

A Bibliography of Publications by, and about, Michael J. D. Powell

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/>

12 August 2025
Version 1.01

Abstract

This bibliography records publications of Michael J. D. Powell.

Title word cross-reference

A [IP81]. $\cdot$ [YGL10]. ℓ_∞ [BPR72]. L_1 [PR80, PY84]. L_2 [Pow68b]. L_∞ [PBR71, PY84]. LDL^T [FP74]. QR [CP88]. $\sqrt{3}$ [VWBD02].

-acceptability [IP81]. **-approximation** [BPR72]. **-subdivision** [VWBD02].

0-19-853614-3 [Gri87].

12th [Jac77]. **13th** [GW90]. **14th** [GW92]. **15th** [Jac77, Lig92]. **18th** [WG00]. **1968** [Mor69]. **1970** [RMR70]. **1973** [Eva74]. **1974** [GM74]. **1975** [Dix76, Wat76]. **1976** [Jac77, Pré79]. **1977** [GL79, MMR78, Pow77a, Ric77, Wat78]. **1981** [Wat82]. **1982** [BGK83]. **1983** [CSW83, CO80, GMSV84]. **1984** [BBS85]. **1985** [MC87]. **1986** [IP87, Gri87]. **1988** [MC90]. **1990** [Lig92]. **1991** [GW92]. **1992** [LLC92]. **1996** [BI97]. **2004** [DR06]. **2015** [BFIT18]. **23-27** [Pré79]. **29th** [WG00]. **2D** [LZ13]. **2D-3D** [LZ13]. **2nd** [WG00]. **3D** [LZ13]. **3rd** [Lig92].

6H2O [YGL10]. **6th** [Pow77a, Wat76].

'87 [MT88].

9th [Pré79, Wat82].

A&M [CSW83]. **Accelerating** [AMF06]. **acceptability** [IP81]. **accuracy** [HP77]. **achieve** [DP91a]. **Action** [Dix76]. **Ado** [Kah87]. **Advanced** [Pow82]. **Advances** [Lig92, Pow71b]. **AlCl3** [YGL10]. **Algebra** [HS87]. **algebraic** [Pow68a, Pow70b]. **Algorithm** [AMF06, Bur73, GSY18, Qia17, RSR22, TtJ15, XJY⁺13, ZCW⁺20, AF03, AOF21, BPR72, CP87, DMP94, FGP05, KYO05, LZ13, Pow70f, Pow70g, Pow71a, PBR71, Pow72c, Pow76c, Pow77d, Pow78c, Pow81b, Pow85a, PY86, Pow88a, Pow89b, Pow90a, PY91, Pow92a, Pow93a, Pow95a, Pow97a, Pow98b, Pow00, SWL⁺06, TZP17, ZTBL11, WA15]. **Algorithms** [MC87, MC90, Pow75c, Pow78a, Pow79a, Pow86a, Pow87b, Pow98a, CPLP82, CP66b, DSS80, Pow72a, Pow72b, Pow73c, Pow74d, Pow75a, Pow83a, Pow84b, Pow84c, Pow88c, Pow90c, Pow94b, Pow96a, Pow98d, Pow07, Pow12, MC87, MC90]. **algorithmus** [Bur73]. **AMS** [RSS96]. **AMS-SIAM** [RSS96]. **Analysis** [AOF21, BC10, DW97, Gri87, GW92, IP87, Jac77, LD15, Pow79b, Wat78, Wat82, DMP94, GW90, Lig92, Pow77a, RSS96, Wat76, WG00, ZTBL11]. **antenna** [LD15]. **Application** [Qia17, TZP17, HP84, KYO05].

Applications

[Eva74, LLC92, PS00, RSR22, Fle69].

Applied [GL79, MT88, RSS96]. **Applying** [PR68b, PR68a, PR69]. **approach** [BS76].

Approximation [BI97, CP66a, GMSV84, Hay70, Pow81a, BPR72, BP92b, MC87, MC90, PBR71, PR80, Pow83a, Pow90b, Pow92e, Pow02, CSW83, Chu82].

Approximations

[Pow67c, PS77, BP94, CP66b, IP81, Pow68b,

Pow69b, Pow88b, Pow98d]. **April**

[BFIT18, Eva74, IP87, Jac77].

Aproksimatsiya [Pau02]. **Arieh** [PN08].

array [MCPS86]. **Art**

[BGK83, DW97, Gri87, IP87, Jac77].

Artificial [LSLM15, DÖAK12]. **augmented**

[Miz99]. **August**

[BGK83, CO80, Lig92, Mor69, Pré79, RSS96].

Automatic [WA15].

Bad [Pow86b]. **balance** [DMP94].

balance-based [DMP94]. **band** [Pow98d].

barrier [Pow92c, Pow95b]. **Bartels**

[Pow87b]. **Base** [YZM⁺18]. **Based**

[CSA16, TtJ15, XJY⁺13, ZCW⁺20, AF03,

DMP94, GSY18, KLL12, LZ13, MC87,

MC90, SWL⁺06, Sug14, YGL10, wZyTL⁺23,

ZTBL11]. **Basis** [Buh03, BP90, FP00,

Pow87c, Pow88b, Pow92e, Pow99b]. **Beale**

[AOF21]. **beam** [LD15, MCPS86]. **Bee**

[LSLM15, DÖAK12]. **Bergamo** [DSS80].

best [Pow68b]. **Beyond** [Pow13]. **BFGS**

[Pow86b, Pow87d]. **Biennial**

[Wat76, Wat78, Wat82, WG00].

Birmingham [IP87]. **Birth** [BC10].

birthday [PN08]. **Bit** [Kah87]. **Bonn**

[BGK83]. **Book** [Chu82, Gri87, Pow69a,

Pow73a, Pow74a, Pow76a]. **Boulder**

[BBS85]. **bounds** [Pow75b, Pow88a, Pow14].

Box [EM06]. **BP** [YGL10]. **Branch**

[Kah87]. **breaker** [wZyTL⁺23]. **Bristol**

[Dix76]. **Broyden** [Pow13]. **Budapest**

[Pré79]. **Building** [EA22].

Building-Integrated [EA22].

Calculating

[Pow64a, Pow65, CP66b, Pow64b].

Calculation [Pow68c, And69].

Calculations [Pow98a, Pow78b, Pow78c,

Pow83a, Pow84a, Pow86c, Pow87a, Pow89b,

Pow92b, Pow92c, Pow98c]. **Cambridge**

[BI97, Pow82, PS00, Pow99b]. **Canada**

[EA22]. **Carlo** [PS66]. **Cartesian** [EM06].

Case [RSR22]. **CDS** [DÖAK12]. **Center**

[Ric77, RMR70]. **change** [DP91b]. **Channel** [YZM⁺18]. **Channel-Base** [YZM⁺18]. **Chaotic** [ZCW⁺20]. **characterization** [PR80]. **circuit** [DMP94, wZyTL⁺23]. **City** [RSS96]. **Clarendon** [Gri87]. **class** [Pow75a]. **classical** [Pow69b]. **Classification** [Qia17]. **College** [CSW83, MC87, MC90]. **Colony** [LSLM15, DÖAK12]. **Colorado** [BBS85]. **Coloring** [RSR22]. **combination** [WZL⁺23]. **Combined** [Sas69]. **Committee** [Pow82]. **comparison** [Pow69b]. **Complex** [Kah87]. **complexity** [Pow92a]. **comprehensive** [LSLM15]. **computation** [Pow74d]. **computer** [Pow61]. **Computing** [GL79, HS87]. **conditionally** [MPJ81]. **Conditions** [CP66a, PY84, Pow80a, Pow04a]. **Conducted** [RMR70, Ric77]. **Conf** [Wat76]. **Conference** [BBS85, Eva74, GMSV84, Gri87, GW92, IP87, Jac77, LLC92, MC87, MC90, MT88, Pow73b, PS00, Wat78, Wat82, WG00, BI97, Dix76, GW90]. **Congress** [CO80, Mor69]. **Conjugate** [AOF21, EA22, Pow87d, Pow76b, Pow77e, Pow84a, Pow90c]. **Constrained** [GM74, CPLP82, Pow74b, Pow78b, Pow78c, Pow79c, Pow80b, Pow83b, Pow85b, Pow89a, Pow89b, PY91, TS99]. **constraint** [Pow94a]. **constraints** [Pow67b, Pow69e, Pow74e, Pow78a, Pow79a, Pow86c, Pow87a, Pow15]. **content** [YGL10]. **Continuous** [THB18]. **contour** [LD15, Pow74c]. **Contrast** [CSA16]. **Contribution** [Pow77a]. **control** [TS99]. **Convergence** [BP75, Pow75a, Pow86a, Bur73, CPLP82, CP66b, FP99, GP83, Pow71a, Pow76b, Pow76c, Pow78b, PY84, Pow84b, Pow84c, Pow94c, Pow95b, Pow00, Pow10b, Pow12]. **Convergent** [FP63]. **convexity** [DP91b]. **Cooled** [EA22]. **correction** [BPR72, CP87, PBR71]. **Correspondence** [And69]. **Courses** [RSR22]. **cover** [Gri87]. **Criteria** [Pow67c]. **Cubic** [MP73, Pow69d, Pow70a, Pow67a]. **Cuckoo** [GSYP18]. **Current** [YZM⁺18]. **Curve** [Pow67a, Pow70a, Pow99a]. **curves** [Pow95a, Pow96b]. **Cuts** [Kah87]. **Cyclic** [BP75]. **cycling** [Pow81b].

D [BI97, BFIT18, Chu82, Dav05, Gri87, Sun06, Vic03]. **Data** [CP82, EM06, Hay70, MC87, Pow97b, BP92b, DS08, DP91a, DP91b, DP97]. **Davidon** [AF03, AMF06, Pow77d]. **days** [WG00]. **December** [GL79, GMSV84]. **decomposition** [MPJ81, WA15]. **Dedicated** [PN08]. **Defined** [Pow67c, Pow01]. **Dependence** [Pow69d]. **Derivative** [CSA16, Pow81c, Pow98d]. **Derivative-Free** [CSA16]. **Derivatives** [Pow64a, Pow65, Pow75c, Pow64b, Pow70c, Pow70d, Pow74d, Pow03, Pow04b, Pow06, Pow07, Pow08, Pow12, Pow13]. **Descent** [FP63]. **design** [DÖAK12, KYO05, SWL⁺06]. **designing** [LCL⁺10]. **Developments** [Pow08, Fle87]. **DFP** [Pow86b, Pow00]. **diagnosis** [wZyTL⁺23]. **differences** [CP82, DP97]. **differentiable** [PY86]. **Differential** [THB18, XD04, BPR72, CP87, PBR71, WZL⁺23]. **difficult** [Pow85b]. **dimensional** [Pow92d]. **dimensions** [BGP96, BPT07, FP99, FGP05, Pow94c, Pow95a, Pow96a, Pow96b, Pow97a, Pow98b, Pow99a]. **Direct** [Pow98a, SRK12, Pow94a]. **Direction** [EA22, ZGGZ09, XD04]. **Directions** [Pow87d, Pow73c, Pow90c]. **discrete** [PR80, Pow83a]. **discussion** [Pow69b, Pow72a]. **Displacement** [ZTBL11]. **Distribution** [AOF21]. **distributional** [SWL⁺06]. **divided** [CP82]. **dividers** [KYO05]. **Do** [Pow75c]. **dogleg** [Miz99]. **Dr.** [Pow77a]. **dual** [Pow14]. **Dundee** [GW90, GW92, Wat76, Wat78, Wat82, WG00]. **during** [WG00]. **Dyadic** [VWBD02].

Edinburgh [Mor69]. **Editorial** [MP81]. **eds** [Gri87]. **Efficient** [Pow64a]. **Eigenvalue** [Wil87]. **elastography** [ZTBL11]. **Electric** [AOF21, EHL82a, EHL82b]. **Elementary** [Kah87]. **elimination** [HP84]. **employs** [BP94]. **Engineering** [GL79]. **England** [DSS80, Fle69]. **Entropy** [CSA16, Pow88a]. **equality** [PY91]. **equations** [HP77, Pow68a, Pow70b, Pow70e, Pow75b, PY84, Pow88c, TZP17]. **Erice** [DR06]. **Error** [Pow87b]. **Errors** [Pow67c]. **Estimation** [PT79, ZCW⁺20, ZTBL11]. **evaluation** [BPT07, Pow93b]. **evolution** [WZL⁺23, XD04]. **Evolutionary** [THB18]. **exact** [Pow76c, PY86]. **example** [Pow81b]. **exchange** [CP66b]. **expanded** [LZ13]. **expansions** [Pow93b]. **exponential** [IP81]. **Extensions** [EM06, Pow74e].

Fabrication [KLL12]. **factorization** [CP88, Pow89a]. **Factorizations** [Pow87b, FP74]. **Fast** [BPT07, AF03, Pow78c, Pow93b, Pow15]. **fault** [wZyTL⁺23]. **FDG_CT** [WA15]. **feasible** [Pow81b]. **Federation** [Mor69]. **Fiocco** [Pow69a]. **film** [KLL12, LCL⁺10]. **Filter** [SRK12, DÖAK12]. **filters** [KLL12, LCL⁺10]. **Finding** [Pow62, Pow64a]. **fine** [Pow92d]. **finite** [BP92a]. **Firefly** [XJY⁺13]. **First** [MT88, Pow70c, Pow70d]. **Fitting** [Pow70a, DS08, DP97, Pow67a, Pow74c, Pow77c]. **Fixed** [EHL82a, EHL82b]. **Fixed-Head** [EHL82a, EHL82b]. **Fletcher** [AF03, AMF06, Bur73, BS76, Bur73, MCPS86, Pow87b, Sas69]. **Florida** [GMSV84]. **Flows** [Sas69]. **FLT_CT** [WA15]. **fly** [TZP17]. **forcing** [CPLP82]. **forest** [wZyTL⁺23]. **Foreword** [Pow77b, PN08]. **Formula** [Pow87d]. **formulae** [Pow81c]. **FORTRAN** [MP73, Pow70c, Pow70d, Pow68a, Pow69c, Pow70b]. **fourth** [Lig92]. **France** [MT88]. **Free** [CSA16]. **Frobenius** [Pow04a]. **fruit**

[TZP17]. **full** [Pow69c]. **Function** [MP73, Pow62, Pow64a, Pow86b, YZM⁺18, BP90, FP00, IP81, Pow70c, Pow70d, Pow88b, Pow92e]. **Functions** [Buh03, Hay70, Kah87, MC87, Pow65, BP94, CP87, HP84, Pow61, Pow64b, Pow77c, Pow78a, Pow79a, PY86, Pow87c, Pow94a, Pow94b, Pow99b, Pow01]. **fuzzy** [TS99].

G [Pow69a]. **gains** [HP77]. **Gaussian** [HP84]. **General** [Pow83a]. **generalized** [CP87, HP84]. **Genetic** [WA15]. **German** [Bur73]. **gives** [DP91b]. **Global** [WZL⁺23, Pow76c, Pow84b, SWL⁺06]. **Goldfarb** [Pow85a]. **Golub** [Pow87b]. **Gradient** [AOF21, Pow80a, Pow76b, Pow77e, Pow84a]. **Grid** [RSR22]. **grid** [BP92a, BP90, Pow92d]. **Group** [MMR78]. **Growth** [Pow87b]. **Guided** [THB18].

H [Pow77a]. **Handling** [SRK12, Pow61]. **hard** [Gri87]. **harmonic** [DMP94]. **Hartley** [CSA16]. **Hartley-Entropy-Based** [CSA16]. **Hatfield** [DSS80]. **Head** [EHL82a, EHL82b]. **Held** [Wat78, BGK83, DR06, Dix76, DSS80, Eva74, GM74, GMSV84, IP87, Jac77, MC87, MC90, Pow77a, Pow82, Wat82, WG00]. **Hessian** [Miz99, PT79]. **Hestenes** [Sug14]. **high** [wZyTL⁺23]. **Householder** [PR68b, PR68a, PR69]. **HS** [Qia17]. **Hybrid** [EHL82a, EHL82b, ZCW⁺20, Pow70e]. **Hydro** [EHL82a, EHL82b]. **Hydro-Thermal** [EHL82a, EHL82b]. **hypercube** [CP88].

