CGT96, DDLG96, DDLG97, Gou91a, Gou99b, GT00, GT02a, GT02b, GOT03c, GLT04b, GOT05, GOR13]. **scaling** [DGP94]. **scheme** [CGLT94]. **Schmidt** [GGM+84]. **Scientific** [DMW06]. **SDIF** [CGT91d]. **search** [ACD+93, Gou86, GOP16]. **Second** [CGT15, GR10a, GR10b, CGT12b, CGT94a, GT99, GR12]. **second-derivative** [GR12]. **Second-Order** [CGT15, CGT12b, CGT94a, GT99]. **seismic** [GM81]. **Selected** [DMW06]. **semi** [CG86, CG87]. **semi-definite** [CG86]. **semi-infinite** [CG87]. **Sensitivity** [GOST05]. **Separable** [DLG94, CGT94c,

CGLT94, DDLG96, DLG97, DDLG97]. **September** [DGDG97b]. **sequential** [Gou89]. **Set** [Gou03, GT02a]. **Sharp** [CGT20]. **SIAM** [CGT89a]. **SifDec** [GOT03b]. **Simple** [CGT91e, CGT88a, CGT88b, CGT89a, CGT92c, CGT92h, CGT92i, CGT97b, CGT97a, CGT97c, Gou86, Gou88]. **slack** [CGT94b]. **Smooth** [CGT12d, CGT13a]. **Solution** [DLG95, DLG96, DDLG96, DDLG97, GHN01, GM81, Gou83b, GOST02, GS03, GS04, GHS05a, GHS05b, GSH07]. **solutions** [Gou85]. **Solve** [DLG94]. **Solvers** [DGSW06, GHS05a, GHS05b, GSH07, SHG04]. **Solving** [DDG98, GLRT99, BDG94, CGT88b, Gou88, GT03a, GT07, GRT10]. **Some** [Gou03]. **space** [GGM+82a, GGM+82b]. **spaces** [CGL20]. **Sparse** [DLG96, GS98, ADGR90, DGR+90, DGR+91, GS03, GS04, GHS05a, GHS05b, GSH07, SHG04]. **Special** [GLT04b]. **Spectral** [GS09, GS10]. **SQP** [FGL+02, GT00, GT03c, GR10a, GR10b, GR12, GLR15]. **SQP-filter** [FGL+02, GT03c]. **Squares** [CGT14b, CGT15, BCG+10, CGT09, CGT13b, GLT04a, GT07]. **stability** [Gou83b]. **standard** [CGT89c, CGT90c, CGT91d]. **State** [DMW06, Gou03, DW97]. **Steepest** [CGT10, Gou83a, Gou84a, Gou84b]. **Step** [GLR14, GR12]. **Stretching** [DDG98]. **structure** [CGT90a, CGT94b]. **structured** [ADD+94, CGT92b, CGST94a, CGST96b, DLG95, DDG99]. **subject** [CGT00a]. **subproblem** [GLRT99]. **subproblems** [BGNW04, CGT94a, GRT10]. **Subspace** [CGST94b, DDG99, CGST96c]. **Subspace-by-subspace** [DDG99]. **Successive** [BGNW05, BGNW03]. **Superlinear** [GOST01]. **Supplement** [CGT97c]. **survey** [CGT94d]. **symmetric** [CGT91c, DGR+90, DGR+91, GS03, GS04, GHS05a, GHS05b, GSH07, SHG04]. **Systems** [DLG96, DDG98, DGSW06, DGSW10, ADD+94, BDG94, DLG95, DDG99, DGP94, GR89, Gou99a, Gou00, GOST02, GS03, GS04, GHS05a, GHS05b, GSH07, GOR14, KGW00].

techniques [GS98]. **Technology** [Ame94]. **Testing** [BCGT93, BCGT95, CGT88b, GOT03b, GOT15]. **tests** [CGT92d]. **their** [GOST05]. **theory** [GLT04b]. **thread** [GOT03c]. **thread-safe** [GOT03c]. **threads** [GOT15]. **three** [Gou88]. **Topics** [DG00]. **topology** [BBG+12]. **Toulouse** [DGDG97b]. **Trajectory** [GOR13]. **Trajectory-following** [GOR13]. **Trust** [CGT09, CGT00b, BGG15, CGT88a, CGT89a, CGT92b, CGST93d, CGST94a, CGST96b, CGOT00, FGL+02, GN98, GLRT99, GT03a, GT03c, GST05, GOST05, GT06, GT07, GRT10, GR12]. **Trust-region** [CGT09, CGT00b, CGOT00, FGL+02, GN98, GLRT99, GT03c, GOST05, GT06, GRT10]. **trust-region-free** [GR12]. **two** [CGST93b, CGST93a, CGST93c]. **type** [GOP16].

Unassembled [DLG96, DDG98]. **Unconstrained** [BCGT93, BCGT95, CGT10, CGT11a, CGT11b, CGT12b, CGT12c, DDLG97, GLRT98, GLRT00, GOT03b, GST05, GOT15]. **Unified** [GLR14]. **uniqueness** [Gou85]. **update** [CGT91c]. **Updating** [GPT12]. **USA** [Ame94]. **Use** [ADGR90, DLG94, DDG98, DAGR87]. **Using** [CGT15, DLG96, DGSW05, DGSW07, BBG+12, BGNW04, CGT92b, CGST93d, CGST94a, CGT94b, CGT94a, CGST96b, DLG95, DDLG96, DDLG97, GS98, GLRT99].

value [GN98]. **variables** [CGT88b, CGT94b]. **via** [Gou88].

Weighted [GGM+84]. **without** [GT10, GT12]. **working** [GT02a]. **working-set** [GT02a]. **Workshop** [DMW06, DGDG97b]. **World** [Ame94]. **Worst** [CGT20, CGT11b]. **Worst-Case** [CGT20, CGT11b].

Year [DGDG97b].

References

Arioli:1993:CSD

[ACD+93] M. Arioli, T. F. Chan, I. S. Duff, N. I. M. Gould, and J. K. Reid. Computing a search direction for large-scale linearly constrained nonlinear optimization calculations. Technical Report RAL-93-066 and TR-PA-93-34, Rutherford Appleton Laboratory and CERFACS, Chilton, Oxon, England and Toulouse, France, 1993. URL `ftp://130.246.8.32/pub/reports/acdgrRAL93066.ps.Z`.

Amestoy:1994:PAS

[ADD+94] Patrick R. Amestoy, Michel J. Daydé, Iain S. Duff, Jean-Yves L'Excellent, Nick Gould, and Chiara Puglisi. Parallel algorithms for structured systems of linear equations. In Ames [Ame94], pages 1058–1061. ISBN ???? LCCN ???? Three volumes: Volume 1: Applied mathematics, stochastic processes, iterative methods. Volume 2: Applications of computing, fluid mechanics, acoustics, solid mechanics, neural networks. Volume 3: Numerical methods and analysis finite differences and elements, differential equations, intervals.

Arioli:1990:UAC

[ADGR90] Mario Arioli, Iain S. Duff, Nicholas I. M. Gould, and John K. Reid. Use of the P^4 and P^5 algorithms for in-core factorization of sparse matrices. *SIAM Journal on Scientific and Statistical Computing*, 11(5):913–927, September 1990. CODEN SIJCD4. ISSN 0196-5204.

Ames:1994:IPI

[Ame94] W. F. Ames, editor. *IMACS '94: proceedings of the 14th IMACS World Congress on Computation and Applied Mathematics: July 11–15, 1994, Georgia Institute of Technology, Atlanta, Georgia, USA*. International Association for Mathematics and Computers in Simulation, ????, 1994. ISBN ???? LCCN ???? Three volumes: Volume 1: Applied mathematics, stochastic processes, iterative methods. Volume 2: Applications of computing, fluid mechanics, acoustics, solid mechanics, neural networks. Volume 3: Numerical methods and analysis finite differences and elements, differential equations, intervals.

Browne:2012:FMB

[BBG+12] P. A. Browne, C. Budd, N. I. M. Gould, H. A. Kim, and J. A. Scott. A fast method for binary programming using first-order derivatives, with application to topology optimization

with buckling constraints. *International Journal for Numerical Methods in Engineering*, 92(12): 1026–1043, 2012. CODEN IJNMBH. ISSN 0029-5981 (print), 1097-0207 (electronic).

Bongartz:1997:NCBa

[BCG+97a] I. Bongartz, A. R. Conn, N. I. M. Gould, M. A. Saunders, and Ph. L. Toint. A numerical comparison between the LANCELOT and MINOS packages for large-scale nonlinear optimization. Technical Report RAL-TR 97-054, Rutherford Appleton Laboratory, Chilton, Oxon, England, 1997.

Bongartz:1997:NCBb

[BCG+97b] I. Bongartz, A. R. Conn, N. I. M. Gould, M. A. Saunders, and Ph. L. Toint. A numerical comparison between the LANCELOT and MINOS packages for large-scale nonlinear optimization: the complete results. Technical Report 97/14, Department of Mathematics, FUNDP, Namur, Belgium, 1997.

Bellavia:2010:CRE

[BCG+10] S. Bellavia, C. Cartis, N. I. M. Gould, B. Morini, and Ph. L. Toint. Convergence of a regularized Euclidean residual algorithm for nonlinear least-squares. *SIAM Journal on Numerical Analysis*, 48(1):1–29, ???? 2010. CODEN SJNAAM. ISSN 0036-1429 (print), 1095-7170 (electronic).