ICA [CSA16]. **ICIAM** [MT88]. **Identifying** [YZM⁺18]. **Idnani** [Pow85a]. **IFIP** [Mor69, PS00]. **IFIP-TC7** [PS00]. **II** [MC90, Lig92, Pow72b]. **III** [Ric77]. **IIR** [DÖAK12]. **IMA** [Gri87, IP87, MC87]. **IMA/SIAM** [IP87]. **Image** [Qia17, TtJ15, XJY⁺13, ZGGZ09, LZ13, XD04]. **images**

[WA15]. **implementation** [SWL⁺06]. **Implementations** [Buh03]. **improved** [LZ13]. **Incremental** [Yav22, DÖAK12]. **Indian** [LD15]. **Industrial** [MT88]. **infinite** [BP90, Pow91a, Pow92b, Pow92c]. **Information** [Mor69, LZ13, Mor69]. **Institute** [Eva74, Fle69, Pow82]. **Integer** [Aba70]. **Integrated** [EA22]. **integrating** [WA15]. **Interest** [MMR78]. **Interior** [Pow92b]. **International** [CSW83, CO80, GL79, LLC92, MC90, MT88, Mor69, Pré79, BGK83, DSS80]. **interpolate** [IP81]. **Interpolation** [DS08, GP76, GMSV84, Pow67c, Pow97b, BP92a, BP92b, BP94, BGP96, BP90, FP99, FP00, FGP05, HP84, Pow69b, Pow87c, Pow91b, Pow94a, Pow94b, Pow94c, Pow96a, Pow97a, Pow01, Pow04a]. **Interview** [Sun06, Vic03, Dav05]. **Introduction** [Pow74b]. **Inverse** [Pow69g, Sug14]. **invert** [Pow69c]. **ISBN** [Gri87]. **Iserles** [Gri87, PN08]. **Italy** [DR06, DSS80]. **iterations** [Pow93a]. **Iterative** [Pow62, BP94, FP99, Pow97a].

J [BI97, BFIT18, Chu82, Dav05, Gri87, Pow77a, Sun06, Vic03]. **Jacobi** [BP75]. **January** [CSW83, Dix76, GM74]. **JAYA** [Yav22, ZCW⁺20]. **John** [Pow69a]. **Joint** [IP87]. **July** [BI97, BFIT18, DR06, DSS80, Lig92, MMR78, MC87, MC90, Pow82, PS00, RSS96, Wat78, WG00, Pow77a]. **June** [BBS85, DR06, GW92, LLC92, Wat78, Wat82, WG00].

Kalman [SRK12]. **Karmarkar** [Pow90a, Pow91a, Pow92a, Pow93a]. **Keele** [Fle69]. **kinematics** [Sug14]. **Kingdom** [GMSV84]. **konvergenzordnung** [Bur73]. **Krylov** [FP00, FGP05].

Laboratory [GM74]. **Lagrange** [BP94, Pow80a, Pow01, Pow14]. **Lagrangian** [Pow78a, Pow79a]. **Lancaster** [Lig92]. **Large** [DR06, BS76, DR06]. **Large-scale** [DR06]. **Lattice** [EM06]. **Laurent** [Pow93b]. **Learning** [AMF06, TS99, Yav22, LSLM15, Miz99]. **Least** [DP91a, DP97, Pow67c, PR68b, PR68a, PR69, Pow69d, Pow04a, CP88, Miz99]. **least-squares** [CP88, Miz99]. **Lightning** [YZM⁺18]. **line** [Pow76c]. **Linear** [HS87, MCPS86, Pow65, PR68b, PR68a, PR69, BP92a, CP88, Fle87, HP77, Pow64b, Pow67b, Pow68a, Pow75b, PR80, Pow90b, Pow92a, Pow93a, Pow94a, Pow95a, Pow95b, Pow98b, Pow15]. **linearly** [Pow89a, Pow89b]. **Load** [Sas69]. **Local** [Pow69d]. **Localization** [SRK12]. **Log** [Pow92c, Pow95b]. **London** [Pow77a]. **Lorenz** [ZCW⁺20]. **Loughborough** [Eva74, Pow73b]. **Ltd** [Pow69a].

M [Chu82, Gri87]. **M.** [BI97, Vic03]. **Madison** [MMR78, Ric77, RMR70]. **manifolds** [DS08]. **many** [FGP05]. **mapping** [Pow96b]. **March** [Ric77]. **Mathematical** [BGK83, MMR78, Pow82, Pré79, Pow73b, Ric77]. **Mathematicians** [CO80]. **Mathematics** [BI97, Eva74, Fle69, MT88, Ric77, RSS96, RMR70]. **Matrices** [PT79, Rei87, GP83, MPJ81, Pow81c, PT81, Pow90c, Pow98d]. **Matrix** [Pow69g, Pow87b, Pow69c, Pow81d, Pow89a]. **Matthews** [Pow87b]. **maximizing** [Pow88a]. **Maximum** [Pow67c]. **May** [RMR70]. **McCormick** [Pow69a]. **Medical** [TtJ15, XJY⁺13, LZ13, XD04]. **Method** [CSA16, EHL82a, EHL82b, EA22, FP63, Pow62, Pow64a, Pow65, PR68b, SRK12, THB18, YZM⁺18, Yav22, ZGGZ09, BP94, KLL12, LCL⁺10, LZ13, Pow64b, Pow67b, Pow69e, Pow70e, Pow76b, Pow77e, Pow81d, Pow84a, Pow91a, Pow94a, Pow95b, Pow96b, Pow14, SWL⁺06, Sug14, TS99, WA15, WZL⁺23, XD04, ZTBL11]. **Methods** [BP75, GM74, GL79, Pow70i, Pow81a,

Pow86b, Pow86c, Pow87a, Pow97b, PS00, Sas69, FP00, Pow69b, Pow69f, Pow70h, Pow77c, Pow78b, Pow79c, Pow80b, Pow83b, Pow92b, Pow92c, Pow03, Pow10b, Pow15, SDV08, Chu82]. **Metodi** [Pau02]. **metric** [GP83, Pow71a, Pow72c, Pow76c, Pow77d, Pow78b, Pow79c, Pow80b, Pow83b, Pow84c]. **Metropolitan** [AOF21]. **Michael** [Sun06, BFIT18, Dav05]. **Microstrip** [LD15]. **Middlesex** [GM74]. **Mike** [CGTxY15]. **Military** [MC87, MC90]. **Minimax** [CP66a, CP66b, HP77, Pow75b]. **minimising** [Pow64b]. **Minimization** [FP63, Pow69a, Pow75c, Pow67b, Pow69e, Pow70c, Pow70d, Pow72a, Pow72b, Pow73c, Pow74d, Pow74e, Pow75a, Pow76c, Pow84b, Pow84a, Pow03, Pow04b, Pow08, Pow12, Pow13]. **Minimizing** [CSA16, Pow65]. **Minimum** [Pow64a, DP91b]. **modeling** [YGL10]. **Modelling** [PS00]. **models** [Pow94a, Pow01, Pow04a, Pow04b, Pow13, Pow15]. **modification** [DMP94, FP74]. **Modifications** [Pow69g]. **modified** [LZ13, LSLM15, Pow95b, WZL⁺23]. **monotonicity** [DP91a]. **Monte** [PS66]. **moving** [Pow99a]. **Much** [Kah87]. **Multi** [THB18, XJY⁺13, KYO05]. **Multi-Objective** [THB18]. **Multi-Resolution** [XJY⁺13]. **Multi-Tasking** [THB18]. **multi-way** [KYO05]. **Multigrid** [SDV08, BGP96]. **Multilayer** [AMF06, AF03, KLL12, LCL⁺10]. **multiplier** [Sug14]. **multipliers** [Pow80a]. **multiprocessor** [CP88]. **multiquadric** [BP92a, BP92b, FGP05, Pow90b, Pow91b]. **Multivariable** [Pow97b, Pow87c]. **mutual** [LZ13].

National [GM74]. **NATO** [Pow82, Pow82]. **Necessary** [CP66a]. **Network** [AOF21]. **neural** [Miz99]. **Neuro** [AOF21]. **Neuro-algorithm** [AOF21]. **Newton** [DMP94, EHL82a, EHL82b, Miz99, Pow81c].

NEWUOA [Pow06, Pow08]. **Non** [Pow65, Pow64b, Pow67b, Pow68a]. **Non-Linear** [Pow65, Pow64b, Pow67b, Pow68a]. **Nonconvex** [Pow84a]. **Nonlinear** [Aba70, MMR78, Pow82, Pow86a, RMR70, Sas69, DR06, Miz99, Pow69e, Pow70b, Pow70e, Pow78a, Pow79a, Pow80a, Pow83a, PY84, Pow86c, Pow87a, Pow88c, Pow90a, Pow10a, TZP17, DSS80, Pow69a]. **nonlinearly** [Pow78b, Pow78c]. **norm** [Pow04a]. **note** [Pow81c]. **Notes** [Mor82]. **Nothing** [Kah87]. **Notice** [LD15]. **number** [Pow93a]. **Numerical** [BBS85, BI97, BC10, DW97, Eva74, GM74, Gri87, GW92, Hay70, HS87, IP87, Jac77, Pow70i, Pow77c, Pow79b, Wat76, WG00, Lig92, Pow77a, RSS96, ZTBL11, BBS85, GW90, Wat78, Wat82, WG00].

Obituary [CGTxY15]. **Object** [SRK12]. **Objective** [Pow86b, THB18, Pow70c, Pow70d, Pow94a]. **occasion** [PN08]. **Occlusion** [SRK12]. **One** [Pow69g, Pow69f, Pow70h]. **only** [Pow00]. **onto** [Pow99a]. **Operation** [EHL82a, EHL82b]. **optical** [KLL12, LCL⁺10]. **Optimal** [GP76, Sas69, Pow99a]. **optimisation** [DSS80]. **Optimization** [BI97, Dix76, EA22, GM74, LD15, Pow70i, Pow82, Pow86a, Pow98a, PS00, THB18, YZM⁺18, ZGGZ09, BS76, BBS85, CPLP82, DR06, GP83, KLL12, KYO05, MCPS86, Mor82, Pow69f, Pow70f, Pow70g, Pow70h, Pow71b, Pow74b, Pow76d, Pow78b, Pow78c, Pow79c, Pow80b, Pow83b, Pow84c, Pow85b, Pow86c, Pow87a, Pow88c, Pow89a, Pow89b, PY91, Pow90c, Pow94a, Pow00, Pow02, Pow06, Pow07, Pow10b, Pow10a, SWL⁺06, TZP17, WZL⁺23, ZTBL11, Fle69, LLC92]. **optimized** [wZyTL⁺23]. **optimizer** [LSLM15]. **Optimum** [EHL82a, EHL82b]. **order** [Bur73]. **organized** [Mor69].

Orthogonal [Pow68c, And69].
overdetermined [HP77, PY84]. **Oxford** [Gri87].

P [Pow69a]. **pages** [Pow69a]. **panel** [Pow82]. **Parallel** [KYO05, SWL+06].
Parameter [ZCW+20]. **Parameters** [YZM+18]. **Paris** [MT88]. **Park** [RSS96].
Particle [YZM+18, ZGGZ09]. **path** [Pow98b]. **penalty** [PY86]. **Perceptron** [AMF06, AF03]. **performance** [Pow85b].
Photovoltaics [EA22]. **Physical** [GM74].
Piecewise [Pow74c, PS77, DP91a, Pow95a, Pow98b].
plate [BP94, BGP96, FP99, Pow92d, Pow93b, Pow94b, Pow94c, Pow96a, Pow96b, Pow97a].
Plotting [MP73, Pow74c]. **plus** [BP92a].
point [Pow81b, Pow92b]. **Points** [Pow97b, Pow99a]. **polyharmonic** [BPT07].
Polynomial [Pow67c, BP92a]. **polynomials** [Pow88b, Pow90b]. **Polytechnic** [DSS80].
Population [Yav22]. **positive** [MPJ81].
positive-semidefinite [MPJ81]. **Powell** [BFIT18, Bur73, Chu82, Gri87, AF03, AMF06, AOF21, BS76, BI97, Bur73, CGTxY15, CSA16, DMP94, Dav05, DS08, DÖAK12, EHL82a, EHL82b, EA22, EM06, GSY18, KLL12, KYO05, LD15, LCL+10, LZ13, LSLM15, MCPS86, Miz99, Qia17, RSR22, SRK12, Sas69, SWL+06, SDV08, Sug14, Sun06, TS99, TZP17, TtJ15, THB18, VWBD02, Vic03, WA15, WZL+23, XJY+13, XD04, YGL10, YZM+18, Yav22, ZGGZ09, wZyTL+23, ZTBL11, ZCW+20].
Powell-based [GSYP18]. **Powell-BP** [YGL10]. **Powell/Beale** [AOF21]. **Power** [EHL82a, EHL82b, BS76, KYO05]. **Press** [Gri87]. **prioritized** [Sug14]. **problem** [PR80]. **Problems** [PR68b, PR68a, PR69, Wil87, CP88, Pow67b, Pow69e, Pow85b, Pow89a]. **Proc.** [Wat76]. **procedure** [AF03, PT81].
procedures [Pow77e]. **Proceedings**

[CSW83, Eva74, GMSV84, GW92, IP87, Jac77, Pow77a, Ric77, RMR70, Wat78, Wat82, BGK83, BBS85, Dix76, DSS80, GM74, GW90, MC87, MC90, MT88, Mor69, Pow82, Pré79, CO80, GL79, Lig92, MMR78].
processing [KYO05, Mor69]. **Professor** [Sun06]. **programme** [Pow82].
Programming [Aba70, BGK83, MMR78, Pow69a, Pow82, RMR70, Sas69, Fle87, Pow80a, Pow81d, Pow85a, PY86, Pow90a, Pow91a, Pow92a, Pow92b, Pow92c, Pow93a, Pow95b, Pré79].
projected [DS08]. **Proof** [FP99]. **Proofs** [Pow72b]. **Properties** [Pow86a, Pow72a, Pow72b, Pow72c, Pow75a, Pow76b, Pow76c, Pow77d, Pow95b]. **PSO** [wZyTL+23].

QPSO [TtJ15]. **Quadratic** [Pow72a, Pow72b, PS77, Pow77d, Pow86b, Fle87, Pow74c, Pow81d, Pow85a, PY86, Pow01, Pow02, Pow04a, Pow04b, Pow13, Pow15].
quasi [BP92b, Miz99, Pow81c].
quasi-interpolation [BP92b].
quasi-Newton [Miz99, Pow81c].

Radial [BP90, Buh03, Pow87c, Pow88b, FP00, Pow92e, Pow99b]. **random** [wZyTL+23]. **range** [Pow10b]. **Rank** [Pow69f, Pow69g, Pow70h, Pow69c].
Raphson [EHL82a, EHL82b]. **Rapidly** [FP63]. **rate** [Pow84c]. **rational** [BPR72, CP87, HP84, IP81, PBR71, GMSV84]. **Real** [SRK12]. **Real-Time** [SRK12].
Reconstruction [EM06]. **rectangular** [Pow69c]. **recursive** [PY86]. **reducing** [PS66]. **Reflectarray** [LD15]. **region** [Miz99, Pow84b, PY91, Pow98c, Pow98d, Pow03, Pow10b, Pow12, Pow15].
Registration [TtJ15, XJY+13, ZGGZ09, LZ13, WA15, XD04]. **regular** [BP92a, BP90]. **Remote** [ZGGZ09].
Removal [LD15]. **repeated** [DSS80].
reproduction [Pow90b]. **Require** [Pow75c].

requiring [Pow70c, Pow70d]. **Research** [Pow82, Ric77, RMR70, TtJ15, wZyTL⁺23, Pow99b]. **Resolution** [XJY⁺13]. **Restart** [Pow77e]. **Restarts** [AOF21]. **restrictions** [DP97]. **results** [Pow72a, Pow91b]. **Review** [Chu82, Gri87, Pow69a, Pow73a, Pow74a, Pow76a, Pow97b, Pow87c, Pow88c, Pow96a]. **revisited** [Pow98c]. **Riemannian** [CSA16]. **Robust** [Sug14]. **Royal** [MC87, MC90]. **rules** [TS99].