Bongartz:1993:SCC

[BCGT93] I. Bongartz, A. R. Conn, N. I. M. Gould, and Ph. L. Toint. CUTE: Constrained and Unconstrained Testing Environment. Technical Report TR/PA/93/10, CERFACS, Toulouse, France, 1993. URL `ftp://130.246.8.32/pub/reports/cgtCERFACS9310.ps.Z`. To appear in ACM Transactions on Mathematical Software.

Bongartz:1995:CCU

[BCGT95] I. Bongartz, A. R. Conn, Nick Gould, and Ph.L. Toint. CUTE: Constrained and unconstrained testing environment. *ACM Transactions on Mathematical Software*, 21(1):123–160, March 1995. CODEN ACMSCU. ISSN 0098-3500 (print), 1557-7295 (electronic). URL `http://www.acm.org/pubs/citations/journals/toms/1995-21-1/p123-bongartz/`.

Bouaricha:1994:ESA

[BDG94] A. Bouaricha, Iain S. Duff, and N. I. M. Gould. Experiments in solving augmented systems. Technical Report (to appear), CERFACS, Toulouse, France, 1994.

Bienstock:2015:NFT

[BGG15] Daniel Bienstock, Philip E. Gill, and Nick Gould. A note on "On fast trust region methods for quadratic models with linear constraints", by Michael J.D. Powell [Preface]. *Mathematical Programming Computation*, 7

(3):235, 2015. ISSN 1867-2949 (print), 1867-2957 (electronic).

Byrd:2003:CSL

[BGNW03] R. H. Byrd, N. I. M. Gould, J. Nocedal, and R. A. Waltz. On the convergence of successive linear programming algorithms. Technical Report RAL-TR-2003-013, Rutherford Appleton Laboratory, Chilton, Oxon, England, 2003.

Byrd:2004:ANO

[BGNW04] Richard H. Byrd, Nicholas I. M. Gould, Jorge Nocedal, and Richard A. Waltz. An algorithm for nonlinear optimization using linear programming and equality constrained subproblems. *Mathematical Programming*, 100(1, Ser. B):27–48, 2004. CODEN MHPGA4. ISSN 0025-5610 (print), 1436-4646 (electronic).

Byrd:2005:CSL

[BGNW05] Richard H. Byrd, Nicholas I. M. Gould, Jorge Nocedal, and Richard A. Waltz. On the convergence of successive linear-quadratic programming algorithms. *SIAM Journal on Optimization*, 16(2):471–489, ???? 2005. CODEN SJOPE8. ISSN 1052-6234 (print), 1095-7189 (electronic). URL `http://epubs.siam.org/sam-bin/dbq/article/42653`.

Conn:1984:LDI

[CG84] Andrew R. Conn and Nicholas I. M. Gould. On the location of directions of infinite descent for nonlinear programming algorithms. *SIAM Journal on Numerical Analysis*, 21(6):1162–1179, 1984. CODEN SJNAAM. ISSN 0036-1429 (print), 1095-7170 (electronic).

Caron:1986:FPS

[CG86] R. J. Caron and N. I. M. Gould. Finding a positive semi-definite interval for a parametric matrix. *Linear Algebra and its Applications*, 76:19–29, 1986. CODEN LAAPAW. ISSN 0024-3795 (print), 1873-1856 (electronic).

Conn:1987:EPF

[CG87] Andrew R. Conn and Nicholas I. M. Gould. An exact penalty function for semi-infinite programming. *Mathematical Programming*, 37(1):19–40, 1987. CODEN MHPGA4. ISSN 0025-5610 (print), 1436-4646 (electronic).

Curtis:2016:AAL

[CGJR16] Frank E. Curtis, Nicholas I. M. Gould, Hao Jiang, and Daniel P. Robinson. Adaptive augmented Lagrangian methods: algorithms and practical numerical experience. *Optimization Methods & Software*, 31(1):157–186, 2016. ISSN 1055-6788.

Cartis:2020:MEN

[CGL20] Coralia Cartis, Nicholas I. M. Gould, and Marius Lange. On monotonic estimates of the norm of the minimizers of regularized quadratic functions in

Krylov spaces. *BIT Numerical Mathematics*, 60(3):??, September 2020. CODEN BITTEL, NBITAB. ISSN 0006-3835 (print), 1572-9125 (electronic). URL `https://link.springer.com/article/10.1007/s10543-019-00791-2`.

Conn:1994:PMS

[CGLT94] A. R. Conn, Nick I. M. Gould, M. Lescrenier, and Ph. L. Toint. Performance of a multifrontal scheme for partially separable optimization. In S. Gomez, J. P. Hennart, and R. A. Tapia, editors, *Advances in optimization and numerical analysis, Proceedings of the Sixth workshop on Optimization and Numerical Analysis, Oaxaca, Mexico, 1992*, volume 275 of *Mathematics and its Applications Series*, pages 79–96. Kluwer Academic Publishers Group, Norwell, MA, USA, and Dordrecht, The Netherlands, 1994.

Conn:2000:PDT

[CGOT00] Andrew R. Conn, Nicholas I. M. Gould, Dominique Orban, and Philippe L. Toint. A primal-dual trust-region algorithm for nonconvex nonlinear programming. *Mathematical Programming*, 87 (2, Ser. B):215–249, 2000. CODEN MHPGA4. ISSN 0025-5610 (print), 1436-4646 (electronic). Studies in algorithmic optimization.

Conn:1993:GCT

[CGST93a] A. R. Conn, N. I. M. Gould, A. Sartenaer, and Ph. L. Toint. Global convergence of two augmented Lagrangian algorithms for optimization with a combination of general equality and linear constraints. Technical Report TR/PA/93/26, CERFACS, Toulouse, France, 1993.

Conn:1993:GCP

[CGST93b] A. R. Conn, N. I. M. Gould, A. Sartenaer, and Ph. L. Toint. Global convergence properties of two augmented Lagrangian algorithms for optimization with a combination of general equality and linear constraints. Technical Report TR/PA/93/26, CERFACS, Toulouse, France, 1993. URL `ftp://130.246.8.32/pub/reports/cgstCERFACS9326.ps.Z`.

Conn:1993:LCP

[CGST93c] A. R. Conn, N. I. M. Gould, A. Sartenaer, and Ph. L. Toint. Local convergence properties of two augmented Lagrangian algorithms for optimization with a combination of general equality and linear constraints. Technical Report TR/PA/93/27, CERFACS, Toulouse, France, 1993. URL `ftp://130.246.8.32/pub/reports/cgstCERFACS9327.ps.Z`.

Conn:1993:GCC

[CGST93d] A. R. Conn, Nick I. M. Gould, A. Sartenaer, and Ph. L. Toint. Global convergence of a class of trust region algorithms for optimization using inexact projections on convex constraints.

SIAM Journal on Optimization, 3(1):164–221, 1993. CODEN SJOPE8. ISSN 1052-6234 (print), 1095-7189 (electronic).

Conn:1994:CPM

[CGST94a] A. R. Conn, N. I. M. Gould, A. Sartenaer, and Ph. L. Toint. Convergence properties of minimization algorithm for convex constraints using a structured trust region (revised). Technical Report 94/5, Department of Mathematics, FUNDP, Namur, Belgium, 1994. URL `ftp://138.48.4.14/pub/reports/TR94-05.ps`.

Conn:1994:ISM

[CGST94b] A. R. Conn, N. I. M. Gould, A. Sartenaer, and Ph. L. Toint. On iterated-subspace minimization methods for nonlinear optimization. Technical Report 94-069, Rutherford Appleton Laboratory, Chilton, Oxon, England, 1994. URL `ftp://130.246.8.32/pub/reports/cgstRAL94069.ps.Z`.

Conn:1996:CPA

[CGST96a] A. R. Conn, N. Gould, A. Sartenaer, and Ph. L. Toint. Convergence properties of an augmented Lagrangian algorithm for optimization with a combination of general equality and linear constraints. *SIAM Journal on Optimization*, 6(3):674–703, 1996. CODEN SJOPE8. ISSN 1052-6234 (print), 1095-7189 (electronic). URL `http://epubs.siam.org/sam-bin/dbq/article/25146`.

Conn:1996:CPM

[CGST96b] A. R. Conn, Nick Gould, A. Sartenaer, and Ph. L. Toint. Convergence properties of minimization algorithms for convex constraints using a structured trust region. *SIAM Journal on Optimization*, 6(4):1059–1086, 1996. CODEN SJOPE8. ISSN 1052-6234 (print), 1095-7189 (electronic). URL `http://epubs.siam.org/sam-bin/dbq/article/23648`.

Conn:1996:ISM

[CGST96c] A. R. Conn, Nick Gould, A. Sartenaer, and Ph. L. Toint. On iterated-subspace minimization methods for nonlinear optimization. In *Linear and nonlinear conjugate gradient-related methods (Seattle, WA, 1995)*, pages 50–78. SIAM Press, Philadelphia, PA, USA, 1996.

Conn:1988:GCC

[CGT88a] A. R. Conn, N. I. M. Gould, and Ph. L. Toint. Global convergence of a class of trust region algorithms for optimization with simple bounds. *SIAM Journal on Numerical Analysis*, 25(2):433–460, 1988. CODEN SJNAAM. ISSN 0036-1429 (print), 1095-7170 (electronic). See also same journal **26**(3), 764–767, 1989.

Conn:1988:TCM

[CGT88b] Andrew R. Conn, Nicholas I. M. Gould, and Philippe L. Toint.

Testing a class of methods for solving minimization problems with simple bounds on the variables. *Mathematics of Computation*, 50(182):399–430, April 1988. CODEN MCMPAF. ISSN 0025-5718 (paper), 1088-6842 (electronic).

Conn:1989:CPG

[CGT89a] A. R. Conn, N. I. M. Gould, and Ph. L. Toint. Correction to the paper: "Global convergence of a class of trust region algorithms for optimization with simple bounds" [SIAM J. Numer. Anal. **25 (1988), no. 2, 433–460; MR0933734 (89h:90192)**]. *SIAM Journal on Numerical Analysis*, 26(3):764–767, 1989. CODEN SJNAAM. ISSN 0036-1429 (print), 1095-7170 (electronic).

Conn:1989:LSO

[CGT89b] A. R. Conn, N. I. M. Gould, and Ph. L. Toint. Large scale optimization. *Mathematical Programming, Series B*, 45(3), 1989. CODEN MHPGA4. ISSN 0025-5610 (print), 1436-4646 (electronic).

Conn:1989:PSD

[CGT89c] A. R. Conn, N. I. M. Gould, and Ph. L. Toint. A proposal for a standard data input format for large-scale nonlinear programming problems. Report CSS-89-61, University of Waterloo, Waterloo, ON, Canada, 1989.

Conn:1990:ISL

[CGT90a] A. R. Conn, N. I. M. Gould, and Ph. L. Toint. An introduction to the structure of large scale nonlinear optimization problems and the LANCELOT project. In R. Glowinski and A. Lichnewsky, editors, *Computing Methods in Applied Sciences and Engineering (Paris, 1990)*, pages 42–51. SIAM Press, Philadelphia, PA, USA, 1990.

Conn:1990:LSO

[CGT90b] A. R. Conn, N. I. M. Gould, and Ph. L. Toint. Large scale optimization — applications. *Mathematical Programming, Series B*, 48(1–3), March 1990. CODEN MHPGA4. ISSN 0025-5610 (print), 1436-4646 (electronic).

Conn:1990:PSD

[CGT90c] A. R. Conn, N. I. M. Gould, and Ph. L. Toint. A proposal for a standard data input format for large-scale nonlinear programming problems. Report CS-89-61, Computer Science Department, University of Waterloo, Ontario, Canada, 1990.

Conn:1990:F

[CGT90d] A. R. Conn, Nick Gould, and P. L. Toint. Foreword. *Mathematical Programming*, 48(1, (Ser. B)):vii, 1990. CODEN MHPGA4. ISSN 0025-5610 (print), 1436-4646 (electronic).

Conn:1991:CDL

[CGT91a] A. R. Conn, N. I. M. Gould, and Ph. L. Toint. A comprehen-

sive description of LANCELOT. Technical Report 91/10, Department of Mathematics, FUNDP, Namur, Belgium, 1991.

Conn:1991:CDS

[CGT91b] A. R. Conn, N. I. M. Gould, and Ph. L. Toint. A comprehensive description of LANCELOT. Technical Report 91/10, Department of Mathematics, FUNDP, Namur, Belgium, 1991.

Conn:1991:CQN

[CGT91c] A. R. Conn, N. I. M. Gould, and Ph. L. Toint. Convergence of quasi-Newton matrices generated by the symmetric rank one update. *Mathematical Programming*, 50(2, (Ser. A)):177–195, 1991. CODEN MHPGA4. ISSN 0025-5610 (print), 1436-4646 (electronic).

Conn:1991:ISD

[CGT91d] A. R. Conn, N. I. M. Gould, and Ph. L. Toint. An introduction the Standard Data Input Format (SDIF) for nonlinear mathematical programming problems. Technical Report 91/8, Department of Mathematics, FUNDP, Namur, Belgium, 1991.

Conn:1991:GCA

[CGT91e] Andrew R. Conn, Nicholas I. M. Gould, and Philippe L. Toint. A globally convergent augmented Lagrangian algorithm for optimization with general constraints and simple bounds. *SIAM Journal on Numerical Analysis*, 28(2):545–572, 1991. CODEN SJNAAM. ISSN 0036-1429 (print), 1095-7170 (electronic).

Conn:1992:ARS

[CGT92a] A. R. Conn, N. I. M. Gould, and Ph. L. Toint. Announcement of the release A of LANCELOT, a package for nonlinear optimization. Technical Report 92/4, Department of Mathematics, FUNDP, Namur, Belgium, 1992. URL `http://www.rl.ac.uk/departments/ccd/numerical/lancelot/blurb.html`.

Conn:1992:CPM

[CGT92b] A. R. Conn, N. I. M. Gould, and Ph. L. Toint. Convergence properties of minimization algorithms for convex constraints using a structured trust region. Technical Report 92-069, Rutherford Appleton Laboratory, Chilton, Oxon, England, 1992. URL `ftp://130.246.8.32/pub/reports/cgtRAL92069.ps.Z`.

Conn:1992:GCL

[CGT92c] A. R. Conn, N. I. M. Gould, and Ph. L. Toint. A globally convergent Lagrangian barrier algorithm for optimization with general inequality constraints and simple bounds. Technical Report 92-067, Rutherford Appleton Laboratory, Chilton, Oxon, England, 1992. URL `ftp://130.246.8.32/pub/reports/cgtRAL92067.ps.Z`.

Conn:1992:INT

[CGT92d] A. R. Conn, N. I. M. Gould, and

Ph. L. Toint. Intensive numerical tests with LANCELOT (Release A): the complete results. Technical Report 92/15, Department of Mathematics, FUNDP, Namur, Belgium, 1992. URL `ftp://130.246.8.32/pub/reports/cgtFUNDP9215.ps.Z`.

Conn:1992:SLF

[CGT92e] A. R. Conn, N. I. M. Gould, and Ph. L. Toint. LANCELOT*: a Fortran package for large-scale nonlinear optimization (Release A)*. Number 17 in Springer Series in Computational Mathematics. Springer-Verlag, Berlin, Germany / Heidelberg, Germany / London, UK / etc., 1992. ISBN 3-540-55470-X.

Conn:1992:LSN

[CGT92f] A. R. Conn, N. I. M. Gould, and Ph. L. Toint. Large-scale nonlinear constrained optimization. In R. E. O'Malley, Jr., editor, *Proceedings of the Second International Conference on Industrial and Applied Mathematics (ICIAM 91, Washington, DC, 1991)*, pages 51–70. SIAM Press, Philadelphia, PA, USA, 1992.

Conn:1992:NES

[CGT92g] A. R. Conn, N. I. M. Gould, and Ph. L. Toint. Numerical experiments with the LANCELOT package (Release A) for large-scale nonlinear optimization. Technical Report 92-075, Rutherford Appleton Laboratory, Chilton, Oxon, England, 1992. URL `ftp://130.246.8.32/pub/reports/cgtFUNDP9216.ps.Z`.

Conn:1992:NIIa

[CGT92h] A. R. Conn, N. I. M. Gould, and Ph. L. Toint. On the number of inner iterations per outer iteration of a globally convergent algorithm for optimization with general nonlinear equality constraints and simple bounds. In D. F. Griffiths and G. A. Watson, editors, *Numerical analysis 1991 (Dundee, 1991)*, volume 260 of *Pitman Research Notes in Mathematics Series*, pages 49–68. Longmans, Harlow, Essex, England, 1992.

Conn:1992:NIIb

[CGT92i] A. R. Conn, N. I. M. Gould, and Ph. L. Toint. On the number of inner iterations per outer iteration of a globally convergent algorithm for optimization with general nonlinear inequality constraints and simple bounds. Technical Report 92-068, Rutherford Appleton Laboratory, Chilton, Oxon, England, 1992. URL `ftp://130.246.8.32/pub/reports/cgtRAL92068.ps.Z`.

Conn:1992:LFP

[CGT92j] Andrew R. Conn, Nick I. M. Gould, and Philippe L. Toint. *Lancelot: A Fortran Package for Large-Scale Nonlinear Optimization (Release A)*. Number 17 in Springer series in computational mathematics. Springer-Verlag, Berlin, Germany / Heidelberg,

Germany / London, UK / etc., September 1992. ISBN 3-540-55470-X (Berlin, Heidelberg), 0-387-55470-X (New York). xviii + 330 pp. LCCN QA402.5 .C648 1992. US$89.00; US$118.95. URL `http://www.cbooks.com/sqlnut/SP/search/gtsumt?source=&isbn=038755470X`.

Conn:1993:LSN

[CGT93] A. R. Conn, N. Gould, and Ph. L. Toint. Large-scale nonlinear constrained optimization. In *Linear algebra for large scale and real-time applications (Leuven, 1992)*, volume 232 of *NATO Adv. Sci. Inst. Ser. E Appl. Sci.*, pages 21–48. Kluwer Academic Publishers Group, Norwell, MA, USA, and Dordrecht, The Netherlands, 1993.

Conn:1994:NUA

[CGT94a] A. R. Conn, Nick I. M. Gould, and Ph. L. Toint. A note on using alternative second-order models for the subproblems arising in barrier function methods for minimization. *Numerische Mathematik*, 68(1): 17–33, June 1994. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL `http://link.springer.de/link/service/journals/00211/bibs/4068001/40680017.htm`; `http://science.springer.de/nmee/bibs/4068001/40680017.htm`.

Conn:1994:NES

[CGT94b] Andrew R. Conn, Nick I. M. Gould, and Ph. L. Toint. A note on exploiting structure when using slack variables. *Mathematical Programming*, 67(1–3):89–97, 1994. CODEN MHPGA4. ISSN 0025-5610 (print), 1436-4646 (electronic). URL `http://link.springer.com/article/10.1007/BF01582214`.