Sabin [DS08, SDV08, VWBD02]. **sampling** [PS66]. **SAO** [Pow14]. **satisfy** [Pow04a]. **scale** [DR06]. **Scattered** [Pow97b, BP92b, DS08]. **Scheduling** [RSR22]. **Scheme** [Pow61]. **School** [Lig92, DSS80]. **Science** [MC87, MC90, Pow82]. **Sciences** [GL79]. **Scotland** [Wat82]. **Search** [GSYP18, Pow98a, THB18, LSLM15, Pow73c, Pow94a]. **searches** [Pow76c]. **Second** [MC90, DP97, Pow81c, Pow98d]. **semi** [Pow91a, Pow92b, Pow92c]. **semi-infinite** [Pow91a, Pow92b, Pow92c]. **semidefinite** [MPJ81]. **Seminar** [RSS96]. **Senior** [Yav22]. **Sensing** [ZGGZ09]. **sensor** [YGL10]. **September** [DSS80]. **sequence** [Pow99a]. **Sequential** [Pow69a]. **Series** [Gri87]. **Set** [SRK12, ZGGZ09, XD04]. **Several** [Pow62, Pow64a]. **Shanno** [PT81]. **shaping** [MCPS86]. **Shrivenham** [MC87, MC90]. **SIAM** [BBS85, IP87, RSS96]. **Sign** [Kah87]. **signs** [DP97]. **simple** [Pow88a]. **Simulative** [AOF21]. **since** [Pow10a]. **Singapore** [LLC92]. **sixtieth** [PN08]. **smoothing** [CP82, DP91a]. **smooths** [Pow95a]. **Society** [Pow82]. **Soft** [YGL10]. **Software** [Eva74, Pow73b, Mor82, Pow06, Ric77]. **solution** [HP77, Pow75b, Sug14]. **solutions** [PY84, TZP17]. **Solving** [THB18, Pow68a, Pow70b]. **Some** [Pow72c, Pow76b, Pow76c, Pow94b, Pow95b, Pow85b, Pow91b]. **Sons** [Pow69a]. **Sparse** [PT79, Rei87, Pow81c, PT81]. **Special**

[MMR78, Pow82]. **speed** [HP77]. **Spline** [EM06, MP73, BP94, BGP96, FP99, Pow68b, Pow69b, Pow94b, Pow94c, Pow96a, Pow96b, Pow97a]. **Splines** [Pow69d, Pow70a, BPT07, DS08, Pow67a, Pow92d, Pow93b, SDV08, VWBD02]. **sponsored** [Pow82]. **Squares** [Pow65, Pow67c, PR68b, PR68a, PR69, Pow69d, CP88, DP91a, DP91b, DP97, Miz99, Pow64b]. **State** [BGK83, DW97, Gri87, IP87, Jac77]. **Statement** [Pow72a]. **States** [GMSV84]. **Station** [CSW83]. **Stationary** [Pow62]. **Statistical** [HS87]. **steps** [Miz99]. **straightening** [Pow98b]. **straightens** [Pow95a]. **strain** [ZTBL11]. **Strategy** [Yav22]. **string** [Pow98b]. **Study** [RSR22]. **subdivision** [VWBD02]. **subject** [DP97, Pow75b, Pow88a]. **Subroutine** [MP73, Pow68a, Pow69c, Pow70b, Pow70c, Pow70d]. **subroutines** [Pow85b]. **subspace** [FP00, FGP05]. **suitable** [Pow91a]. **Sum** [Pow65, DP91b, Pow64b]. **Summer** [Lig92, RSS96, DSS80]. **superlinear** [PY84]. **surface** [Pow74c]. **Survey** [Pow70i, Pr679]. **Swarm** [YZM⁺18, ZGGZ09]. **symmetric** [PT81, Pow13]. **Symposium** [CSW83, Fle69, GL79, MMR78, Pr679, RMR70, BGK83, GM74, Pow77a, Ric77]. **System** [PS00, ZCW⁺20, BS76]. **Systems** [EHL82a, EHL82b, Pow68a, Pow70b, Pow82]. **Tabulation** [Pow92d]. **Tampa** [GMSV84]. **Tasking** [THB18]. **taut** [Pow98b]. **TC7** [PS00]. **technique** [CPLP82, FP99, HP77, PS66]. **Techniques** [LLC92, BGP96, Pow69a]. **Technology** [Eva74]. **Teddington** [GM74]. **Teoriya** [Pau02]. **termination** [Pow72a, Pow72b, Pow77d]. **test** [Pow85b]. **Texas** [CSW83]. **Theorem** [Pow69g, PR80]. **theorems** [Pow72b]. **Theory** [BI97, Buh03, Chu82, Pow81a, PS00, CSW83, DSS80, Pow92e]. **there** [Pow00]. **Thermal**

[EHL82a, EHL82b]. **thin** [BP94, BGP96, FP99, KLL12, LCL⁺10, Pow92d, Pow93b, Pow94b, Pow94c, Pow96a, Pow96b, Pow97a]. **thin-film** [KLL12, LCL⁺10]. **Third** [GL79]. **three** [BPT07]. **Time** [SRK12]. **Toint** [PT81]. **tolerant** [Pow89b]. **Tracking** [SRK12]. **training** [AF03]. **Transformations** [PR68a, PR69]. **Triangles** [PS77]. **triangular** [Pow81d]. **tributes** [BI97]. **Truncated** [Pow93b]. **Trust** [Pow98c, Miz99, Pow84b, PY91, Pow98d, Pow03, Pow10b, Pow12, Pow15]. **trust-region** [Miz99]. **two** [BGP96, FP99, Pow77c, Pow85b, Pow92d, Pow94b, Pow94c, Pow95a, Pow96a, Pow96b, Pow97a, Pow98b, Pow99a, Pow00]. **two-dimensional** [Pow92d].

UK [PS00]. **ultrasound** [ZTBL11].

Unconstrained

[Pow69a, Pow70i, Pow74d, Pow74e, Pow75c, GP83, Pow69f, Pow70c, Pow70d, Pow70f, Pow70g, Pow70h, Pow71b, Pow76d, Pow84b, Pow84c, Pow88c, Pow00, Pow02, Pow03, Pow04b, Pow06, Pow10b, Pow12]. **uniform** [PS66, Pow94c, SWL⁺06, VWBD02]. **United** [GMSV84]. **Univ** [Wat76]. **Univariate** [BP92a, BP92b, Pow90b, Pow91b, DP91a, DP91b, DP97]. **University** [BGK83, CSW83, Dix76, DSS80, Eva74, IP87, Jac77, Lig92, MMR78, Ric77, RMR70, WG00]. **unknown** [Pow79d]. **UOBYQA** [Pow02]. **Updating** [Pow87b, Pow87d, PT81, Pow90c, Pow04a, Pow13]. **upper** [Pow81d]. **Use** [Sas69, Pow78a, Pow79a, Pow98d, Pow04b]. **uses** [PY86]. **Using** [EA22, SRK12, AOF21, DS08, DÖAK12, LD15, MCPS86, RSR22, WZL⁺23]. **Utah** [RSS96].

V [Pow69a]. **Values** [Pow62]. **Variable** [Pow79c, Pow80b, Pow83b, GP83, Pow71a, Pow72c, Pow76c, Pow77d, Pow78b, Pow84c].

Variables [Pow62, Pow64a, Pow75b, Pow77c, Pow94b, Pow00, Pow14]. **variance** [PS66]. **Vectors** [Pow68c, And69]. **Versailles** [GL79]. **Versus** [EHL82a, EHL82b]. **very** [Pow92d]. **View** [Pow75c, Pow76d, Pow90a, Pow07]. **Vol.** [Lig92]. **voltage** [wZyTL⁺23]. **Volumes** [LLC92]. **Volumetric** [EM06].

was [Pow82, WG00]. **watchdog** [CPLP82]. **wavelet** [WA15, ZTBL11]. **way** [KYO05, Pow99a]. **Weighted** [PS66]. **Welch** [RSR22]. **which** [Pow82]. **wide** [Pow10b]. **Wiley** [Pow69a]. **Wilkinson** [Pow77a]. **Wisconsin** [MMR78, Ric77, RMR70]. **Without** [Pow65, Pow64a, Pow64b, Pow74d, Pow76c, Pow03, Pow04b, Pow06, Pow07, Pow08, Pow12, Pow13]. **Workshop** [DR06].

XI [BGK83].

York [Jac77].

za [Pau02]. **Zwart** [EM06].

References

Abadie:1970:INP

[Aba70] J. Abadie, editor. *Integer and Nonlinear Programming*. North-Holland Publishing Co., Amsterdam, The Netherlands, 1970. ISBN 0-444-10000-8. LCCN T57.7 .I57. A NATO Summer School held in Bandol, France.

Abid:2003:NFM

[AF03] S. Abid and F. Fnaiech. A new fast multilayer perceptron training procedure based on the Davdon Fletcher Powell algorithm. In Sven Lonçariç, Alessandro

Neri, and Hrvoje Babič, editors, *Proceedings of the 3rd International Symposium on Image and Signal Processing and Analysis, 2003. ISPA 2003*, volume 1, pages 123–127 Vol.1. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2003. ISBN 953-184-061-X (vol. 1), 953-184-062-8 (vol. 2).

Abid:2006:AMP

- [AMF06] S. Abid, A. Mouelhi, and F. Fnaiech. Accelerating the multilayer perceptron learning with the Davidon Fletcher Powell algorithm. In IEEE, editor, *2006 International Joint Conference on Neural Networks, Sheraton Vancouver Wall Centre Hotel, Vancouver, BC, Canada, July 16–21, 2006*, pages 3389–3394. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2006. ISBN 0-7803-9490-9. LCCN QA76.87.

Andrew:1969:CCO

- [And69] A. M. Andrew. Correspondence: The calculation of orthogonal vectors. *The Computer Journal*, 12(4):411, November 1969. CODEN CMPJA6. ISSN 0010-4620 (print), 1460-2067 (electronic). URL <https://academic.oup.com/comjnl/article/12/4/411/358450>. See [Pow68c].

Adedayo:2021:SAM

- [AOF21] Ojo O. Adedayo, M. O. Oni-

bonoje, and T. E. Fabunmi. Simulative analysis of metropolitan electric distribution network using conjugate gradient neuro-algorithm with Powell/Beale restarts. In IEEE, editor, *2021 International Conference on Electrical, Computer and Energy Technologies (ICE-CET)*, pages 1–5. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2021. ISBN 1-66544-231-X, 1-66544-232-8 (printondemand). LCCN ????

Boggs:1985:NOP

- [BBS85] Paul T. Boggs, Richard H. Byrd, and Robert B. Schnabel, editors. *Numerical optimization 1984: proceedings of the SIAM Conference on Numerical Optimization, Boulder, Colorado, June 12–14, 1984*. SIAM Press, Philadelphia, PA, USA, 1985. ISBN 0-89871-054-5. LCCN QA402.5 .S544 1984.

Bultheel:2010:BNA

- [BC10] Adhemar Bultheel and Ronald Cools, editors. *The Birth of Numerical Analysis*. World Scientific Publishing Co., Singapore; Philadelphia, PA, USA; River Edge, NJ, USA, 2010. ISBN 981-283-625-X (hardcover), 981-283-626-8 (e-book). LCCN QA297 .B54 2010. Proceedings of a symposium held at the Department of Computer Science of the K.U. Leuven, October 29–30, 2007.

- [BFIT18] **Buhmann:2018:MJD**
M. D. Buhmann, R. Fletcher FRS, A. Iserles, and P. Toint. Michael J. D. Powell. 29 July 1936–19 April 2015. *Biographical Memoirs of Fellows of the Royal Society*, 64:341–366, June 2018. CODEN BMFRA3. ISSN 0080-4606 (print), 1748-8494 (electronic).
- [BGK83] **Bachem:1983:MPS**
Achim Bachem, Martin Grötschel, and B. Korte, editors. *Mathematical Programming: the State of the Art [proceedings of the XI international symposium on mathematical programming held at the University of Bonn, from August 23 to 27, Bonn 1982]*. Springer-Verlag, Berlin, Germany / Heidelberg, Germany / London, UK / etc., 1983. ISBN 0-387-12082-3 (New York), 3-540-12082-3 (Berlin). LCCN QA402.5 .M3529 1983.
- [BGP96] **Beatson:1996:MTT**
R. K. Beatson, G. Goodsell, and M. J. D. Powell. On multi-grid techniques for thin plate spline interpolation in two dimensions. In Renegar et al. [RSS96], pages 77–97. ISBN 0-8218-0530-4. ISSN 0075-8485. LCCN QA297 .A57 1995.
- [BI97] **Buhmann:1997:ATO**
Martin D. Buhmann and Arie Iserles, editors. *Approximation Theory and Optimization: tributes to M. J. D. Powell [Conference on Numerical Mathematics in Cambridge, on 27–30 July 1996]*. Cambridge University Press, Cambridge, UK, 1997. ISBN 0-521-58190-7 (hardcover). LCCN QA221 .A655 1997.
- [BP75] **Brodlie:1975:CCJ**
K. W. Brodlie and M. J. D. Powell. On the convergence of cyclic Jacobi methods. *Journal of the Institute of Mathematics and its Applications*, 15(3):279–287, June 1975. CODEN JMTAA8. ISSN 0020-2932.
- [BP90] **Buhmann:1990:RBF**
M. D. Buhmann and M. J. D. Powell. Radial basis function interpolation on an infinite regular grid. In Mason and Cox [MC90], pages 146–169. ISBN 0-412-34580-3. LCCN QA221 .J54 1988.
- [BP92a] **Beatson:1992:UIR**
R. K. Beatson and M. J. D. Powell. Univariate interpolation on a regular finite grid by a multi-quadric plus a linear polynomial. *IMA Journal of Numerical Analysis*, 12(1):107–133, 1992. CODEN IJNADH. ISSN 0272-4979 (print), 1464-3642 (electronic).
- [BP92b] **Beatson:1992:UMA**
R. K. Beatson and M. J. D. Powell. Univariate multi-quadric approximation: quasi-interpolation to scattered data. *Constructive Approximation*, 8(3):275–288, 1992. ISSN 0176-4276 (print), 1432-0940 (electronic).