Conn:1994:IDP

[CGT94c] Andrew R. Conn, Nick I. M. Gould, and Philippe L. Toint. Improving the decomposition of partially separable functions in the context of large-scale optimization: a first approach. In W. W. Hager, D. W. Hearn, and P. M. Pardalos, editors, *Large scale optimization: State of the Art (Gainesville, FL, 1993)*, pages 82–94. Kluwer Academic Publishers Group, Norwell, MA, USA, and Dordrecht, The Netherlands, 1994.

Conn:1994:LSN

[CGT94d] Andrew R. Conn, Nick I. M. Gould, and Philippe L. Toint. Large-scale nonlinear constrained optimization: a current survey. In E. Spedicato, editor, *Algorithms for continuous optimization: the state of the art (Il Ciocco, 1993)*, volume 434 of *NATO Adv. Sci. Inst. Series C: Mathematical and Physical Sciences*, pages 287–332. Kluwer Academic Publishers Group, Norwell, MA, USA, and Dordrecht, The Netherlands, 1994.

Conn:1996:NEL

[CGT96] A. R. Conn, Nick Gould, and

Ph. L. Toint. Numerical experiments with the LANCELOT package (Release A) for large-scale nonlinear optimization. *Mathematical Programming*, 73 (1, Ser. A):73–110, 1996. CODEN MHPGA4. ISSN 0025-5610 (print), 1436-4646 (electronic).

Conn:1997:NII

[CGT97a] A. R. Conn, N. Gould, and Ph. L. Toint. On the number of inner iterations per outer iteration of a globally convergent algorithm for optimization with general nonlinear inequality constraints and simple bounds. *Computational optimization and applications*, 7(1):41–69, 1997. CODEN CPPPEF. ISSN 0926-6003 (print), 1573-2894 (electronic). Computational issues in high performance software for nonlinear optimization (Capri, 1995).

Conn:1997:GCL

[CGT97b] A. R. Conn, Nick Gould, and Ph. L. Toint. A globally convergent Lagrangian barrier algorithm for optimization with general inequality constraints and simple bounds. *Mathematics of Computation*, 66 (217):261–288, S1–S11, January 1997. CODEN MCMPAF. ISSN 0025-5718 (paper), 1088-6842 (electronic). URL `http://www.ams.org/jourcgi/jour-pbprocess?fn=110&arg1=S0025-5718-97-00777-1&u=/mcom/1997-66-217/`.

Conn:1997:SGC

[CGT97c] A. R. Conn, Nick Gould, and Ph. L. Toint. Supplement to "A globally convergent Lagrangian barrier algorithm for optimization with general inequality constraints and simple bounds". *Mathematics of Computation*, 66(217):S1–S11, January 1997. CODEN MCMPAF. ISSN 0025-5718 (paper), 1088-6842 (electronic).

Conn:1997:MNC

[CGT97d] Andrew R. Conn, Nicholas I. M. Gould, and Philippe L. Toint. Methods for nonlinear constraints in optimization calculations. In Duff and Watson [DW97], pages 363–390. ISBN 0-19-850014-9. LCCN QA297.S775 1997. URL `https://global.oup.com/academic/product/the-state-of-the-art-in-numerical-analysis-9780198500148`. Based on the proceedings of a conference on the state of the art in numerical analysis. Organized by the Institute of Mathematics and Its Applications and held at York University in April 1996.

Conn:2000:PDA

[CGT00a] Andrew R. Conn, Nicholas I. M. Gould, and Philippe L. Toint. A primal–dual algorithm for minimizing a nonconvex function subject to bound and linear equality constraints. In Di Pillo and Giannessi [DG00], pages 15–50. ISBN 0-7923-6109-1 (hardcover).

LCCN QA402.5 .N55 2000. URL http://www.loc.gov/catdir/enhancements/fy0822/99056953-d.html; http://www.loc.gov/catdir/enhancements/fy0822/99056953-t.html.

Conn:2000:TRM

[CGT00b] Andrew R. Conn, Nicholas I. M. Gould, and Philippe L. Toint. *Trust-region methods*. MPS/SIAM Series on Optimization. SIAM Press, Philadelphia, PA, USA, 2000. ISBN 0-89871-460-5. xx + 959 pp.

Cartis:2009:TRO

[CGT09] C. Cartis, N. I. M. Gould, and P. L. Toint. Trust-region and other regularisations of linear least-squares problems. *BIT Numerical Mathematics*, 49(1):21–53, March 2009. CODEN BITTEL, NBITAB. ISSN 0006-3835 (print), 1572-9125 (electronic). URL http://www.springerlink.com/openurl.asp?genre=article&issn=0006-3835&volume=49&issue=1&spage=21.

Cartis:2010:CSD

[CGT10] C. Cartis, N. I. M. Gould, and Ph. L. Toint. On the complexity of steepest descent, Newton's and regularized Newton's methods for nonconvex unconstrained optimization problems. *SIAM Journal on Optimization*, 20(6):2833–2852, ???? 2010. CODEN SJOPE8. ISSN 1052-6234 (print), 1095-7189 (electronic).

Cartis:2011:ACRa

[CGT11a] Coralia Cartis, Nicholas I. M. Gould, and Philippe L. Toint. Adaptive cubic regularisation methods for unconstrained optimization. Part I: motivation, convergence and numerical results. *Mathematical Programming*, 127(2, Ser. A):245–295, 2011. CODEN MHPGA4. ISSN 0025-5610 (print), 1436-4646 (electronic).

Cartis:2011:ACRb

[CGT11b] Coralia Cartis, Nicholas I. M. Gould, and Philippe L. Toint. Adaptive cubic regularisation methods for unconstrained optimization. Part II: worst-case function- and derivative-evaluation complexity. *Mathematical Programming*, 130(2, Ser. A):295–319, 2011. CODEN MHPGA4. ISSN 0025-5610 (print), 1436-4646 (electronic).

Cartis:2011:ECC

[CGT11c] Coralia Cartis, Nicholas I. M. Gould, and Philippe L. Toint. On the evaluation complexity of composite function minimization with applications to nonconvex nonlinear programming. *SIAM Journal on Optimization*, 21(4):1721–1739, ???? 2011. CODEN SJOPE8. ISSN 1052-6234 (print), 1095-7189 (electronic). URL http://epubs.siam.org/siopt/resource/1/sjope8/v21/i4/p1721_s1.

Cartis:2012:ACR

[CGT12a] C. Cartis, N. I. M. Gould, and Ph. L. Toint. An adaptive cubic regularization algorithm for nonconvex optimization with convex constraints and its function-evaluation complexity. *IMA Journal of Numerical Analysis*, 32(4):1662–1695, October 2012. CODEN IJNADH. ISSN 0272-4979 (print), 1464-3642 (electronic). URL `http://imajna.oxfordjournals.org/content/32/4/1662.full.pdf+html`.

Cartis:2012:CBS

[CGT12b] C. Cartis, N. I. M. Gould, and Ph. L. Toint. Complexity bounds for second-order optimality in unconstrained optimization. *Journal of Complexity*, 28 (1):93–108, 2012. CODEN JOCOEH. ISSN 0885-064x (print), 1090-2708 (electronic).

Cartis:2012:ECA

[CGT12c] Coralia Cartis, Nicholas I. M. Gould, and Philippe L. Toint. Evaluation complexity of adaptive cubic regularization methods for convex unconstrained optimization. *Optimization Methods & Software*, 27(2):197–219, 2012. ISSN 1055-6788.

Cartis:2012:OCF

[CGT12d] Coralia Cartis, Nicholas I. M. Gould, and Philippe L. Toint. On the oracle complexity of first-order and derivative-free algorithms for smooth nonconvex minimization. *SIAM Journal on Optimization*, 22 (1):66–86, ???? 2012. CODEN SJOPE8. ISSN 1052-6234 (print), 1095-7189 (electronic). URL `http://epubs.siam.org/siopt/resource/1/sjope8/v22/i1/p66_s1`.

Cartis:2013:NAC

[CGT13a] Coralia Cartis, Nicholas I. M. Gould, and Philippe L. Toint. A note about the complexity of minimizing Nesterov's smooth Chebyshev-Rosenbrock function. *Optimization Methods & Software*, 28(3):451–457, 2013. ISSN 1055-6788.

Cartis:2013:ECC

[CGT13b] Coralia Cartis, Nicholas I. M. Gould, and Philippe L. Toint. On the evaluation complexity of cubic regularization methods for potentially rank-deficient nonlinear least-squares problems and its relevance to constrained nonlinear optimization. *SIAM Journal on Optimization*, 23(3):1553–1574, 2013. CODEN SJOPE8. ISSN 1052-6234 (print), 1095-7189 (electronic).

Cartis:2014:CFF

[CGT14a] Coralia Cartis, Nicholas I. M. Gould, and Philippe L. Toint. On the complexity of finding first-order critical points in constrained nonlinear optimization. *Mathematical Programming*, 144 (1-2, Ser. A):93–106, 2014. CODEN MHPGA4. ISSN 0025-5610 (print), 1436-4646 (electronic).

Cartis:2014:ECC

[CGT14b] Coralia Cartis, Nicholas I. M. Gould, and Philippe L. Toint. On the evaluation complexity of cubic regularization methods for potentially rank-deficient nonlinear least-squares problems and its relevance to constrained nonlinear optimization. *SIAM Journal on Optimization*, 23(3): 1553–1574, ???? 2014. CODEN SJOPE8. ISSN 1052-6234 (print), 1095-7189 (electronic).

Cartis:2015:ECC

[CGT15] Coralia Cartis, Nicholas I. M. Gould, and Philippe L. Toint. On the evaluation complexity of constrained nonlinear least-squares and general constrained nonlinear optimization using second-order methods. *SIAM Journal on Numerical Analysis*, 53(2): 836–851, ???? 2015. CODEN SJNAAM. ISSN 0036-1429 (print), 1095-7170 (electronic).

Cartis:2020:SWC

[CGT20] Coralia Cartis, Nicholas I. M. Gould, and Philippe L. Toint. Sharp worst-case evaluation complexity bounds for arbitrary-order nonconvex optimization with inexpensive constraints. *SIAM Journal on Optimization*, 30(1):513–541, ???? 2020. CODEN SJOPE8. ISSN 1052-6234 (print), 1095-7189 (electronic).

Duff:1987:PUH

[DAGR87] I. S. Duff, M. Anoli, N. I. M. Gould, and J. K. Reid. The practical use of the Hellerman–Ranck P^4 algorithm and the P^5 algorithm of Erisman et al. Report CSS213, AERE Harwell Laboratory, Chilton, Oxon, England, 1987.

Dayde:1998:UBS

[DDG98] M. J. Daydé, J. P. Décamps, and N. I. M. Gould. On the use of block stretching for solving unassembled linear systems. *Calculateurs Paralléles, Réseaux et Systémes Répartis*, 10(4):391–399, ???? 1998. ISSN 1260-3198.

Dayde:1999:SSP

[DDG99] Michel J. Daydé, Jérôme P. Décamps, and Nicholas I. M. Gould. Subspace-by-subspace preconditioners for structured linear systems. *Numerical Linear Algebra with Applications*, 6(3): 213–234, April/May 1999. CODEN NLAAEM. ISSN 1070-5325 (print), 1099-1506 (electronic).

Dayde:1996:SLS

[DDLG96] Michel J. Daydé, Jérôme P. Décamps, Jean-Yves L'Excellent, and Nicholas I. M. Gould. Solution of large-scale partially separable optimization problems using element-by-element preconditioners. In *Poster Session of the Fifth SIAM Conference on Optimization*. SIAM Press, Philadelphia, PA, USA, 1996.

Dayde:1997:SLS

[DDLG97] M. J. Daydé, J. P. Décamps, J.-Y. L'Excellent, and N. I. M. Gould. Solution of large scale partially separable unconstrained optimization problems

using element-by-element preconditioners. In ????, editor, *Proceedings of NAFEMS World Congress 97, Glasgow, Scotland*, volume 2, pages 942–953. ????, ????, 1997. URL `http://www.nafems.org/`.

DiPillo:2000:NOR

[DG00] Gianni Di Pillo and Franco Giannessi, editors. *Nonlinear Optimization and Related Topics*, Applied optimization. Kluwer Academic Publishers Group, Norwell, MA, USA, and Dordrecht, The Netherlands, 2000. ISBN 0-7923-6109-1 (hardcover). LCCN QA402.5 .N55 2000. URL `http://www.loc.gov/catdir/enhancements/fy0822/99056953-d.html`; `http://www.loc.gov/catdir/enhancements/fy0822/99056953-t.html`.

Duff:1997:DML

[DGDG97a] I. S. Duff, N. I. M. Gould, C. C. Douglas, and L. Giraud. Direct methods, linear algebra in optimization, iterative methods. *BIT Numerical Mathematics*, 37(3): ??, September 1997. CODEN BITTEL, NBITAB. ISSN 0006-3835 (print), 1572-9125 (electronic). Proceedings from the International Linear Algebra Year Workshops. September 1995–June 1996.

Duff:1997:PWD

[DGDG97b] Iain Duff, Nick Gould, Craig Douglas, and Luc Giraud, editors. *Proceedings of the Workshop on Direct Methods, September 26–29, 1995; the Workshop on Linear Algebra in Optimization, April 22–25, 1996; and the Workshop on Iterative Methods, June 10–13, 1996, held in Toulouse as part of the International Linear Algebra Year (ILAY)*. BIT, Copenhagen, 1997. CODEN NBITAB. ISSN 0006-3835 (print), 1572-9125 (electronic). BIT **37** (1997), no. 3.

Duff:1987:MMP

[DGLR87] I. Duff, N. Gould, M. Lescrenier, and J. Reid. The multifrontal method in a parallel environment. Technical Report CSS-211, AERE Harwell Laboratory, Chilton, Oxon, England, 1987.

Duff:1990:MMP

[DGLR90] I. S. Duff, N. I. M. Gould, M. Lescrenier, and J. K. Reid. The multifrontal method in a parallel environment. In M. G. Cox and S. J. Hammarling, editors, *Reliable Scientific Computation*, Oxford Sci. Publ., pages 93–111. Oxford University Press, Walton Street, Oxford OX2 6DP, UK, 1990.

Duff:1994:ESA

[DGP94] Iain S. Duff, N. I. M. Gould, and J. Patricio. Experiments in scaling augmented systems. Technical Report (to appear), Rutherford Appleton Laboratory, Chilton, Oxon, England, 1994.

Duff:1990:FSS

[DGR+90] I. S. Duff, N. I. M. Gould, J. K. Reid, J. A. Scott, and K. Turner.

The factorization of sparse symmetric indefinite matrices. Report RAL-90-066, Rutherford Appleton Laboratory, Chilton, Oxon, England, 1990. ???? pp.

Duff:1991:FSS

[DGR+91] I. S. Duff, N. I. M. Gould, J. K. Reid, J. A. Scott, and K. Turner. The factorization of sparse symmetric indefinite matrices. *IMA Journal of Numerical Analysis*, 11(2):181–204, 1991. CODEN IJNADH. ISSN 0272-4979 (print), 1464-3642 (electronic).

Dollar:2005:UCP

[DGSW05] H. S. Dollar, N. I. M. Gould, W. H. A. Schilders, and A. J. Wathen. Using constraint preconditioners with regularized saddle-point problems. Technical Report RAL-TR-2005-026, Rutherford Appleton Laboratory, Chilton, Oxon, England, 2005.

Dollar:2006:IFP

[DGSW06] H. Sue Dollar, Nicholas I. M. Gould, Wil H. A. Schilders, and Andrew J. Wathen. Implicit-factorization preconditioning and iterative solvers for regularized saddle-point systems. *SIAM Journal on Matrix Analysis and Applications*, 28(1):170–189, January 2006. CODEN SJMAEL. ISSN 0895-4798 (print), 1095-7162 (electronic).

Dollar:2007:UCP

[DGSW07] H. S. Dollar, N. I. M. Gould, W. H. A. Schilders, and A. J. Wathen. Using constraint preconditioners with regularized saddle-point problems. *Computational optimization and applications*, 36(2-3):249–270, 2007. CODEN CPPPEF. ISSN 0926-6003 (print), 1573-2894 (electronic).

Dollar:2010:PSP

[DGSW10] H. Sue Dollar, Nicholas I. M. Gould, Martin Stoll, and Andrew J. Wathen. Preconditioning saddle-point systems with applications in optimization. *SIAM Journal on Scientific Computing*, 32(1):249–270, ???? 2010. CODEN SJOCE3. ISSN 1064-8275 (print), 1095-7197 (electronic).

Dollar:2006:IFC

[DGW06] H. Sue Dollar, Nicholas I. M. Gould, and Andrew J. Wathen. On implicit-factorization constraint preconditioners. In *Large-scale nonlinear optimization*, volume 83 of *Nonconvex Optim. Appl.*, pages 61–82. Springer-Verlag, Berlin, Germany / Heidelberg, Germany / London, UK / etc., 2006.

Dayde:1994:UEE

[DLG94] M. Daydé, J.-Y. L'Excellent, and N. I. M. Gould. On the use of element-by-element preconditioners to solve large scale partially separable optimization problems. Technical Report RT/APO/94/4, ENSEEIHT-IRIT, Toulouse, France, 1994. URL `ftp://130.246.8.32/`

pub/reports/degENSEEIHT944.ps.Z.

Dayd:1995:SSS

[DLG95] M. J. Daydé, J.-Y. L'Excellent, and N. I. M. Gould. Solution of structured systems of linear equations using element-by-element preconditioners. In Svetozar D. Margenov and Panayot S. Vassilevski, editors, *Iterative methods in linear algebra, II. Proceedings of the 2nd IMACS international symposium on iterative methods in linear algebra, Blagoevgrad, Bulgaria, June 17–20, 1995 (1996)*, volume 3 of *IMACS series in computational and applied mathematics*, page ?? IMACS, Department of Computer Science, Rutgers University, New Brunswick, NJ, 1995. ISSN 1098-870X. LCCN QA1 I617 v. 3.

Dayde:1996:PSU

[DLG96] M. J. Daydé, J.-Y. L'Excellent, and N. I. M. Gould. Preprocessing of sparse unassembled linear systems for efficient solution using element-by-element preconditioners. *Lecture Notes in Computer Science*, 1124:34–43, 1996. CODEN LNCSD9. ISSN 0302-9743 (print), 1611-3349 (electronic).

Dayde:1997:EEP

[DLG97] Michel J. Daydé, Jean-Yves L'Excellent, and Nicholas I. M. Gould. Element-by-element preconditioners for large partially separable optimization problems. *SIAM Journal on Scientific Computing*, 18(6):1767–1787, November 1997. CODEN SJOCE3. ISSN 1064-8275 (print), 1095-7197 (electronic). URL http://epubs.siam.org/sam-bin/dbq/article/27479.