- [BP94] **Beatson:1994:IMT** R. K. Beatson and M. J. D. Powell. An iterative method for thin plate spline interpolation that employs approximations to Lagrange functions. In David Francis Griffiths and George Alistair Watson, editors, *Numerical analysis 1993 (Dundee, 1993)*, volume 303 of *Pitman Res. Notes Math. Ser.*, pages 17–39. Kluwer Academic Publishers Group, Norwell, MA, USA, and Dordrecht, The Netherlands, 1994. ISBN 0-582-22568-X. LCCN QA1 R424 v. 303; QA297 .D85 1993; QA297 .P76.
- [BPR72] **Barrodale:1972:DCA** I. Barrodale, M. J. D. Powell, and F. D. K. Roberts. The differential correction algorithm for rational ℓ_∞ -approximation. *SIAM Journal on Numerical Analysis*, 9(3):493–504, September 1972. CODEN SJNAAM. ISSN 0036-1429 (print), 1095-7170 (electronic).
- [BPT07] **Beatson:2007:FEP** R. K. Beatson, M. J. D. Powell, and A. M. Tan. Fast evaluation of polyharmonic splines in three dimensions. *IMA Journal of Numerical Analysis*, 27(3):427–450, July 2007. CODEN IJNADH. ISSN 0272-4979 (print), 1464-3642 (electronic). URL <http://imajna.oxfordjournals.org/cgi/content/abstract/27/3/427>; <http://imajna.oxfordjournals.org/cgi/reprint/27/3/427>.
- [BS76] **Billinton:1976:FPA** R. Billinton and S. S. Sachdeva. The Fletcher–Powell approach for large power system optimization. *Canadian electrical engineering journal = Revue canadienne de génie électrique*, 1(2):17–23, 1976. CODEN CEEJDY. ISSN 0700-9216.
- [Buh03] **Buhmann:2003:RBF** Martin D. Buhmann. *Radial Basis Functions: Theory and Implementations*, volume 12 of *Cambridge monographs on applied and computational mathematics*. Cambridge University Press, Cambridge, UK, 2003. ISBN 0-521-63338-9 (hardcover), 0-511-54324-7 (e-book). x + 259 pp. LCCN QA223 .B84 2003.
- [Bur73] **Burmeister:1973:KFP** W. Burmeister. Die konvergenzordnung des Fletcher–Powell algorithmus. (German) [The convergence order of the Fletcher–Powell algorithm]. *Zeitschrift für Angewandte Mathematik und Mechanik*, 53(10):693–699, 1973. CODEN ZAMMAX. ISSN 0044-2267 (print), 1521-4001 (electronic). URL <https://onlinelibrary.wiley.com/doi/10.1002/zamm.19730531007>.
- [CGTxY15] **Cartis:2015:OMP** Coralía Cartis, Andreas Griewank, Philippe Toint, and Ya xiang Yuan. Obituary for Mike Powell. *Optima*, 99(??):7–8, December 2015.

- ber 2015. URL <https://www.mathopt.org/Optima-Issues/optima99.pdf>. See [?].
- Chui:1982:BRA**
- [Chu82] Charles K. Chui. Book review: *Approximation Theory and Methods* (M. J. D. Powell). *SIAM Review*, 24(4): 493–494, October 1982. CODEN SIREAD. ISSN 0036-1445 (print), 1095-7200 (electronic). [CP66b]
- Ciesielski:1980:PIC**
- [CO80] Zbigniew Ciesielski and Czesław Olech, editors. *Proceedings of the International Congress of Mathematicians, August 16–24, 1983*. PWN - Polish Scientific Publishers, Warszawa, Poland, 1980. ISBN 0-444-86659-0 (vol. 1), 0-444-86660-4 (vol. 2), 0-444-86661-2, 83-01-05523-5 (Polish Scientific Publishers). LCCN QA37.2; QA1C56 1983.
- Curtis:1966:NCM**
- [CP66a] A. R. Curtis and M. J. D. Powell. Necessary conditions for a minimax approximation. *The Computer Journal*, 8(4):358–361, January 1966. CODEN CMPJA6. ISSN 0010-4620 (print), 1460-2067 (electronic). URL <http://comjnl.oxfordjournals.org/content/8/4/358.full.pdf+html>; http://www3.oup.co.uk/computer_journal/hdb/Volume_08/Issue_04/080358.sgm.abs.html; http://www3.oup.co.uk/computer_journal/hdb/Volume_08/Issue_04/tiff/358.tif; http://www3.oup.co.uk/computer_journal/hdb/Volume_08/Issue_04/tiff/359.tif; http://www3.oup.co.uk/computer_journal/hdb/Volume_08/Issue_04/tiff/360.tif; http://www3.oup.co.uk/computer_journal/hdb/Volume_08/Issue_04/tiff/361.tif.
- Curtis:1966:CEA**
- A. R. Curtis and M. J. D. Powell. On the convergence of exchange algorithms for calculating minimax approximations. *The Computer Journal*, 9(1):78–80, May 1966. CODEN CMPJA6. ISSN 0010-4620 (print), 1460-2067 (electronic). URL <http://comjnl.oxfordjournals.org/content/9/1/78.full.pdf+html>; http://www3.oup.co.uk/computer_journal/hdb/Volume_09/Issue_01/tiff/78.tif; http://www3.oup.co.uk/computer_journal/hdb/Volume_09/Issue_01/tiff/79.tif; http://www3.oup.co.uk/computer_journal/hdb/Volume_09/Issue_01/tiff/80.tif.
- Cullinan:1982:DSD**
- [CP82] M. P. Cullinan and M. J. D. Powell. Data smoothing by divided differences. In Watson [Wat82], pages 26–37. 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/BFb0093146/.

Cheney:1987:DCA

- [CP87] E. W. Cheney and M. J. D. Powell. The differential correction algorithm for generalized rational functions. *Constructive Approximation*, 3(3): 249–256, 1987. ISSN 0176-4276 (print), 1432-0940 (electronic).

Chamberlain:1988:FLL

- [CP88] R. M. Chamberlain and M. J. D. Powell. *QR* factorization for linear least-squares problems on a hypercube multiprocessor. *IMA Journal of Numerical Analysis*, 8(4):401–413, October 1988. CODEN IJNADH. ISSN 0272-4979 (print), 1464-3642 (electronic).

Chamberlain:1982:WTF

- [CPLP82] R. M. Chamberlain, M. J. D. Powell, C. Lemarechal, and H. C. Pedersen. The watchdog technique for forcing convergence in algorithms for constrained optimization. *Mathematical Programming Study*, (16):1–17, 1982. CODEN MPSTDF. ISSN 0303-3929.

Chattopadhyay:2016:DFR

- [CSA16] Amit Chattopadhyay, Suvishamuthu Easter Selvan, and Umberto Amato. A derivative-free Riemannian Powell’s method, minimizing Hartley-entropy-based ICA contrast. *IEEE Transactions on Neural Networks and Learning Systems*, 27(9):1983–1990, 2016. CO-

DEN ITNNEP. ISSN 2162-237X (print), 2162-2388 (electronic).

Chui:1983:ATP

Charles K. Chui, Larry L. Schumaker, and J. D. Ward, editors. *Approximation theory: Proceedings of the International Symposium, Texas A&M University, College Station, Texas, January 10–14, 1983*, volume 4. Academic Press, New York, USA, 1983. ISBN 0-12-174580-5. LCCN QA297.5 .I54 1983.

Davis:2005:MJD

Philip Davis. An interview with Michael J. D. Powell. SIAM Oral History interview., April 6, 2005. URL <https://history.siam.org/oralhistories/powell.htm>.

Dixon:1976:OAP

L. C. W. (Laurence Charles Ward) Dixon, editor. *Optimization in Action: proceedings of the Conference on Optimization in Action held at the University of Bristol in January 1975*. Academic Press, New York, USA, 1976. ISBN 0-12-218550-1. LCCN QA402.5 .C62 1975.

D’Amore:1994:NPM

D. D’Amore, P. Maffezzoni, and M. Pillan. A Newton–Powell modification algorithm for harmonic balance-based circuit analysis. *IEEE Transactions on Circuits and Systems I: Fundamental Theory and Applications*, 41(2):177–180, 1994.

CODEN ITCAEX. ISSN 1057-7122 (print), 1558-1268 (electronic).

[DP97]

Durmus:2012:IFD

- [DÖAK12] Burhanettin Durmuş, Serdar Özyön, Doğın Aydın, and Gültekin Kuvat. IIR filter design using incremental artificial bee colony with Powell's CDS. In IEEE, editor, *2012 International Symposium on Innovations in Intelligent Systems and Applications*, pages 1–5. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2012. ISBN 1-4673-1446-3 (print), 1-4673-1448-X (online). LCCN QA76.76, TJ217.5.

Demetriou:1991:LSS

- [DP91a] I. C. Demetriou and M. J. D. Powell. Least squares smoothing of univariate data to achieve piecewise monotonicity. *IMA Journal of Numerical Analysis*, 11(3):411–432, July 1991. CODEN IJNADH. ISSN 0272-4979 (print), 1464-3642 (electronic).

Demetriou:1991:MSS

- [DP91b] I. C. Demetriou and M. J. D. Powell. The minimum sum of squares change to univariate data that gives convexity. *IMA Journal of Numerical Analysis*, 11(3):433–448, July 1991. CODEN IJNADH. ISSN 0272-4979 (print), 1464-3642 (electronic).

[DR06]

Demetriou:1997:LSF

I. C. Demetriou and M. J. D. Powell. Least squares fitting to univariate data subject to restrictions on the signs of the second differences. In Buhmann and Iserles [BI97], pages 109–132. ISBN 0-521-58190-7 (hardcover). LCCN QA221 .A655 1997.

DiPillo:2006:NSU

Gianni Di Pillo and Massimo Roma, editors. *Large-scale nonlinear optimization: [Workshop on Large Scale Nonlinear Optimization held in Erice, Italy, June 22–July 1, 2004]*, volume 83 of *Nonconvex Optimization and Its Applications*. Springer-Verlag, Berlin, Germany / Heidelberg, Germany / London, UK / etc., 2006. ISBN 0-387-30063-5, 0-387-30065-1 (e-book). LCCN QA402.5 .W665 2004.

Davydov:2008:ISD

[DS08]

Oleg Davydov and Larry L. Schumaker. Interpolation and scattered data fitting on manifolds using projected Powell Sabin splines. *IMA Journal of Numerical Analysis*, 28(4):785–805, 2008. CODEN IJNADH. ISSN 0272-4979 (print), 1464-3642 (electronic).

Dixon:1980:NOT

[DSS80]

L. C. W. (Laurence Charles Ward) Dixon, E. Spedicato, and G. P. Szegö, editors. *Nonlinear optimisation, theory and algorithms:*

(the proceedings of an international summer school held at University of Bergamo, Italy, in September 1979 and repeated at the Hatfield Polytechnic, England, in July 1980). Birkhäuser Boston Inc., Cambridge, MA, USA, 1980. ISBN 3-7643-3020-1. LCCN QA402.5 .N65.

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.

Elmalky:2022:OCB

[EA22]

Adham M. Elmalky and Mohammad T. Araji. Optimization of cooled building-integrated photovoltaics using Powell's conjugate direction method in Canada. In IEEE, editor, *2022 International Conference on Electrical, Computer and Energy Technologies (ICECET)*:

[EHL82a]

20–22 July 2022, Prague, Czech Republic, pages 1–6. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2022. ISBN 1-66547-087-9, 1-66547-088-7 (printondemand). LCCN TK146 .I578 2022.

El-Hawary:1982:OOFa

M. E. El-Hawary and J. K. Landrigan. Optimum operation of fixed-head hydro-thermal electric power systems: Powell's hybrid method versus Newton–Raphson method. *IEEE Power Engineering Review*, PER-2(3): 17–18, 1982. CODEN IPERDV. ISSN 0272-1724 (print), 1558-1705 (electronic).

El-Hawary:1982:OOFb

[EHL82b]

M. E. El-Hawary and J. K. Landrigan. Optimum operation of fixed-head hydro-thermal electric power systems: Powell's hybrid method versus Newton–Raphson method. *IEEE Transactions on Power Apparatus and Systems*, PAS-101(3):547–554, 1982. CODEN IEPSA9. ISSN 0018-9510.

Entezari:2006:EZP

[EM06]

Alireza Entezari and Torsten Möller. Extensions of the Zwart–Powell box spline for volumetric data reconstruction on the cartesian lattice. *IEEE Transactions on Visualization and Computer Graphics*, 12(5):1337–1344, 2006. CODEN ITVGEA. ISSN 1077-2626.

Evans:1974:SNM

- [Eva74] D. J. Evans, editor. *Software for Numerical Mathematics: Proceedings of the Loughborough University of Technology Conference of the Institute of Mathematics and Its Applications held in April 1973*. Academic Press, New York, USA, 1974. ISBN 0-12-243750-0. LCCN QA297 .S591.

Faul:2005:KSA

- [FGP05] A. C. Faul, G. Goodsell, and M. J. D. Powell. A Krylov subspace algorithm for multiquadric interpolation in many dimensions. *IMA Journal of Numerical Analysis*, 25(1):1–24, January 2005. CODEN IJNADH. ISSN 0272-4979 (print), 1464-3642 (electronic). URL <http://imanum.oupjournals.org/cgi/content/abstract/25/1/1>; <http://imanum.oupjournals.org/cgi/reprint/25/1/1>.

Fletcher:1969:OSI

- [Fle69] Roger Fletcher, editor. *Optimization Symposium of the Institute of Mathematics and its applications: 1968. Keele, England*. Academic Press, New York, USA, 1969. ISBN 0-12-260650-7. LCCN QA402.5 .K4 1968.

Fletcher:1987:RDL

- [Fle87] R. Fletcher. Recent developments in linear and quadratic programming. In Iserles and Powell [IP87], pages 213–243

(especially 219–224). ISBN 0-19-853614-3. LCCN QA297 .J65 1986; QA297 .S781 1987. UK£55.00, US\$77.50. URL <http://www.gbv.de/dms/hbz/toc/ht002967923.pdf>; <http://zbmath.org/?q=an:0611.00024>.

Fletcher:1963:RCD

- [FP63] R. Fletcher and M. J. D. Powell. A rapidly convergent descent method for minimization. *The Computer Journal*, 6(2):163–168, August 1963. CODEN CMPJA6. ISSN 0010-4620 (print), 1460-2067 (electronic). URL <http://comjnl.oxfordjournals.org/content/6/2/163.full.pdf+html>; http://www3.oup.co.uk/computer_journal/hdb/Volume_06/Issue_02/060163.sgm.abs.html; http://www3.oup.co.uk/computer_journal/hdb/Volume_06/Issue_02/tiff/163.tif; http://www3.oup.co.uk/computer_journal/hdb/Volume_06/Issue_02/tiff/164.tif; http://www3.oup.co.uk/computer_journal/hdb/Volume_06/Issue_02/tiff/165.tif; http://www3.oup.co.uk/computer_journal/hdb/Volume_06/Issue_02/tiff/166.tif; http://www3.oup.co.uk/computer_journal/hdb/Volume_06/Issue_02/tiff/167.tif; http://www3.oup.co.uk/computer_journal/hdb/Volume_06/Issue_02/tiff/168.tif.

Fletcher:1974:MF

- [FP74] R. Fletcher and M. J. D. Powell. On the modification of

LDL^T factorizations. *Mathematics of Computation*, 28(128): 1067–1087, October 1974. CODEN MCMPAF. ISSN 0025-5718 (print), 1088-6842 (electronic).

Faul:1999:PCI

[FP99]

A. C. Faul and M. J. D. Powell. Proof of convergence of an iterative technique for thin plate spline interpolation in two dimensions. *Advances in Computational Mathematics*, 11(2–3):183–192, November 1999. CODEN ACMHEX. ISSN 1019-7168 (print), 1572-9044 (electronic). URL <http://link.springer.com/article/10.1023/A:1018923925800>. Radial basis functions and their applications.

Faul:2000:KSM

[FP00]

A. C. Faul and M. J. D. Powell. Krylov subspace methods for radial basis function interpolation. In Watson and Griffiths [WG00], pages 115–141. ISBN 1-58488-020-1 (paperback). LCCN QA297 .D85 1999; QA297 .N825 2000; QA297 .N853 1999.

Glowinski:1979:CMA

[GL79]

R. Glowinski and J.-L. (Jacques-Louis) Lions, editors. *Computing Methods in Applied Sciences and Engineering (Proceedings of the Third International Symposium, Versailles, December 5–9, 1977), I*, volume 1; 704 of *Lecture Notes in Mathematics*. Springer-Verlag, Berlin,

Germany / Heidelberg, Germany / London, UK / etc., 1979. CODEN LNMAA2. ISBN 0-387-09123-8 (New York), 3-540-09123-8 (Berlin, Heidelberg), 3-540-35411-5 (e-book). ISSN 0075-8434 (print), 1617-9692 (electronic). LCCN QA3 .L28 no. 704. URL <http://www.springerlink.com/content/978-3-540-35411-6>.

Gill:1974:NMC

[GM74]

Philip E. Gill and Walter Murray, editors. *Numerical Methods for Constrained Optimization — proceedings of a symposium held at the National Physical Laboratory, Teddington, Middlesex, January 10–11, 1974*. Academic Press, New York, USA, 1974. ISBN 0-12-283550-6. LCCN QA402.5.

Graves-Morris:1984:RAI

[GMSV84]

Peter Russell Graves-Morris, Edward B. Saff, and Richard S. Varga, editors. *Rational Approximation and Interpolation: Proceedings of the United Kingdom–United States Conference held at Tampa, Florida, December 12–16, 1983*, volume 1105 of *Lecture Notes in Mathematics*. Springer-Verlag, Berlin, Germany / Heidelberg, Germany / London, UK / etc., 1984. CODEN LNMAA2. ISBN 3-540-13899-4 (print), 3-540-39113-4 (e-book). ISSN 0075-8434 (print), 1617-9692 (electronic). LCCN QA3 .L28 no. 1105; QA3 .L471 no.1105; QA3.L471. DM72.00. URL <http://link>.

- springer.com/book/10.1007/BFb0072395; <http://www.springerlink.com/content/978-3-540-39113-5>. [GSYP18]
- Gaffney:1976:OI**
- [GP76] P. W. Gaffney and M. J. D. Powell. Optimal interpolation. In Watson [Wat76], pages 90–99. CODEN LN-MAA2. ISBN 3-540-07610-7 (print), 3-540-38129-5 (e-book). ISSN 0075-8434 (print), 1617-9692 (electronic). LCCN QA3.L28 no. 506. URL <http://link.springer.com/chapter/10.1007/BFb0080117/>.
- Ge:1983:CVM**
- [GP83] Ren Pu Ge and M. J. D. Powell. The convergence of variable metric matrices in unconstrained optimization. *Mathematical Programming*, 27(2):123–143, 1983. CODEN MHPGA4. ISSN 0025-5610 (print), 1436-4646 (electronic).
- Griffiths:1987:BRB**
- [Gri87] David F. Griffiths. Book review: *The State of the Art in Numerical Analysis, 1986*: A. Iserles and M. J. D. Powell, eds., IMA Conference Series (New Series), Clarendon Press, Oxford, 1987. ISBN 0-19-853614-3. £55 (hard cover). *Computer Physics Communications*, 47(2–3):365–366, November/December 1987. CODEN CPHCBZ. ISSN 0010-4655 (print), 1879-2944 (electronic). URL <http://www.sciencedirect.com/science/article/pii/0010465587901226>. [GW92]
- Ge:2018:PBC**
- Gengyu Ge, Kun Shen, Maoqiang Yang, and Xuyu Peng. Powell-based cuckoo search algorithm. In IEEE, editor, *2018 14th International Conference on Natural Computation, Fuzzy Systems and Knowledge Discovery (ICNC-FSKD): Huangshan, China, 28–30 July 2018*, pages 489–493. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2018. ISBN 1-5386-8097-1, 1-5386-8098-X. LCCN QA76.9.N37 .I584 2018.
- Griffiths:1990:NAP**
- [GW90] David F. (David Francis) Griffiths and G. A. (G. Alistair) Watson, editors. *Numerical analysis 1989: proceedings of the 13th Dundee Conference*, volume 228 of *Pitman research notes in mathematics series*. Longman Scientific and Technical, Harlow, Essex, England, 1990. ISBN 0-470-21586-0 (Wiley), 0-582-05923-2 (paperback). LCCN QA297 .D85 1989.
- Griffiths:1992:NAP**
- [GW92] David Francis Griffiths and George Alistair Watson, editors. *Numerical Analysis, 1991: Proceedings of the 14th Dundee Conference, June 1991*, volume 260 of *Pitman Research Notes in Mathematics*. Longman Scientific and Technical, Harlow, Essex, UK, 1992. ISBN 0-582-08908-5. LCCN QA297 .D85 1991; QA297 .N825 1991.

Hayes:1970:NAF

- [Hay70] J. G. Hayes, editor. *Numerical Approximation to Functions and Data*. Athlone Press, London, UK, 1970. ISBN 0-485-11109-8. viii + 177 pp. LCCN QA297 .N85 1970.

Hopper:1977:TGS

- [HP77] M. J. Hopper and M. J. D. Powell. A technique that gains speed and accuracy in the minimax solution of overdetermined linear equations. In Rice [Ric77], pages 15–33. ISBN 0-12-587260-7. LCCN QA3 .U45 no. 39; QA297 .M36 1977. URL <https://www.sciencedirect.com/book/9780125872607/mathematical-software>. [IP81]

Haavie:1984:AGE

- [HP84] T. Håvie and M. J. D. Powell. An application of Gaussian elimination to interpolation by generalized rational functions. In Graves-Morris et al. [GMSV84], pages 442–452. CODEN LNMAA2. ISBN 3-540-13899-4 (print), 3-540-39113-4 (e-book). ISSN 0075-8434 (print), 1617-9692 (electronic). LCCN QA3 .L28 no. 1105; QA3 .L471 no.1105; QA3.L471.DM72.00. URL <http://link.springer.com/book/10.1007/BFb0072395>; <http://www.springerlink.com/content/978-3-540-39113-5>. [IP87]

Higham:1987:NLA

- [HS87] Nicholas J. Higham and G. W. Stewart. Numerical linear al-

gebra in statistical computing. In Iserles and Powell [IP87], pages 41–57. ISBN 0-19-853614-3. LCCN QA297 .J65 1986; QA297 .S781 1987. UK£55.00, US\$77.50. URL <http://www.gbv.de/dms/hbz/toc/ht002967923.pdf>; <http://zbmath.org/?q=an:0611.00024>.

Iserles:1981:ARA

A. Iserles and M. J. D. Powell. On the A -acceptability of rational approximations that interpolate the exponential function. *IMA Journal of Numerical Analysis*, 1(3):241–251, July 1981. CODEN IJNADH. ISSN 0272-4979 (print), 1464-3642 (electronic).

Iserles:1987:SAN

A. Iserles and M. J. D. Powell, editors. *The State of the Art in Numerical Analysis: Proceedings of the Joint IMA/SIAM Conference on the State of the Art in Numerical Analysis held at the University of Birmingham, 14–18 April 1986*, volume 9 of *The Institute of Mathematics and Its Applications conference series; new series*. Oxford University Press, Walton Street, Oxford OX2 6DP, UK, 1987. ISBN 0-19-853614-3. LCCN QA297 .J65 1986; QA297 .S781 1987. UK£55.00, US\$77.50. URL <http://www.gbv.de/dms/hbz/toc/ht002967923.pdf>; <http://zbmath.org/?q=an:0611.00024>.

Jacobs:1977:SAN

- [Jac77] David A. H. Jacobs, editor. *The State of the Art in Numerical Analysis: Proceedings of the Conference on the State of the Art in Numerical Analysis held at the University of York, April 12th–15th, 1976*. Academic Press, New York, USA, 1977. ISBN 0-12-378650-9. LCCN QA297 .C646 1976.

Kahan:1987:BCC

- [Kah87] W. Kahan. Branch cuts for complex elementary functions or much ado about nothing's sign bit. In Iserles and Powell [IP87], pages 165–211. ISBN 0-19-853614-3. LCCN QA297 .J65 1986; QA297 .S781 1987. UK£55.00, US\$77.50. URL <http://www.gbv.de/dms/hbz/toc/ht002967923.pdf>; <http://zbmath.org/?q=an:0611.00024>.

Kao:2012:FOM

- [KLL12] Ren-Jie Kao, Yuan-Yao Lin, and Cheng-Ling Lee. Fabrication of optical multilayer thin-film filters based on the Powell's optimization method. In IEEE, editor, *2012 17th Opto-Electronics and Communications Conference*, pages 659–660. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2012. ISBN 1-4673-0976-1, 1-4673-0977-X, 1-4673-0978-8.

Kishihara:2005:PPP

- [KYO05] M. Kishihara, K. Yamane, and

I. Ohta. Parallel processing of Powell's optimization algorithm and its application to design of multi-way power dividers. In Wei Hong, Tie Jun Cui, and Dagang Fang, editors, *2005 Asia-Pacific Microwave Conference Proceedings*, volume 4, pages 1–4. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2005. ISBN 0-7803-9433-X (paperback). LCCN TK7876 A832 2005.

Lee:2010:PMD

- [LCL⁺10] Cheng-Ling Lee, Tai-Ning Chang, Yuan-Yao Lin, Pin Han, and Ray-Kuang Lee. Powell's method for designing optical multilayer thin-film filters. In IEEE, editor, *OECC 2010 Technical Digest, 5–9 July 2010*, pages 388–389. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2010. ISBN 1-4244-6785-3, 4-88552-245-5, 4-88552-246-3. LCCN TK5103.59.

Langhnoja:2015:NRA

- [LD15] Namrata V. Langhnoja and Ved Vyas Dwivedi. Notice of removal: Analysis of microstrip reflectarray antenna for Indian contour beam using Powell optimization. In IEEE, editor, *2015 International Conference on Electrical, Electronics, Signals, Communication and Optimization (EESCO), Visakhapatnam, India*, pages 1–5. IEEE Computer Society Press, 1109

Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2015.

Light:1992:ANA

- [Lig92] W. A. (William Allan) Light, editor. *Advances in numerical analysis, Vol. II [Proceedings of the fourth Summer School in Numerical Analysis, Lancaster University, 15th July to 3rd August 1990]*, Oxford Sci. Publ. Oxford University Press, Walton Street, Oxford OX2 6DP, UK, 1992. ISBN 0-19-853439-6. LCCN QA297 .A38 1991.

Lam:1992:OTA

- [LLC92] Loh Nee Lam, T. Y. Leong, and F. S. Chou, editors. *Optimization Techniques and Applications: International Conference (In 2 Volumes), Singapore, June 3-5, 1992*. World Scientific Publishing Co., Singapore; Philadelphia, PA, USA; River Edge, NJ, USA, 1992. ISBN 981-02-1062-0 (hardcover: set), 981-02-1986-5 (vol. 1), 981-02-1987-3 (vol. 2), 981-4537-28-4 (e-book). LCCN QA402.5 .O685 1992.

Liu:2015:MAB

- [LSLM15] Boyang Liu, Weiping Shao, Qiuyan Liu, and Lianbo Ma. A modified artificial bee colony optimizer by comprehensive learning and Powell' search. In IEEE, editor, *2015 IEEE International Conference on Cyber Technology in Automation, Control, and Intelligent Systems (CYBER): June 8-12, 2015, Shenyang, China*, pages 1529-

1533. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2015. ISBN 1-4799-8728-X, 1-4799-8729-8 (USB), 1-4799-8731-X (print).

Lei:2013:IMI

- [LZ13] Yang Lei and Yan Zhang. An improved 2D-3D medical image registration algorithm based on modified mutual information and expanded Powell method. In Zhiqiong Wang, Jingshu Zhang, and Yueyang Teng, editors, *2013 IEEE International Conference on Medical Imaging Physics and Engineering*, pages 24-29. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2013. ISBN 1-4673-5886-X, 1-4673-5887-8, 1-4673-6012-0. LCCN RC78.7.D53.

Mason:1987:AAB

- [MC87] J. C. Mason and M. G. Cox, editors. *Algorithms for approximation: based on the proceedings of the IMA Conference on Algorithms for the Approximation of Functions and Data, held at the Royal Military College of Science, Shrivenham, July 1985*, volume 10 of *The Institute of Mathematics and Its Applications conference series, new series*. Clarendon Press, Oxford, UK, 1987. ISBN 0-19-853612-7. LCCN QA221 .A5361 1987; QA221 .I47 1985. US\$90.

Mason:1990:AAI

- [MC90] J. C. Mason and M. G. Cox, ed-

itors. *Algorithms for approximation II: based on the proceedings of the Second International Conference on Algorithms for Approximation, held at Royal Military College of Science, Shrivenham, July 1988*. Chapman and Hall, London, England, 1990. ISBN 0-412-34580-3. LCCN QA221 .I54 1988.

Martins-Camelo:1986:LAB

[MCPS86]

L. Martins-Camelo, Y. Pate-naude, and G. Seguin. Linear array beam shaping using Fletcher-Powell optimization. In IEEE, editor, *1986 Antennas and Propagation Society International Symposium [Wyndham Franklin Plaza Hotel, Philadelphia, PA, USA, June 8-13, 1986]*, volume 24, pages 395-398. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 1986. LCCN TK7871.6.A15 1986. IEEE Catalog No. 86CH2325-9.

Mizutani:1999:PDT

[Miz99]

E. Mizutani. Powell's dog-leg trust-region steps with the quasi-Newton augmented Hessian for neural nonlinear least-squares learning. In Shun-Ichi Amari, editor, *IJCNN'99. International Joint Conference on Neural Networks. Proceedings (July 10-16, 1999, Washington, DC)*, volume 2, pages 1239-1244 vol.2. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910,

[MMR78]

USA, 1999. ISBN 0-7803-5529-6 (softbound), 0-7803-5530-X (casebound), 0-7803-5531-8 (Microfiche). LCCN QA76.87.I577 1999. IEEE catalog number 99CH36339.

Mangasarian:1978:CVM

Olvi L. Mangasarian, Robert R. Meyer, and Stephen M. Robinson, editors. *Nonlinear Programming, 3 (Proceedings of the Symposium, Special Interest Group on Mathematical Programming, University of Wisconsin, Madison, Wisconsin, July 11-13, 1977)*. Academic Press, New York, USA, 1978. ISBN 0-12-486660-3, 0-12-468660-3. LCCN QA402.5; T57.8 N67 1978.

Morrell:1969:IPP

[Mor69]

A. J. H. Morrell, editor. *Information processing 68: proceedings of IFIP congress 1968, organized by the International Federation for Information Processing, Edinburgh, 5-10 August 1968*. North-Holland Publishing Co., Amsterdam, The Netherlands, 1969. ISBN 0-7204-2032-6. LCCN QA76 .I578.

More:1982:NOS

[Mor82]

J. J. Moré. Notes on optimization software. In Powell [Pow82], pages 339-352. ISBN 0-12-563860-4. LCCN QA402.5 .N66 1981.

Marlow:1973:FSP

[MP73]

S. Marlow and M. J. D. Powell. A FORTRAN subroutine

for plotting a cubic spline function. Technical Report R7470, AERE Harwell, Harwell, Berkshire, UK, 1973.

Morton:1981:E

- [MP81] K. W. Morton and M. J. D. Powell. Editorial. *IMA Journal of Numerical Analysis*, 1(1): 1, January 1981. CODEN IJ-NADH. ISSN 0272-4979 (print), 1464-3642 (electronic). URL <https://academic.oup.com/ima/jna/article-abstract/1/1/1/686928>.

Martin:1981:DCP

- [MPJ81] D. H. Martin, M. J. D. Powell, and D. H. Jacobson. On a decomposition of conditionally positive-semidefinite matrices. *Linear Algebra and its Applications*, 39(??):51–59, August 1981. CODEN LAAPAW. ISSN 0024-3795 (print), 1873-1856 (electronic). URL <http://www.sciencedirect.com/science/article/pii/0024379581902895>.

McKenna:1988:IPF

- [MT88] James McKenna and Roger Temam, editors. *ICIAM '87: proceedings of the First International Conference on Industrial and Applied Mathematics, Paris, France*. SIAM Press, Philadelphia, PA, USA, 1988. ISBN 0-89871-224-6. LCCN QA1 .I73 1987.

Paul:2002:CTM

- [Pau02] M. Dzh. D. Pauul. Teoriya i Metodi za Aproksimatsiya,

volume 5 of *Studii na BIAP. Matematicheski Nauki [Studies of the Bulgarian Institute of Analysis and Research. Mathematical Sciences]*. Fondatsiya “BuLgarski Institut Za Analizi I Prouchvaniya”, Sofia, Bulgaria, English edition, 2002. ISBN 954-9526-14-3 (paperback). x + 379 pp. LCCN QA221 .P651 2002. With supplementary references by Mikhail Konstantinov.