Dongarra:2006:APC

[DMW06] Jack Dongarra, Kaj Madsen, and Jerzy Wasniewski, editors. *Applied Parallel Computing: State of the Art in Scientific Computing. 7th International Workshop, PARA 2004, Lyngby, Denmark, June 20–23, 2004. Revised Selected Papers*, volume 3732 of *Lecture Notes in Computer Science*. Springer-Verlag, Berlin, Germany / Heidelberg, Germany / London, UK / etc., 2006. CODEN LNCSD9. ISBN 3-540-29067-2 (softcover). ISSN 0302-9743 (print), 1611-3349 (electronic). LCCN ???? URL http://www.springerlink.com/content/978-3-540-29067-4; http://www.springerlink.com/openurl.asp?genre=issue&issn=0302-9743&volume=3732.

Duff:1997:SAN

[DW97] Iain S. Duff and G. Alistair Watson, editors. *The state of the art in numerical analysis*, volume 63 of *The Institute of Mathematics and Its Applications conference series: new series*. Oxford University Press, Walton Street, Oxford OX2 6DP, UK, 1997. ISBN 0-19-850014-9. LCCN QA297.S775 1997. URL https://global.oup.com/academic/

product/the-state-of-the-art-in-numerical-analysis-9780198500148. Based on the proceedings of a conference on the state of the art in numerical analysis. Organized by the Institute of Mathematics and Its Applications and held at York University in April 1996.

Fowkes:2013:BBA

[FGF13] Jaroslav M. Fowkes, Nicholas I. M. Gould, and Chris L. Farmer. A branch and bound algorithm for the global optimization of Hessian Lipschitz continuous functions. *Journal of Global Optimization*, 56(4):1791–1815, 2013. CODEN JGOPEO. ISSN 0925-5001 (print), 1573-2916 (electronic).

Fletcher:2002:GCT

[FGL+02] Roger Fletcher, Nicholas I. M. Gould, Sven Leyffer, Philippe L. Toint, and Andreas Wächter. Global convergence of a trust-region SQP-filter algorithm for general nonlinear programming. *SIAM Journal on Optimization*, 13(3):635–659, 2002. CODEN SJOPE8. ISSN 1052-6234 (print), 1095-7189 (electronic). URL http://epubs.siam.org/sam-bin/dbq/article/35725.

Gill:1982:RSM

[GGM+82a] P. E. Gill, N. I. M. Gould, W. Murray, M. A. Saunders, and M. H. Wright. Range-space methods for convex quadratic programming problems. Technical report SOL 82-9, Department of Operations Research, Stanford University, Stanford, CA, USA, 1982.

Gill:1982:RSQ

[GGM+82b] P. E. Gill, N. I. M. Gould, W. Murray, M. A. Saunders, and M. H. Wright. A range-space quadratic programming algorithm for problems with a mixture of bounds and general constraints. Technical Report SOL 82-10, Department of Operations Research, Stanford University, Stanford, CA, USA, 1982.

Gill:1984:WGS

[GGM+84] Philip E. Gill, Nicholas I. M. Gould, Walter Murray, Michael A. Saunders, and Margaret H. Wright. A weighted Gram–Schmidt method for convex quadratic programming. *Mathematical Programming*, 30(2): 176–196, 1984. CODEN MHPGA4. ISSN 0025-5610 (print), 1436-4646 (electronic).

Gould:2001:SEC

[GHN01] Nicholas I. M. Gould, Mary E. Hribar, and Jorge Nocedal. On the solution of equality constrained quadratic programming problems arising in optimization. *SIAM Journal on Scientific Computing*, 23(4):1376–1395, July 2001. CODEN SJOCE3. ISSN 1064-8275 (print), 1095-7197 (electronic). URL http://epubs.siam.org/sam-bin/dbq/article/34566.

Gould:2005:CRN

[GHS05a] N. I. M. Gould, Y. Hu, and J. A. Scott. Complete results from a numerical evaluation of sparse direct solvers for the solution of large, sparse, symmetric linear systems of equations. Numerical Analysis Group Internal Report 2005-1, Rutherford Appleton Laboratory, Chilton, Oxon, England, 2005.

Gould:2005:NES

[GHS05b] N. I. M. Gould, Y. Hu, and J. A. Scott. A numerical evaluation of sparse direct solvers for the solution of large, sparse, symmetric linear systems of equations. Technical Report RAL-TR-2005-005, Rutherford Appleton Laboratory, Chilton, Oxon, England, 2005.

Gould:2003:IAN

[GL03] Nicholas I. M. Gould and Sven Leyffer. An introduction to algorithms for nonlinear optimization. In *Frontiers in numerical analysis (Durham, 2002)*, Universitext, pages 109–197. Springer-Verlag, Berlin, Germany / Heidelberg, Germany / London, UK / etc., 2003.

Gould:2014:FMU

[GLR14] Nicholas I. M. Gould, Yueling Loh, and Daniel P. Robinson. A filter method with unified step computation for nonlinear optimization. *SIAM Journal on Optimization*, 24(1):175–209, ???? 2014. CODEN SJOPE8. ISSN 1052-6234 (print), 1095-7189 (electronic).

Gould:2015:NFS

[GLR15] Nicholas I. M. Gould, Yueling Loh, and Daniel P. Robinson. A nonmonotone filter SQP method: Local convergence and numerical results. *SIAM Journal on Optimization*, 25(3):1885–1911, ???? 2015. CODEN SJOPE8. ISSN 1052-6234 (print), 1095-7189 (electronic).

Gould:1998:LAM

[GLRT98] Nicholas I. M. Gould, Stefano Lucidi, Massimo Roma, and Philippe L. Toint. A line-search algorithm with memory for unconstrained optimization. In *High performance algorithms and software in nonlinear optimization (Ischia, 1997)*, volume 24 of *Appl. Optim.*, pages 207–223. Kluwer Academic Publishers Group, Norwell, MA, USA, and Dordrecht, The Netherlands, 1998.

Gould:1999:STR

[GLRT99] Nicholas I. M. Gould, Stefano Lucidi, Massimo Roma, and Philippe L. Toint. Solving the trust-region subproblem using the Lanczos method. *SIAM Journal on Optimization*, 9(2): 504–525, March 1999. CODEN SJOPE8. ISSN 1052-6234 (print), 1095-7189 (electronic). URL `http://epubs.siam.org/sam-bin/dbq/article/32273`.

Gould:2000:ENC

[GLRT00] N. I. M. Gould, S. Lucidi, M. Roma, and Ph. L. Toint. Exploiting negative curvature directions in linesearch methods for unconstrained optimization. *Optimization Methods & Software*, 14(1-2):75–98, 2000. CODEN OMSOE2. ISSN 1055-6788. International Conference on Nonlinear Programming and Variational Inequalities (Hong Kong, 1998).

Gould:2004:MFA

[GLT04a] Nicholas I. M. Gould, Sven Leyffer, and Philippe L. Toint. A multidimensional filter algorithm for nonlinear equations and nonlinear least-squares. *SIAM Journal on Optimization*, 15(1):17–38, 2004. CODEN SJOPE8. ISSN 1052-6234 (print), 1095-7189 (electronic). URL `http://epubs.siam.org/sam-bin/dbq/article/42263`.

Gould:2004:PNP

[GLT04b] Nick Gould, Sven Leyffer, and Philippe Toint. Preface: Nonlinear programming: theory and practice [Special issue on large scale nonconvex optimization algorithms and applications in honor of Roger Fletcher's 65th birthday]. *Mathematical Programming*, 100(1, Ser. B):1–2, 2004. CODEN MHPGA4. ISSN 0025-5610 (print), 1436-4646 (electronic).

Gould:1981:NSP

[GM81] N. I. M. Gould and W. Murray. The numerical solution of a problem arising from the accurate determination of an earthquake epicenter occurring in a seismic net. Report, Stanford University and U.S. Geological Survey, Stanford, CA, USA, 1981.

Gould:1998:MAV

[GN98] Nicholas I. M. Gould and Jorge Nocedal. The modified absolute-value factorization norm for trust-region minimization. In *High performance algorithms and software in nonlinear optimization (Ischia, 1997)*, volume 24 of *Appl. Optim.*, pages 225–241. Kluwer Academic Publishers Group, Norwell, MA, USA, and Dordrecht, The Netherlands, 1998.

Gould:2016:DTS

[GOP16] N. Gould, C. Ortner, and D. Packwood. A dimer-type saddle search algorithm with preconditioning and linesearch. *Mathematics of Computation*, 85(302):2939–2966, November 2016. CODEN MCMPAF. ISSN 0025-5718 (print), 1088-6842 (electronic). URL `http://www.ams.org/journals/mcom/2016-85-302/S0025-5718-2016-03096-3; http://www.ams.org/journals/mcom/2016-85-302/S0025-5718-2016-03096-3/S0025-5718-2016-03096-3.pdf; http://www.ams.org/mathscinet/search/author.html?authorName=Packwood%2C%20D.; http://www.ams.org/mathscinet/search/author.`

html?mrauthid=75720; http://www.ams.org/mathscinet/search/author.html?mrauthid=803698.

Gould:2013:TFM

[GOR13] Nicholas I. M. Gould, Dominique Orban, and Daniel P. Robinson. Trajectory-following methods for large-scale degenerate convex quadratic programming. *Mathematical Programming Computation*, 5(2):113–142, 2013. ISSN 1867-2949 (print), 1867-2957 (electronic).

Gould:2014:PKM

[GOR14] Nick Gould, Dominique Orban, and Tyrone Rees. Projected Krylov methods for saddle-point systems. *SIAM Journal on Matrix Analysis and Applications*, 35(4):1329–1343, 2014. CODEN SJMAEL. ISSN 0895-4798 (print), 1095-7162 (electronic).