Powell:1971:DCA

- [PBR71] M. J. D. Powell, I. Barrodale, and F. D. K. Roberts. The differential correction algorithm for rational L_∞ approximation. *Lecture Notes in Mathematics*, 228:169, 1971. CODEN LN-MAA2. ISBN 3-540-05656-4 (print), 3-540-36976-7 (e-book). ISSN 0075-8434 (print), 1617-9692 (electronic). URL <http://link.springer.com/chapter/10.1007/BFb0069455>.

Powell:2008:FDA

- [PN08] Michael Powell and Syvert Nørsett. Foreword [Dedicated to Arieh Iserles on the occasion of his sixtieth birthday]. *Foundations of Computational Mathematics. The Journal of the Society for the Foundations of Computational Mathematics*, 8(3): 287–290, 2008. ISSN 1615-3375 (print), 1615-3383 (electronic).

Powell:1961:SHF

- [Pow61] M. J. D. Powell. Scheme for handling functions on a computer. Report AERE R3830, United

Kingdom Atomic Energy Authority, Harwell, UK, September 1961. ??? pp.

Powell:1962:IMF

- [Pow62] M. J. D. Powell. An iterative method for finding stationary values of a function of several variables. *The Computer Journal*, 5(2):147–151, August 1962. CODEN CMPJA6. ISSN 0010-4620 (print), 1460-2067 (electronic). URL <http://comjnl.oxfordjournals.org/content/5/2/147.full.pdf+html>; http://www3.oup.co.uk/computer_journal/hdb/Volume_05/Issue_02/050147.sgm.abs.html; http://www3.oup.co.uk/computer_journal/hdb/Volume_05/Issue_02/tiff/147.tif; http://www3.oup.co.uk/computer_journal/hdb/Volume_05/Issue_02/tiff/148.tif; http://www3.oup.co.uk/computer_journal/hdb/Volume_05/Issue_02/tiff/149.tif; http://www3.oup.co.uk/computer_journal/hdb/Volume_05/Issue_02/tiff/150.tif; http://www3.oup.co.uk/computer_journal/hdb/Volume_05/Issue_02/tiff/151.tif. [Pow64b]

Powell:1964:EMF

- [Pow64a] M. J. D. Powell. An efficient method for finding the minimum of a function of several variables without calculating derivatives. *The Computer Journal*, 7(2):155–162, July 1964. CODEN CMPJA6. ISSN 0010-4620 (print), 1460-2067 (electronic). URL <http://comjnl.oxfordjournals.org/content/7/2/155.full.pdf+html>; http://www3.oup.co.uk/computer_journal/hdb/Volume_07/Issue_02/070155.sgm.abs.html; http://www3.oup.co.uk/computer_journal/hdb/Volume_07/Issue_02/tiff/155.tif; http://www3.oup.co.uk/computer_journal/hdb/Volume_07/Issue_02/tiff/156.tif; http://www3.oup.co.uk/computer_journal/hdb/Volume_07/Issue_02/tiff/157.tif; http://www3.oup.co.uk/computer_journal/hdb/Volume_07/Issue_02/tiff/158.tif; http://www3.oup.co.uk/computer_journal/hdb/Volume_07/Issue_02/tiff/159.tif; http://www3.oup.co.uk/computer_journal/hdb/Volume_07/Issue_02/tiff/160.tif; http://www3.oup.co.uk/computer_journal/hdb/Volume_07/Issue_02/tiff/161.tif; http://www3.oup.co.uk/computer_journal/hdb/Volume_07/Issue_02/tiff/162.tif.

Powell:1964:MMS

- M. J. D. Powell. A method for minimising a sum of squares of non-linear functions without calculating derivatives. Report AERE TP-161, Theoretical Physics Division, Atomic Energy Research Establishment, Harwell, Berkshire, UK, 1964. 13 pp.

Powell:1965:MMS

- [Pow65] M. J. D. Powell. A method for minimizing a sum of

squares of non-linear functions without calculating derivatives. *The Computer Journal*, 7(4):303–307, January 1965. CODEN CMPJA6. ISSN 0010-4620 (print), 1460-2067 (electronic). URL <http://comjnl.oxfordjournals.org/content/7/4/303.full.pdf+html>; http://www3.oup.co.uk/computer_journal/hdb/Volume_07/Issue_04/070303.sgm.abs.html; http://www3.oup.co.uk/computer_journal/hdb/Volume_07/Issue_04/tiff/303.tif; http://www3.oup.co.uk/computer_journal/hdb/Volume_07/Issue_04/tiff/304.tif; http://www3.oup.co.uk/computer_journal/hdb/Volume_07/Issue_04/tiff/305.tif; http://www3.oup.co.uk/computer_journal/hdb/Volume_07/Issue_04/tiff/306.tif; http://www3.oup.co.uk/computer_journal/hdb/Volume_07/Issue_04/tiff/307.tif. [Pow67c]

Powell:1967:CFC

[Pow67a] M. J. D. Powell. Curve fitting by cubic splines. Report AERE TP-307, United Kingdom Atomic Energy Authority, Harwell, UK, 1967. 27 pp. [Pow68a]

Powell:1967:MNL

[Pow67b] M. J. D. Powell. A method for non-linear constraints in minimization problems. Report AERE TP 310, Theoretical Physics Division, Atomic Energy Research Establishment, Harwell, Berkshire, UK, 1967. 23 pp. [Pow68b]

Powell:1967:MEP

M. J. D. Powell. On the maximum errors of polynomial approximations defined by interpolation and by least squares criteria. *The Computer Journal*, 9(4):404–407, February 1967. CODEN CMPJA6. ISSN 0010-4620 (print), 1460-2067 (electronic). URL <http://comjnl.oxfordjournals.org/content/9/4/404.full.pdf+html>; http://www3.oup.co.uk/computer_journal/hdb/Volume_09/Issue_04/090404.sgm.abs.html; http://www3.oup.co.uk/computer_journal/hdb/Volume_09/Issue_04/tiff/404.tif; http://www3.oup.co.uk/computer_journal/hdb/Volume_09/Issue_04/tiff/405.tif; http://www3.oup.co.uk/computer_journal/hdb/Volume_09/Issue_04/tiff/406.tif; http://www3.oup.co.uk/computer_journal/hdb/Volume_09/Issue_04/tiff/407.tif.

Powell:1968:FSS

M. J. D. Powell. A Fortran subroutine for solving systems of non-linear algebraic equations. Technical Report AERE R 5947, Theoretical Physics Division, Atomic Energy Research Establishment, Harwell, Berkshire, UK, 1968. ISBN 0-11-980426-3. 54 pp.

Powell:1968:BSA

M. J. D. Powell. On best L_2 spline approximations. In Lothar Collatz, editor, *Nu-*

- merische Mathematik. Differentialgleichungen. Approximationstheorie (Tagungen, Oberwolfach, 1966)*, volume 9 of *Internat. Ser. Numer. Math.*, pages 317–339. Birkhäuser, Cambridge, MA, USA; Berlin, Germany; Basel, Switzerland, 1968. ISBN 3-7643-0193-7. LCCN ????
- [Pow68c] M. J. D. Powell. On the calculation of orthogonal vectors. *The Computer Journal*, 11(3):302–304, November 1968. CODEN CMPJA6. ISSN 0010-4620 (print), 1460-2067 (electronic). URL <http://comjnl.oxfordjournals.org/content/11/3/302.full.pdf+html>; http://www3.oup.co.uk/computer_journal/hdb/Volume_11/Issue_03/110302.sgm.abs.html; http://www3.oup.co.uk/computer_journal/hdb/Volume_11/Issue_03/tiff/302.tif; http://www3.oup.co.uk/computer_journal/hdb/Volume_11/Issue_03/tiff/303.tif; http://www3.oup.co.uk/computer_journal/hdb/Volume_11/Issue_03/tiff/304.tif. See correspondence [And69].
- [Pow69a] M. J. D. Powell. Book review: *Nonlinear Programming — Sequential Unconstrained Minimization Techniques*, by A. V. Fiacco and G. P. McCormick 1969; 210 pages (John Wiley & Sons, Ltd.). *The Computer Journal*, 12(3):207, August 1969. CODEN CMPJA6. ISSN 0010-4620 (print), 1460-2067 (electronic). URL <http://comjnl.oxfordjournals.org/content/12/3/207-a.full.pdf+html>.
- [Pow69b] M. J. D. Powell. A comparison of spline approximations with classical interpolation methods. (With discussion). In Morrell [Mor69], pages 95–98. ISBN 0-7204-2032-6. LCCN QA76 .I578.
- [Pow69c] M. J. D. Powell. Fortran subroutine to invert a rectangular matrix of full rank. Report AERE R 6072, Theoretical Physics Division, Atomic Energy Research Establishment, Harwell, Berkshire, UK, 1969. 13 pp.
- [Pow69d] M. J. D. Powell. The local dependence of least squares cubic splines. *SIAM Journal on Numerical Analysis*, 6(3):398–413, September 1969. CODEN SJNAAM. ISSN 0036-1429 (print), 1095-7170 (electronic).
- [Pow69e] M. J. D. Powell. A method for nonlinear constraints in minimization problems. In Fletcher [Fle69], pages 283–298. ISBN 0-12-260650-7. LCCN QA402.5 .K4 1968.
- [Pow69f] M. J. D. Powell. Rank one methods for unconstrained optimization. Report AERE TP

372, Theoretical Physics Division, Atomic Energy Research Establishment, Harwell, Berkshire, UK, 1969. 29 pp.

Powell:1969:TRO

- [Pow69g] M. J. D. Powell. A theorem on rank one modifications to a matrix and its inverse. *The Computer Journal*, 12(3):288–290, August 1969. CODEN CMPJA6. ISSN 0010-4620 (print), 1460-2067 (electronic). URL <http://comjnl.oxfordjournals.org/content/12/3/288.full.pdf+html>; http://www3.oup.co.uk/computer_journal/hdb/Volume_12/Issue_03/120288.sgm.abs.html; http://www3.oup.co.uk/computer_journal/hdb/Volume_12/Issue_03/tiff/288.tif; http://www3.oup.co.uk/computer_journal/hdb/Volume_12/Issue_03/tiff/289.tif; http://www3.oup.co.uk/computer_journal/hdb/Volume_12/Issue_03/tiff/290.tif. [Pow70d]

Powell:1970:CFC

- [Pow70a] M. J. D. Powell. Curve fitting by cubic splines. In Hayes [Hay70], pages 65–83. ISBN 0-485-11109-8. LCCN QA297 .N85 1970.

Powell:1970:FSS

- [Pow70b] M. J. D. Powell. A Fortran subroutine for solving systems of nonlinear algebraic equations. In Philip Rabinowitz, editor, *Numerical Methods for Nonlinear Algebraic Equations (University of Essex, Colchester, January 6–* [Pow70f]

7, 1969), pages 115–161. Gordon and Breach, New York, NY, USA, 1970. ISBN 0-677-14230-7. LCCN QA218 .N85 1988.

Powell:1970:FSUa

M. J. D. Powell. A FORTRAN subroutine for unconstrained minimization, requiring first derivatives of the objective function. Report AERE R6469, Her Majesty's Stationery Office, London, UK, 1970. 46 pp.

Powell:1970:FSUb

M. J. D. Powell. A FORTRAN subroutine for unconstrained minimization, requiring first derivatives of the objective function. Report AERE R6494, Her Majesty's Stationery Office, London, UK, 1970. ISBN 0-11-981135-9. ??? pp.

Powell:1970:HMN

M. J. D. Powell. A hybrid method for nonlinear equations. In Philip Rabinowitz, editor, *Numerical Methods for Nonlinear Algebraic Equations (University of Essex, Colchester, January 6–7, 1969)*, pages 87–114. Gordon and Breach, New York, NY, USA, 1970.

Powell:1970:NAUa

M. J. D. Powell. A new algorithm for unconstrained optimization. Report AERE TP 393, Theoretical Physics Division, Atomic Energy Research Establishment, Harwell, Berkshire, UK, 1970. 30 pp.

- [Pow70g] M. J. D. Powell. A new algorithm for unconstrained optimization. In Rosen et al. [RMR70], pages 31–65. ISBN 0-12-597050-1. LCCN QA3 .U45 no. 25.

[Pow70h] M. J. D. Powell. Rank one methods for unconstrained optimization. In Abadie [Aba70], pages 139–156. ISBN 0-444-10000-8. LCCN T57.7 .I57. A NATO Summer School held in Bandol, France.

[Pow70i] M. J. D. Powell. A survey of numerical methods for unconstrained optimization. *SIAM Review*, 12(1):79–97, 1970. CODEN SIREAD. ISSN 0036-1445 (print), 1095-7200 (electronic).

[Pow71a] M. J. D. Powell. On the convergence of the variable metric algorithm. *Journal of the Institute of Mathematics and its Applications*, 7(1):21–36, February 1971. CODEN JMTAA8. ISSN 0020-2932.

[Pow71b] M. J. D. Powell. Recent advances in unconstrained optimization. *Mathematical Programming*, 1(1):26–57, 1971. CODEN MHPGA4. ISSN 0025-5610 (print), 1436-4646 (electronic).

[Pow72a] M. J. D. Powell. Quadratic termination properties of minimization algorithms. I. Statement and discussion of results. *Journal of the Institute of Mathematics and its Applications*, 10(3):333–342, December 1972. CODEN JMTAA8. ISSN 0020-2932. URL <https://academic.oup.com/imamat/article-abstract/10/3/333/824259>.

[Pow72b] M. J. D. Powell. Quadratic termination properties of minimization algorithms. II. Proofs of theorems. *Journal of the Institute of Mathematics and its Applications*, 10(3):343–357, December 1972. CODEN JMTAA8. ISSN 0020-2932. URL <https://academic.oup.com/imamat/article-abstract/10/3/343/824267>.

[Pow72c] M. J. D. Powell. Some properties of the variable metric algorithm. In F. A. Lootsma, editor, *Numerical Methods for Non-Linear Optimization: Conference, Dundee, (28th June–1st July) 1971*, pages 1–17. Academic Press, New York, USA, 1972. ISBN 0-12-455650-7.

[Pow73a] M. J. D. Powell. Book review. *The Computer Journal*, 16(1):45, 1973.