Gould:2001:SCP

[GOST01] Nicholas I. M. Gould, Dominique Orban, Annick Sartenaer, and Philippe L. Toint. Superlinear convergence of primal-dual interior point algorithms for nonlinear programming. *SIAM Journal on Optimization*, 11(4):974–1002, March/May 2001. CODEN SJOPE8. ISSN 1052-6234 (print), 1095-7189 (electronic). URL http://epubs.siam.org/sam-bin/dbq/article/37051.

Gould:2002:CFC

[GOST02] Nicholas I. M. Gould, Dominique Orban, Annick Sartenaer, and Philippe L. Toint. Componentwise fast convergence in the solution of full-rank systems of nonlinear equations. *Mathematical Programming*, 92(3, Ser. B):481–508, 2002. CODEN MHPGA4. ISSN 0025-5610 (print), 1436-4646 (electronic). ISMP 2000, Part 2 (Atlanta, GA).

Gould:2005:STR

[GOST05] Nicholas I. M. Gould, Dominique Orban, Annick Sartenaer, and Phillipe L. Toint. Sensitivity of trust-region algorithms to their parameters. *4OR*, 3(3):227–241, September 2005. ISSN 1619-4500.

Gould:2000:QPB

[GOT00] N. I. M. Gould, D. Orban, and Ph. L. Toint. A quadratic programming bibliography. Numerical Analysis Group Internal Report 2000-1, Rutherford Appleton Laboratory, Chilton, Oxon, England, 2000.

Gould:2002:RNE

[GOT02] N. I. M. Gould, D. Orban, and Ph. L. Toint. Results from a numerical evaluation of LANCELOT B. Numerical Analysis Group Internal Report 2002-1, Rutherford Appleton Laboratory, Chilton, Oxon, England, 2002.

Gould:2003:IPP

[GOT03a] N. I. M. Gould, D. Orban, and Ph. L. Toint. An interior-point $l[1]$-penalty method for nonlinear optimization. Technical Report

RAL-TR-2003-022, Rutherford Appleton Laboratory, Chilton, Oxon, England, 2003.

Gould:2003:CSC

[GOT03b] Nicholas I. M. Gould, Dominique Orban, and Philippe L. Toint. CUTEr and SifDec: A constrained and unconstrained testing environment, revisited. *ACM Transactions on Mathematical Software*, 29(4):373–394, December 2003. CODEN ACMSCU. ISSN 0098-3500 (print), 1557-7295 (electronic).

Gould:2003:GLT

[GOT03c] Nicholas I. M. Gould, Dominique Orban, and Philippe L. Toint. GALAHAD, a library of thread-safe Fortran 90 packages for large-scale nonlinear optimization. *ACM Transactions on Mathematical Software*, 29(4): 353–372, December 2003. CODEN ACMSCU. ISSN 0098-3500 (print), 1557-7295 (electronic).

Gould:2005:NML

[GOT05] Nick Gould, Dominique Orban, and Philippe Toint. Numerical methods for large-scale nonlinear optimization. *Acta Numerica*, 14:299–361, 2005. CODEN ANUMFU. ISBN 0-521-85807-0. ISSN 0962-4929 (print), 1474-0508 (electronic).

Gould:2015:CUT

[GOT15] Nicholas I. M. Gould, Dominique Orban, and Philippe L. Toint. CUTEst: a constrained and unconstrained testing environment with safe threads for mathematical optimization. *Computational optimization and applications*, 60(3):545–557, 2015. CODEN CPPPEF. ISSN 0926-6003 (print), 1573-2894 (electronic).

Gould:1982:NML

[Gou82] N. I. M. Gould. *Numerical methods for linear and quadratic programming*. PhD thesis, University of Oxford, Oxford, England, 1982.

Gould:1983:GSE

[Gou83a] N. I. M. Gould. The generalized steepest edge for linear programming. Research report CORR 83-2, Department of Combinatorics and Optimization, University of Waterloo, Waterloo, ON, Canada, 1983.

Gould:1983:SSG

[Gou83b] N. I. M. Gould. The stability of the solution of general quadratic programs. Research report CORR 83-11, Department of Combinatorics and Optimization, University of Waterloo, Waterloo, ON, Canada, 1983.

Gould:1984:GSE

[Gou84a] N. I. M. Gould. The generalized steepest–edge for linear programming: part 2, practicalities. Report CORR 84-1, Department of Combinatorics and Optimization, University of Waterloo, Waterloo, ON, Canada, 1984.

Gould:1984:SEL

[Gou84b] N. I. M. Gould. The steepest edge for linear programming, part 2: practicalities. Research report CORR 84-1, Department of Combinatorics and Optimization, University of Waterloo, Ontario, Canada, 1984.

Gould:1985:PCE

[Gou85] Nicholas I. M. Gould. On practical conditions for the existence and uniqueness of solutions to the general equality quadratic programming problem. *Mathematical Programming*, 32(1):90–99, 1985. CODEN MHPGA4. ISSN 0025-5610 (print), 1436-4646 (electronic).

Gould:1986:ADS

[Gou86] Nicholas Ian Mark Gould. On the accurate determination of search directions for simple differentiable penalty functions. *IMA Journal of Numerical Analysis*, 6(3):357–372, 1986. CODEN IJNADH. ISSN 0272-4979 (print), 1464-3642 (electronic).

Gould:1988:STC

[Gou88] N. I. M. Gould. On solving three classes of nonlinear programming problems via simple differentiable penalty functions. *Journal of Optimization Theory and Applications*, 56(1):89–126, 1988. CODEN JOTABN. ISSN 0022-3239 (print), 1573-2878 (electronic).

Gould:1989:CSP

[Gou89] Nicholas Ian Mark Gould. On the convergence of a sequential penalty function method for constrained minimization. *SIAM Journal on Numerical Analysis*, 26(1):107–128, 1989. CODEN SJNAAM. ISSN 0036-1429 (print), 1095-7170 (electronic).

Gould:1991:ALS

[Gou91a] Nicholas I. M. Gould. An algorithm for large-scale quadratic programming. *IMA Journal of Numerical Analysis*, 11(3):299–324, 1991. CODEN IJNADH. ISSN 0272-4979 (print), 1464-3642 (electronic).

Gould:1991:GGE

[Gou91b] Nick I. M. Gould. On growth in Gaussian elimination with complete pivoting. *SIAM Journal on Matrix Analysis and Applications*, 12(2):354–361, April 1991. CODEN SJMAEL. ISSN 0895-4798 (print), 1095-7162 (electronic).

Gould:1999:IMI

[Gou99a] N. I. M. Gould. Iterative methods for ill–conditioned linear systems from optimization. In Di Pillo and Giannessi [DG00], pages 123–142. ISBN 0-7923-6109-1 (hardcover). LCCN QA402.5 .N55 2000. URL `http://www.loc.gov/catdir/enhancements/fy0822/99056953-d.html`; `http://www.loc.gov/catdir/enhancements/fy0822/99056953-t.html`.

Gould:1999:MFL

[Gou99b] Nicholas Ian Mark Gould. On modified factorizations for large-scale linearly constrained optimization. *SIAM Journal on Optimization*, 9(4):1041–1063, September 1999. CODEN SJOPE8. ISSN 1052-6234 (print), 1095-7189 (electronic). URL `http://epubs.siam.org/sam-bin/dbq/article/29066`. Dedicated to John E. Dennis, Jr., on his 60th birthday.

Gould:2000:IMI

[Gou00] Nicholas I. M. Gould. Iterative methods for ill-conditioned linear systems from optimization. In *Nonlinear optimization and related topics (Erice, 1998)*, volume 36 of *Appl. Optim.*, pages 123–141. Kluwer Academic Publishers Group, Norwell, MA, USA, and Dordrecht, The Netherlands, 2000.

Gould:2003:SRC

[Gou03] Nicholas I. M. Gould. Some reflections on the current state of active-set and interior-point methods for constrained optimization. *SIAG/OPT Views-and-News*, 14(1):2–7, April 2003. URL `http://www.mcs.anl.gov/~leyffer/views/14-1.pdf`.

Gould:2008:HGP

[Gou08] Nicholas I. M. Gould. How good are projection methods for convex feasibility problems? *Computational optimization and applications*, 40(1):1–12, 2008. CODEN CPPPEF. ISSN 0926-6003 (print), 1573-2894 (electronic).

Gould:2012:HGE

[Gou12] Nicholas I. M. Gould. How good are extrapolated bi-projection methods for linear feasibility problems? *Computational optimization and applications*, 51 (3):1089–1095, 2012. CODEN CPPPEF. ISSN 0926-6003 (print), 1573-2894 (electronic).

Gould:2012:URP

[GPT12] N. I. M. Gould, M. Porcelli, and P. L. Toint. Updating the regularization parameter in the adaptive cubic regularization algorithm. *Computational optimization and applications*, 53(1): 1–22, 2012. CODEN CPPPEF. ISSN 0926-6003 (print), 1573-2894 (electronic).

Gould:1989:NCP

[GR89] Nicholas I. M. Gould and John K. Reid. New crash procedures for large systems of linear constraints. *Mathematical Programming*, 45(1–3):475–501, August 1989. CODEN MHPGA4. ISSN 0025-5610 (print), 1436-4646 (electronic).

Gould:2010:SDSa

[GR10a] Nicholas I. M. Gould and Daniel P. Robinson. A second derivative SQP method: Global convergence. *SIAM Journal on Optimization*, 20(4):2023–2048, ???? 2010. CODEN SJOPE8.