- CODEN CMPJA6. ISSN 0010-4620 (print), 1460-2067 (electronic). URL <http://comjnl.oxfordjournals.org/content/16/1/45.full.pdf+html>. [Pow74c]
- Powell:1973:MSC**
- [Pow73b] M. J. D. Powell. The Mathematical Software Conference at Loughborough. *ACM SIGNUM Newsletter*, 8(3):4, July 1973. CODEN SNEWD6. ISSN 0163-5778 (print), 1558-0237 (electronic).
- Powell:1973:SDM**
- [Pow73c] M. J. D. Powell. On search directions for minimization algorithms. *Mathematical Programming*, 4:193–201, 1973. CODEN MHPGA4. ISSN 0025-5610 (print), 1436-4646 (electronic).
- Powell:1974:BR**
- [Pow74a] M. J. D. Powell. Book review. *The Computer Journal*, 17(1):92, 1974. CODEN CMPJA6. ISSN 0010-4620 (print), 1460-2067 (electronic). URL <http://comjnl.oxfordjournals.org/content/17/1/92.1.full.pdf+html>. [Pow75a]
- Powell:1974:ICO**
- [Pow74b] M. J. D. Powell. Introduction to constrained optimization. In Gill and Murray [GM74], pages 1–28. ISBN 0-12-283550-6. LCCN QA402.5.
- Powell:1974:PQS**
- M. J. D. Powell. Piecewise quadratic surface fitting for contour plotting. In Evans [Eva74], pages 253–271. ISBN 0-12-243750-0. LCCN QA297 .S591.
- Powell:1974:UMA**
- [Pow74d] M. J. D. Powell. Unconstrained minimization algorithms without computation of derivatives. *Bolletino dell’Unione Matematica Italiana (4)*, 9(2):60–69, 1974.
- Powell:1974:UME**
- [Pow74e] M. J. D. Powell. Unconstrained minimization and extensions for constraints. In A. S. Concalves, P. L. Hammer, and G. Zoutendijk, editors, *Mathematical programming in theory and practice (Proc. NATO Adv. Study Inst., Figueira da Foz, 1972)*, pages 31–79. North-Holland Publishing Co., Amsterdam, The Netherlands, 1974. ISBN 0-444-10741-X, 0-7204-2819-X. LCCN QA402.5 .N811 1974; T57.8 .M3.
- Powell:1975:CPC**
- [Pow75a] M. J. D. Powell. Convergence properties of a class of minimization algorithms. In Olvi Leon Mangasarian, Robert R. Meyer, and Stephen M. Robinson, editors, *Nonlinear programming 2. Proceedings of the Special Interest Group on Mathematical Programming of the Association for Computing Machinery conducted by the Computer Sciences*

- Department at the University of Wisconsin, Madison, Wisconsin, April 15–17, 1974, pages 1–27. Academic Press, New York, USA, 1975. ISBN 0-12-468650-8 (vol. 2), 0-12-468660-3 (vol. 3), 0-12-468662-1 (vol. 4). LCCN T57.8 .S9 1975.
- [Pow75b] M. J. D. Powell. The minimax solution of linear equations subject to bounds on the variables. In B. L. Hartnell and H. C. Williams, editors, *Proceedings of the Fourth Manitoba Conference on Numerical Mathematics: (Winnipeg), October 2–5, 1974*, volume XII of *Congress. Numer.*, pages 53–107. Utilitas Mathematica, Winnipeg, MB, Canada, 1975. ISBN 0-919628-12-5.
- [Pow75c] M. J. D. Powell. A view of unconstrained minimization algorithms that do not require derivatives. *ACM Transactions on Mathematical Software*, 1(2): 97–107, June 1975. CODEN ACMSCU. ISSN 0098-3500 (print), 1557-7295 (electronic).
- [Pow76a] M. J. D. Powell. Book review. *The Computer Journal*, 19(3):245, ??? 1976. CODEN CMPJA6. ISSN 0010-4620 (print), 1460-2067 (electronic). URL <http://comjnl.oxfordjournals.org/content/19/3/245.2.full.pdf+html>.
- [Pow76b] M. J. D. Powell. Some convergence properties of the conjugate gradient method. *Mathematical Programming*, 11(1):42–49, 1976. CODEN MHPGA4. ISSN 0025-5610 (print), 1436-4646 (electronic).
- [Pow76c] M. J. D. Powell. Some global convergence properties of a variable metric algorithm for minimization without exact line searches. In Richard W. Cottle and Carlton E. Lemke, editors, *Nonlinear programming (Proceedings of the Symposium, New York City, March 23–24, 1975)*, volume IX of *SIAM-AMS Proc.*, pages 53–72. American Mathematical Society, Providence, RI, USA, 1976. ISBN 0-8218-1329-3. LCCN T57.8 .N66.
- [Pow76d] M. J. D. Powell. A view of unconstrained optimization. In Dixon [Dix76], pages 117–152. ISBN 0-12-218550-1. LCCN QA402.5 .C62 1975.
- [Pow77a] M. J. D. Powell, editor. *The Contribution of Dr. J. H. Wilkinson to numerical analysis: Proceedings of a symposium ... held in London on July 6th, 1977*, number 19 in IMA Symposium Proceedings. Institute of Mathematics and its Applications, Southend-on-Sea, UK, 1977. LCCN QA297.C66 1978.

Powell:1977:F

- [Pow77b] M. J. D. Powell. Foreword. In *The Contribution of Dr. J. H. Wilkinson to numerical analysis: Proceedings of a symposium ... held in London on July 6th, 1977* [Pow77a], pages vii–?? LCCN QA297.C66 1978.

Powell:1977:NMF

- [Pow77c] M. J. D. Powell. Numerical methods for fitting functions of two variables. In Jacobs [Jac77], pages 563–604. ISBN 0-12-378650-9. LCCN QA297.C646 1976.

Powell:1977:QTP

- [Pow77d] M. J. D. Powell. Quadratic termination properties of Davidon’s new variable metric algorithm. *Mathematical Programming*, 12(1):141–147, 1977. CODEN MH-PGA4. ISSN 0025-5610 (print), 1436-4646 (electronic).

Powell:1977:RPC

- [Pow77e] M. J. D. Powell. Restart procedures for the conjugate gradient method. *Mathematical Programming*, 12(2):241–254, 1977. CODEN MHPGA4. ISSN 0025-5610 (print), 1436-4646 (electronic).

Powell:1978:ANC

- [Pow78a] M. J. D. Powell. Algorithms for nonlinear constraints that use Lagrangian functions. *Mathematical Programming*, 14(2):224–248, 1978. CODEN MHPGA4. ISSN 0025-5610 (print), 1436-4646 (electronic).

Powell:1978:CVM

- [Pow78b] M. J. D. Powell. The convergence of variable metric methods for nonlinearly constrained optimization calculations. In Mangasarian et al. [MMR78], pages 27–63. ISBN 0-12-486660-3, 0-12-468660-3. LCCN QA402.5; T57.8 N67 1978.

Powell:1978:FAN

- [Pow78c] M. J. D. Powell. A fast algorithm for nonlinearly constrained optimization calculations. In Watson [Wat78], pages 144–157. CODEN LNMAA2. ISBN 3-540-08538-6 (print), 3-540-35972-9 (e-book). ISSN 0075-8434 (print), 1617-9692 (electronic). LCCN QA3.L28 no. 630; QA1.L471 v.630. URL <http://link.springer.com/chapter/10.1007/BFb0067703/>.

Powell:1979:ANC

- [Pow79a] M. J. D. Powell. Algorithms for nonlinear constraints that use Lagrangian functions. In Prékopa [Pré79], pages 513–537. ISBN 0-444-85033-3 (hardcover). LCCN QA402.5.

Powell:1979:NA

- [Pow79b] M. J. D. Powell. Numerical analysis. In *25 years of Theoretical Physics 1954–1979: A special progress report from Theoretical Physics Division, Harwell in recognition of the 25th anniversary of the U.K. Atomic Energy Authority*, chapter XVIII, pages 207–214. Harwell Research Laboratory, Har-

well, UK, 1979. URL <https://www.chilton-computing.org.uk/ChiltonCatalog/1980.25.years.of.theoretical.physics/1980.25.years.of.theoretical.physics.pdf>. Report TP.843.

Powell:1979:VMM

- [Pow79c] M. J. D. Powell. Variable metric methods for constrained optimization. In Glowinski and Lions [GL79], pages 62–72. CODEN LNMAA2. ISBN 0-387-09123-8 (New York), 3-540-09123-8 (Berlin, Heidelberg), 3-540-35411-5 (e-book). ISSN 0075-8434 (print), 1617-9692 (electronic). LCCN QA3.L28 no. 704. URL <http://link.springer.com/chapter/10.1007/BFb0063615/>.

Powell:1979:U

- [Pow79d] Michael J. D. Powell. *[unknown]*. Sc.D. dissertation, Cambridge University, Cambridge, UK, 1979.

Powell:1980:GCL

- [Pow80a] M. J. D. Powell. Gradient conditions and Lagrange multipliers in nonlinear programming. In Dixon et al. [DSS80], pages 201–220. ISBN 3-7643-3020-1. LCCN QA402.5 .N65.

Powell:1980:VMM

- [Pow80b] M. J. D. Powell. Variable metric methods for constrained optimization. In Dixon et al. [DSS80], pages 279–294. ISBN 3-7643-3020-1. LCCN QA402.5 .N65.

Powell:1981:ATM

M. J. D. Powell. *Approximation Theory and Methods*. Cambridge University Press, Cambridge, UK, 1981. ISBN 0-521-22472-1. x + 339 pp. LCCN QA221 .P65.

Powell:1981:ECF

- [Pow81b] M. J. D. Powell. An example of cycling in a feasible point algorithm. *Mathematical Programming*, 20(3):353–357, 1981. CODEN MHPGA4. ISSN 0025-5610 (print), 1436-4646 (electronic).

Powell:1981:NQN

- [Pow81c] M. J. D. Powell. A note on quasi-Newton formulae for sparse second derivative matrices. *Mathematical Programming*, 20(2):144–151, 1981. CODEN MHPGA4. ISSN 0025-5610 (print), 1436-4646 (electronic).

Powell:1981:UTM

- [Pow81d] M. J. D. Powell. An upper triangular matrix method for quadratic programming. In Olvi L. Mangasarian, Robert R. Meyer, and Stephen M. Robinson, editors, *Nonlinear programming 4: proceedings of the Nonlinear Programming Symposium 4: University of Wisconsin-Madison, July 14–16, 1980*, pages 1–24. Academic Press, New York, USA, 1981. ISBN 0-12-468662-1. LCCN T57.8 .N67 1980.

Powell:1982:NOP

- [Pow82] M. J. D. Powell, editor. *Non-linear Optimization 1981: [proceedings of the NATO Advanced Research Institute held at Cambridge in July 1981 which was sponsored by the special programme panel on systems science of the NATO science Committee and the Mathematical Programming Society]*, NATO Conf. Ser. II: Systems Sci. Academic Press, New York, USA, 1982. ISBN 0-12-563860-4. LCCN QA402.5 .N66 1981.

Powell:1983:GAD

- [Pow83a] M. J. D. Powell. General algorithms for discrete nonlinear approximation calculations. In Chui et al. [CSW83], pages 187–218. ISBN 0-12-174580-5. LCCN QA297.5 .I54 1983.

Powell:1983:VMM

- [Pow83b] M. J. D. Powell. Variable metric methods for constrained optimization. In Bachem et al. [BGK83], pages 288–311. ISBN 0-387-12082-3 (New York), 3-540-12082-3 (Berlin). LCCN QA402.5 .M3529 1983.

Powell:1984:NMC

- [Pow84a] M. J. D. Powell. Nonconvex minimization calculations and the conjugate gradient method. *Lecture Notes in Mathematics*, 1066:122–141, 1984. CODEN LNMAA2. ISBN 3-540-13344-5 (print), 3-540-38881-8 (e-book). ISSN 0075-8434 (print), 1617-

9692 (electronic). URL <http://link.springer.com/chapter/10.1007/BFb0099521/>.

Powell:1984:GCT

- [Pow84b] M. J. D. Powell. On the global convergence of trust region algorithms for unconstrained minimization. *Mathematical Programming*, 29(3):297–303, 1984. CODEN MHPGA4. ISSN 0025-5610 (print), 1436-4646 (electronic).

Powell:1984:RCV

- [Pow84c] M. J. D. Powell. On the rate of convergence of variable metric algorithms for unconstrained optimization. In Ciesielski and Olech [CO80], pages 1525–1539. ISBN 0-444-86659-0 (vol. 1), 0-444-86660-4 (vol. 2), 0-444-86661-2, 83-01-05523-5 (Polish Scientific Publishers). LCCN QA37.2; QA1C56 1983.

Powell:1985:QPA

- [Pow85a] M. J. D. Powell. On the quadratic programming algorithm of Goldfarb and Idnani. *Mathematical Programming Study*, (25):46–61, 1985. CODEN MPSTDF. ISSN 0303-3929. Mathematical programming, II.

Powell:1985:PTS

- [Pow85b] M. J. D. Powell. The performance of two subroutines for constrained optimization on some difficult test problems. In Boggs et al. [BBS85], pages 160–

177. ISBN 0-89871-054-5. LCCN QA402.5 .S544 1984.

Powell:1986:CPA

- [Pow86a] M. J. D. Powell. Convergence properties of algorithms for nonlinear optimization. *SIAM Review*, 28(4):487–500, December 1986. CODEN SIREAD. ISSN 0036-1445 (print), 1095-7200 (electronic).

Powell:1986:HBB

- [Pow86b] M. J. D. Powell. How bad are the BFGS and DFP methods when the objective function is quadratic? *Mathematical Programming*, 34(1):34–47, 1986. CODEN MHPGA4. ISSN 0025-5610 (print), 1436-4646 (electronic).

Powell:1986:MNC

- [Pow86c] M. J. D. Powell. Methods for nonlinear constraints in optimization calculations. In *Proceedings of the first international seminar on operational research of the Basque Provinces (Zarauz, 1986)*, pages 55–95. Universidad Pais Vasco, Bilbao, Spain, 1986.

Powell:1987:MNC

- [Pow87a] M. J. D. Powell. Methods for nonlinear constraints in optimization calculations. In Iserles and Powell [IP87], pages 325–357. ISBN 0-19-853614-3. LCCN QA297 .J65 1986; QA297 .S781 1987. UK£55.00, US\$77.50. URL <http://www.gbv.de/dms/hbz/toc/ht002967923.pdf>;

<http://zbmath.org/?q=an:0611.00024>.

Powell:1987:EGB

- [Pow87b] M. J. D. Powell. On error growth in the Bartels–Golub and Fletcher–Matthews algorithms for updating matrix factorizations. *Linear Algebra and its Applications*, 88–89(??):597–621, 1987. CODEN LAA-PAW. ISSN 0024-3795 (print), 1873-1856 (electronic).

Powell:1987:RBF

- [Pow87c] M. J. D. Powell. Radial basis functions for multivariable interpolation: a review. In Mason and Cox [MC87], pages 143–167. ISBN 0-19-853612-7. LCCN QA221 .A5361 1987; QA221 .I47 1985. US\$90.

Powell:1987:UCD

- [Pow87d] M. J. D. Powell. Updating conjugate directions by the BFGS formula. *Mathematical Programming*, 38(1):29–46, 1987. CODEN MHPGA4. ISSN 0025-5610 (print), 1436-4646 (electronic).

Powell:1988:AME

- [Pow88a] M. J. D. Powell. An algorithm for maximizing entropy subject to simple bounds. *Mathematical Programming*, 42(1):171–180, 1988. CODEN MHPGA4. ISSN 0025-5610 (print), 1436-4646 (electronic).

Powell:1988:RBF

- [Pow88b] M. J. D. Powell. Radial basis function approximations

- to polynomials. In D. F. (David Francis) Griffiths and G. A. Watson, editors, *Numerical analysis 1987 (Dundee, 1987)*, volume 170 of *Pitman research notes in mathematics series*, pages 223–241. Longman Scientific and Technical, Harlow, Essex, UK, 1988. ISBN 0-582-02157-X. LCCN QA297.N828 1988. US\$54.95.
- [Pow88c] **Powell:1988:RAN**
M. J. D. Powell. A review of algorithms for nonlinear equations and unconstrained optimization. In McKenna and Temam [MT88], pages 220–232. ISBN 0-89871-224-6. LCCN QA1 .I73 1987.
- [Pow89a] **Powell:1989:MFL**
M. J. D. Powell. On a matrix factorization for linearly constrained optimization problems. In M. J. C. Gover and S. Barnett, editors, *Applications of matrix theory: based on the proceedings of a conference organized by the Institute of Mathematics and its Applications on Applications of Matrix Theory, held in the University of Bradford in July, 1988*, volume 22 of *Inst. Math. Appl. Conf. Ser. New Ser.*, pages 83–100. Oxford University Press, Walton Street, Oxford OX2 6DP, UK, 1989. ISBN 0-19-853625-9. LCCN QA188 .A745 1989.
- [Pow89b] **Powell:1989:TAL**
M. J. D. Powell. A tolerant algorithm for linearly constrained optimization calculations. *Mathematical Programming*, 45(3): 547–566, 1989. CODEN MH-PGA4. ISSN 0025-5610 (print), 1436-4646 (electronic).
- [Pow90a] **Powell:1990:KAV**
M. J. D. Powell. Karmarkar’s algorithm: a view from nonlinear programming. *Bulletin of the Institute of Mathematics and its Applications*, 26(8–9):165–181, 1990. CODEN IMTABW. ISSN 0905-5628.
- [Pow90b] **Powell:1990:UMA**
M. J. D. Powell. Univariate multiquadric approximation: reproduction of linear polynomials. In W. (Werner) Haussmann and K. Jetter, editors, *Multivariate approximation and interpolation: proceedings of an international workshop held at the University of Duisburg, August 14–18, 1989*, volume 94 of *Internat. Ser. Numer. Math.*, pages 227–240. Birkhäuser, Cambridge, MA, USA; Berlin, Germany; Basel, Switzerland, 1990. ISBN 0-8176-2450-3, 3-7643-2450-3 (Basel). LCCN QA297.5 .M843 1990.
- [Pow90c] **Powell:1990:UMC**
M. J. D. Powell. The updating of matrices of conjugate directions in optimization algorithms. In Griffiths and Watson [GW90], pages 193–205. ISBN 0-470-21586-0 (Wiley), 0-582-05923-2 (paperback). LCCN QA297 .D85 1989.