ISSN 1052-6234 (print), 1095-7189 (electronic).

Gould:2010:SDSb

[GR10b] Nicholas I. M. Gould and Daniel P. Robinson. A second derivative SQP method: Local convergence and practical issues. *SIAM Journal on Optimization*, 20(4):2049–2079, ???? 2010. CODEN SJOPE8. ISSN 1052-6234 (print), 1095-7189 (electronic).

Gould:2012:SDS

[GR12] Nicholas I. M. Gould and Daniel P. Robinson. A second-derivative SQP method with a 'trust-region-free' predictor step. *IMA Journal of Numerical Analysis*, 32(2):580–601, April 2012. CODEN IJNADH. ISSN 0272-4979 (print), 1464-3642 (electronic). URL `http://imajna.oxfordjournals.org/content/32/2/580.full.pdf+html`.

Gould:2010:STR

[GRT10] Nicholas I. M. Gould, Daniel P. Robinson, and H. Sue Thorne. On solving trust-region and other regularised subproblems in optimization. *Mathematical Programming Computation*, 2(1): 21–57, 2010. CODEN ???? ISSN 1867-2949 (print), 1867-2957 (electronic). URL `http://www.springerlink.com/openurl.asp?genre=journal%26issn=1867-295`.

Gould:1998:SAI

[GS98] Nicholas I. M. Gould and Jennifer A. Scott. Sparse approximate-inverse preconditioners using norm-minimization techniques. *SIAM Journal on Scientific Computing*, 19(2):605–625, 1998. CODEN SJOCE3. ISSN 1064-8275 (print), 1095-7197 (electronic). URL `http://epubs.siam.org/sam-bin/dbq/article/28842`.

Gould:2003:CRN

[GS03] N. I. M. Gould and J. A. Scott. Complete results from a numerical evaluation of HSL packages for the direct-solution of large sparse, symmetric linear systems of equations. Numerical Analysis Group Internal Report 2003-2, Rutherford Appleton Laboratory, Chilton, Oxon, England, 2003.

Gould:2004:NEH

[GS04] Nicholas I. M. Gould and Jennifer A. Scott. A numerical evaluation of HSL packages for the direct solution of large sparse, symmetric linear systems of equations. *ACM Transactions on Mathematical Software*, 30(3): 300–325, September 2004. CODEN ACMSCU. ISSN 0098-3500 (print), 1557-7295 (electronic).

Gould:2009:SAS

[GS09] N. I. M. Gould and V. Simoncini. Spectral analysis of saddle point matrices with indefinite leading blocks. *SIAM Journal on Matrix Analysis and Applications*, 31(3): 1152–1171, 2009. CODEN SJMAEL. ISSN 0895-4798 (print), 1095-7162 (electronic).

Gould:2010:SAS

[GS10] N. I. M. Gould and V. Simoncini. Spectral analysis of saddle point matrices with indefinite leading blocks. *SIAM Journal on Matrix Analysis and Applications*, 31(3): 1152–1171, ???? 2010. CODEN SJMAEL. ISSN 0895-4798 (print), 1095-7162 (electronic).

Gould:2007:NES

[GSH07] Nicholas I. M. Gould, Jennifer A. Scott, and Yifan Hu. A numerical evaluation of sparse direct solvers for the solution of large sparse symmetric linear systems of equations. *ACM Transactions on Mathematical Software*, 33(2): 1–32, June 2007. CODEN ACMSCU. ISSN 0098-3500 (print), 1557-7295 (electronic).

Gould:2005:FTR

[GST05] Nick I. M. Gould, Caroline Sainvitu, and Philippe L. Toint. A filter-trust-region method for unconstrained optimization. *SIAM Journal on Optimization*, 16(2): 341–357, ???? 2005. CODEN SJOPE8. ISSN 1052-6234 (print), 1095-7189 (electronic). URL `http://epubs.siam.org/sam-bin/dbq/article/60385`.

Gould:1999:NCB

[GT99] Nicholas I. M. Gould and Philippe L. Toint. A note on the convergence of barrier algorithms to second-order necessary points. *Mathematical Programming*, 85(2, Ser. A):433–438, 1999. CODEN MHPGA4. ISSN 0025-5610 (print), 1436-4646 (electronic).

Gould:2000:SML

[GT00] Nicholas I. M. Gould and Philippe L. Toint. SQP methods for large-scale nonlinear programming. In *System modelling and optimization (Cambridge, 1999)*, pages 149–178. Kluwer Academic Publishers Group, Norwell, MA, USA, and Dordrecht, The Netherlands, 2000.

Gould:2002:IWS

[GT02a] Nicholas I. M. Gould and Philippe L. Toint. An iterative working-set method for large-scale nonconvex quadratic programming. *Applied Numerical Mathematics: Transactions of IMACS*, 43(1–2):109–128, October 2002. CODEN ANMAEL. ISSN 0168-9274 (print), 1873-5460 (electronic). 19th Dundee Biennial Conference on Numerical Analysis (2001).

Gould:2002:NML

[GT02b] Nicholas I. M. Gould and Philippe L. Toint. Numerical methods for large-scale nonconvex quadratic programming. In *Trends in industrial and applied mathematics (Amritsar, 2001)*, volume 72 of *Appl. Optim.*, pages 149–179. Kluwer Academic Publishers Group, Norwell, MA, USA, and Dordrecht, The Netherlands, 2002.

Gould:2003:FFF

[GT03a] N. I. M. Gould and Ph. L. Toint. FILTRANE, a Fortran 95 filter-trust-region package for solving nonlinear feasibility problems. Technical Report RAL-TR-2003-017, Rutherford Appleton Laboratory, Chilton, Oxon, England, 2003.

Gould:2003:FIA

[GT03b] N. I. M. Gould and Philippe L. Toint. The filter idea and its application to the nonlinear feasibility problem. In David F. Griffiths and G. Alistair Watson, editors, *Proceedings of the 20th Biennial Conference on Numerical Analysis, 24–27 June, 2003, University of Dundee, Scotland*, volume NA/217 of *Numerical analysis report*, pages 73–79. ????, ????, 2003. LCCN QA297 .D85 2003. URL `http://www.maths.dundee.ac.uk/~naconf/`.

Gould:2003:GCH

[GT03c] Nick Gould and Philippe L. Toint. Global convergence of a hybrid trust-region SQP-filter algorithm for general nonlinear programming. In *System modeling and optimization, XX (Trier, 2001)*, volume 130 of *IFIP Int. Fed. Inf. Process.*, pages 23–54. Kluwer Academic Publishers Group, Norwell, MA, USA, and Dordrecht, The Netherlands, 2003.

Gould:2004:HMN

[GT04a] Nick Gould and Philippe L. Toint. How mature is nonlinear optimization? In *Applied mathematics entering the 21st century*, pages 141–161. SIAM Press, Philadelphia, PA, USA, 2004.

Gould:2004:PQP

[GT04b] Nick Gould and Philippe L. Toint. Preprocessing for quadratic programming. *Mathematical Programming*, 100(1, Ser. B):95–132, 2004. CODEN MHPGA4. ISSN 0025-5610 (print), 1436-4646 (electronic).

Gould:2006:GCN

[GT06] Nicholas I. M. Gould and Philippe L. Toint. Global convergence of a non-monotone trust-region filter algorithm for nonlinear programming. In *Multiscale optimization methods and applications*, volume 82 of *Nonconvex Optim. Appl.*, pages 125–150. Springer-Verlag, Berlin, Germany / Heidelberg, Germany / London, UK / etc., 2006.

Gould:2007:FFF

[GT07] Nicholas I. M. Gould and Philippe L. Toint. FILTRANE, a Fortran 95 filter-trust-region package for solving nonlinear least-squares and nonlinear feasibility problems. *ACM Transactions on Mathematical Software*, 33(1):3:1–3:23, March 2007. CODEN ACMSCU. ISSN 0098-3500 (print), 1557-7295 (electronic).

Gould:2010:NPP

[GT10] N. I. M. Gould and Ph. L. Toint. Nonlinear programming without

a penalty function or a filter. *Mathematical Programming*, 122 (1, Ser. A):155–196, 2010. CODEN MHPGA4. ISSN 0025-5610 (print), 1436-4646 (electronic).

Gould:2012:ENP

[GT12] N. I. M. Gould and Ph. L. Toint. Erratum to: Nonlinear programming without a penalty function or a filter [mr2533756]. *Mathematical Programming*, 131(1-2, Ser. A):403–404, 2012. CODEN MHPGA4. ISSN 0025-5610 (print), 1436-4646 (electronic).

Keller:2000:CPI

[KGW00] Carsten Keller, Nicholas I. M. Gould, and Andrew J. Wathen. Constraint preconditioning for indefinite linear systems. *SIAM Journal on Matrix Analysis and Applications*, 21(4):1300–1317, 2000. CODEN SJMAEL. ISSN 0895-4798 (print), 1095-7162 (electronic). URL `http://epubs.siam.org/sam-bin/dbq/article/35180`.

Scott:2004:ESD

[SHG04] Jennifer A. Scott, Yifan Hu, and Nicholas I. M. Gould. An evaluation of sparse direct symmetric solvers: an introduction and preliminary findings. In Dongarra et al. [DMW06], pages 818–827. CODEN LNCSD9. ISBN 3-540-29067-2 (softcover). ISSN 0302-9743 (print), 1611-3349 (electronic). LCCN ???? URL `http://www.springerlink.com/content/978-3-540-29067-4`; `http://www.springerlink.com/openurl.asp?genre=issue&issn=0302-9743&volume=3732`.