Powell:1991:KMS

- [Pow91a] M. J. D. Powell. Is Karmarkar's method suitable for semi-infinite programming? Talk held at the Symposium APMOD '91 — Applied Mathematical Programming and Modelling, Brunel University, London, UK, University of Cambridge, Cambridge, UK, January 1991.

Powell:1991:UMI

- [Pow91b] M. J. D. Powell. Univariate multiquadric interpolation: some recent results. In Pierre-Jean Laurent, Larry L. Schumaker, and Alain Le Méhauté, editors, *Curves and Surfaces [Papers from the First International Conference on Curves and Surfaces, held June 21–27, 1990 in Chamonix-Mont-Blanc]*, pages 371–382. Academic Press, New York, USA, 1991. ISBN 0-12-438660-1. LCCN QA221 .C87 1991.

Powell:1992:CKA

- [Pow92a] M. J. D. Powell. The complexity of Karmarkar's algorithm for linear programming. In Griffiths and Watson [GW92], pages 142–163. ISBN 0-582-08908-5. LCCN QA297 .D85 1991; QA297 .N825 1991.

Powell:1992:IPM

- [Pow92b] M. J. D. Powell. Interior point methods for semi-infinite programming calculations. In Lam et al. [LLC92], pages 3–5. ISBN 981-02-1062-0 (hardcover: set),

981-02-1986-5 (vol. 1), 981-02-1987-3 (vol. 2), 981-4537-28-4 (e-book). LCCN QA402.5 .O685 1992.

Powell:1992:LBM

- [Pow92c] M. J. D. Powell. Log barrier methods for semi-infinite programming calculations. In Elias A. Lipitakis, editor, *Hellenic research in mathematics and informatics '92 (Athens, 1992)*, pages 23–43. Hellenic Mathematical Society, Athens, Greece, 1992. ISBN none (??).

Powell:1992:TTP

- [Pow92d] M. J. D. Powell. Tabulation of thin plate splines on a very fine two-dimensional grid. In Dietrich Braess and Larry L. Schumaker, editors, *Numerical Methods in Approximation Theory, Vol. 9 [Mathematisches Forschungsinstitut, Oberwolfach, November 24–30, 1991]*, volume 105 of *Internat. Ser. Numer. Math.*, pages 221–244. Birkhäuser, Cambridge, MA, USA; Berlin, Germany; Basel, Switzerland, 1992. ISBN 3-7643-2746-4. LCCN QA221 .N84 1992.

Powell:1992:TRB

- [Pow92e] M. J. D. Powell. The theory of radial basis function approximation in 1990. In Light [Lig92], pages 105–210. ISBN 0-19-853439-6. LCCN QA297 .A38 1991.

Powell:1993:NIK

- [Pow93a] M. J. D. Powell. On the number of iterations of Karmarkar's algorithm for linear programming. *Mathematical Programming*, 62(1):153–197, 1993. CODEN MH-PGA4. ISSN 0025-5610 (print), 1436-4646 (electronic).

Powell:1993:TLE

- [Pow93b] M. J. D. Powell. Truncated Laurent expansions for the fast evaluation of thin plate splines. *Numerical Algorithms*, 5(1–4): 99–120, November 1993. CODEN NUALEG. ISSN 1017-1398 (print), 1572-9265 (electronic). Algorithms for approximation, III (Oxford, 1992).

Powell:1994:DSO

- [Pow94a] M. J. D. Powell. A direct search optimization method that models the objective and constraint functions by linear interpolation. In Susana Gomez and J. P. (Jean Pierre) Hennart, editors, *Advances in optimization and numerical analysis: proceedings of the Sixth Workshop on Optimization and Numerical Analysis, Oaxaca, Mexico, 1992*, volume 275 of *Math. Appl.*, pages 51–67. Kluwer Academic Publishers Group, Norwell, MA, USA, and Dordrecht, The Netherlands, 1994. ISBN 0-7923-2673-3. LCCN QA402.5 .W68 1992.

Powell:1994:SAT

- [Pow94b] M. J. D. Powell. Some algorithms for thin plate spline in-

terpolation to functions of two variables. In H. P. Dikshit and Charles A. Micchelli, editors, *Proceedings of the Conference on Advances in Computational Mathematics: New Delhi, India, January 5–9, 1993*, volume 4 of *Ser. Approx. Compos.*, pages 303–319. World Scientific Publishing Co., Singapore; Philadelphia, PA, USA; River Edge, NJ, USA, 1994. ISBN 981-02-1633-5. LCCN QA221 .C66 1993.

Powell:1994:UCT

- [Pow94c] M. J. D. Powell. The uniform convergence of thin plate spline interpolation in two dimensions. *Numerische Mathematik*, 68(1): 107–128, June 1994. CODEN NUMMA7. ISSN 0029-599X (print), 0945-3245 (electronic). URL <http://link.springer.de/link/service/journals/00211/bibs/4068001/40680107.htm>; <http://science.springer.de/nmee/bibs/4068001/40680107.htm>.

Powell:1995:ASS

- [Pow95a] M. J. D. Powell. An algorithm that straightens and smooths piecewise linear curves in two dimensions. In Morten Dühlen, Tom Lyche, and Larry L. Schumaker, editors, *Mathematical Methods for Curves and Surfaces [Papers from an international conference, June 16–21, 1994, in Ulvik, Norway]*, pages 439–453. Vanderbilt University Press, Nashville, TN, USA, 1995. ISBN 0-8265-1268-2. LCCN QA565 .M37 1995.

Powell:1995:SCP

- [Pow95b] M. J. D. Powell. Some convergence properties of the modified log barrier method for linear programming. *SIAM Journal on Optimization*, 5(4):695–739, November 1995. CODEN SJOPE8. ISSN 1052-6234 (print), 1095-7189 (electronic).

Powell:1996:RAT

- [Pow96a] M. J. D. Powell. A review of algorithms for thin plate spline interpolation in two dimensions. In F. Fontanella, K. Jetter, and Pierre Jean Laurent, editors, *Advanced topics in multivariate approximation: proceedings of the international workshop: Montecatini Terme, Italy, September 27–October 3, 1995*, volume 8 of *Ser. Approx. Decompos.*, pages 303–322. World Scientific Publishing Co., Singapore; Philadelphia, PA, USA; River Edge, NJ, USA, 1996. ISBN 981-02-2852-X. LCCN QA297.5 .A28 1996.

Powell:1996:TPS

- [Pow96b] M. J. D. Powell. A thin plate spline method for mapping curves into curves in two dimensions. In Robert L. May and Alan K. Easton, editors, *Computational techniques and applications: CTAC95 (Melbourne, 1995)*, pages 43–57. World Scientific Publishing Co., Singapore; Philadelphia, PA, USA; River Edge, NJ, USA, 1996. ISBN 981-02-2820-1. LCCN QA299.6 .I56 1995.

Powell:1997:NIA

- [Pow97a] M. J. D. Powell. A new iterative algorithm for thin plate spline interpolation in two dimensions. *Annals of Numerical Mathematics*, 4(1–4):519–527, 1997. ISSN 1021-2655. The heritage of P. L. Chebyshev: a Festschrift in honor of the 70th birthday of T. J. Rivlin.

Powell:1997:RMM

- [Pow97b] M. J. D. Powell. A review of methods for multivariable interpolation at scattered data points. In Duff and Watson [DW97], pages 283–309. 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.

Powell:1998:DSA

- [Pow98a] M. J. D. Powell. Direct search algorithms for optimization calculations. *Acta Numerica*, 7:287–336, 1998. CODEN ANUMFU. ISBN 0-521-64316-3. ISSN 0962-4929 (print), 1474-0508 (electronic).

Powell:1998:TSA

- [Pow98b] M. J. D. Powell. A “taut string algorithm” for straightening a piecewise linear path

- in two dimensions. *IMA Journal of Numerical Analysis*, 18(1):1–35, January 1998. CODEN IJNADH. ISSN 0272-4979 (print), 1464-3642 (electronic). URL http://www3.oup.co.uk/imanum/hdb/Volume_18/Issue_01/180001.sgm.abs.html; http://www3.oup.co.uk/imanum/hdb/Volume_18/Issue_01/pdf/180001.pdf. [Pow99a]
- [Pow98c] M. J. D. Powell. Trust region calculations revisited. In D. F. Griffiths, D. J. Higham, and G. A. Watson, editors, *Numerical analysis 1997 (Dundee)*, volume 380 of *Pitman Res. Notes Math. Ser.*, pages 193–211. Longman Scientific and Technical, Harlow, Essex, UK, 1998. ISBN 0-582-31261-2. LCCN QA297 .D85 1997.
- [Pow98d] M. J. D. Powell. The use of band matrices for second derivative approximations in trust region algorithms. In Ya xi-ang Yuan, editor, *Advances in nonlinear programming: [proceedings of the 96 International Conference on Nonlinear Programming: September 2–5, 1996, Institute of Computational Mathematics and Scientific/Engineering Computing, Chinese Academy of Sciences, Beijing, China]*, volume 14 of *Appl. Optim.*, pages 3–28. Kluwer Academic Publishers Group, Norwell, MA, USA, and Dordrecht, The Netherlands, 1998. ISBN 0-7923-5053-7. LCCN T57.8 .I58 1996.
- [Pow99b] M. J. D. Powell. Recent research at Cambridge on radial basis functions. In Manfred W. Müller, Michael Felten, and Detlef H. Mache, editors, *New developments in approximation theory: 2nd International Dortmund Meeting (IDoMAT) '98, Germany, February 23–27, 1998*, volume 132 of *Internat. Ser. Numer. Math.*, pages 215–232. Birkhäuser, Cambridge, MA, USA; Berlin, Germany; Basel, Switzerland, 1999. ISBN 3-7643-6143-3. LCCN QA221 .I55 1998.
- [Pow00] M. J. D. Powell. On the convergence of the DFP algorithm for unconstrained optimization when there are only two variables. *Mathematical Programming*, 87(2):281–301, 2000. CODEN MHPGA4. ISSN 0025-5610 (print), 1436-4646 (elec-

Powell:1999:OWM

Powell:1999:RRC

Powell:2000:CDA

tronic). Studies in algorithmic optimization.

Powell:2001:LFQ

- [Pow01] M. J. D. Powell. On the Lagrange functions of quadratic models that are defined by interpolation. *Optimization Methods and Software*, 16(1–4):289–309, 2001. ISSN 1026-7670 (print), 1055-6788 (electronic). Dedicated to Professor Laurence C. W. Dixon on the occasion of his 65th birthday.

Powell:2002:UUO

- [Pow02] M. J. D. Powell. UOBYQA: unconstrained optimization by quadratic approximation. *Mathematical Programming*, 92(3):555–582, 2002. CODEN MHPGA4. ISSN 0025-5610 (print), 1436-4646 (electronic). ISMP 2000, Part 2 (Atlanta, GA).

Powell:2003:TRM

- [Pow03] M. J. D. Powell. On trust region methods for unconstrained minimization without derivatives. *Mathematical Programming*, 97(3):605–623, 2003. CODEN MHPGA4. ISSN 0025-5610 (print), 1436-4646 (electronic). New trends in optimization and computational algorithms (NTOC 2001) (Kyoto).

Powell:2004:LFN

- [Pow04a] M. J. D. Powell. Least Frobenius norm updating of quadratic models that satisfy interpolation conditions. *Mathematical Programming*, 100(1):183–

215, 2004. CODEN MHPGA4. ISSN 0025-5610 (print), 1436-4646 (electronic).

Powell:2004:UQM

- [Pow04b] M. J. D. Powell. On the use of quadratic models in unconstrained minimization without derivatives. *Optimization Methods and Software*, 19(3–4):399–411, 2004. ISSN 1026-7670 (print), 1055-6788 (electronic). The First International Conference on Optimization Methods and Software. Part II.

Powell:2006:NSU

- [Pow06] M. J. D. Powell. The NEWUOA software for unconstrained optimization without derivatives. In Di Pillo and Roma [DR06], pages 255–297. ISBN 0-387-30063-5, 0-387-30065-1 (e-book). LCCN QA402.5 .W665 2004.

Powell:2007:VAO

- [Pow07] M. J. D. Powell. A view of algorithms for optimization without derivatives. *Mathematics Today*, 43(5):170–174, 2007. ISSN 1361-2042.

Powell:2008:DNM

- [Pow08] M. J. D. Powell. Developments of NEWUOA for minimization without derivatives. *IMA Journal of Numerical Analysis*, 28(4):649–664, October 2008. CODEN IJNADH. ISSN 0272-4979 (print), 1464-3642 (electronic). URL <http://imajna.oxfordjournals.org/cgi/content/abstract/28/4/649>.

Powell:2010:NOS

- [Pow10a] M. J. D. Powell. On non-linear optimization since 1959. In Bultheel and Cools [BC10], pages 141–160. ISBN 981-283-625-X (hardcover), 981-283-626-8 (e-book). LCCN QA297 .B54 2010. Proceedings of a symposium held at the Department of Computer Science of the K.U. Leuven, October 29–30, 2007.

Powell:2010:CWR

- [Pow10b] M. J. D. Powell. On the convergence of a wide range of trust region methods for unconstrained optimization. *IMA Journal of Numerical Analysis*, 30(1):289–301, January 2010. CODEN IJNADH. ISSN 0272-4979 (print), 1464-3642 (electronic). URL <http://imajna.oxfordjournals.org/cgi/content/abstract/30/1/289>; <http://imajna.oxfordjournals.org/cgi/reprint/30/1/289>.

Powell:2012:CTR

- [Pow12] M. J. D. Powell. On the convergence of trust region algorithms for unconstrained minimization without derivatives. *Computational optimization and applications*, 53(2):527–555, 2012. CODEN CPPPEF. ISSN 0926-6003 (print), 1573-2894 (electronic).

Powell:2013:BSB

- [Pow13] M. J. D. Powell. Beyond symmetric Broyden for updating quadratic models in minimization without derivatives. *Mathematical Programming*, 138(1–2):

475–500, 2013. CODEN MH-PGA4. ISSN 0025-5610 (print), 1436-4646 (electronic).

Powell:2014:LMS

- [Pow14] M. J. D. Powell. The Lagrange method and SAO with bounds on the dual variables. *Optimization Methods and Software*, 29(2):224–238, 2014. ISSN 1026-7670 (print), 1055-6788 (electronic).

Powell:2015:FTR

- [Pow15] M. J. D. Powell. On fast trust region methods for quadratic models with linear constraints. *Mathematical Programming Computation*, 7(3):237–267, 2015. ISSN 1867-2949 (print), 1867-2957 (electronic).

Powell:1968:AHT

M. J. D. Powell and J. K. Reid. On applying Householder transformations to linear least squares problems. Technical Report T.P. 322, Mathematics Branch, Theoretical Physics Division, Atomic Energy Research Establishment, Harwell, UK, February 1968. 20 pp.

Powell:1968:AHM

- [PR68b] M. J. D. Powell and J. K. Reid. On applying Householder’s method to linear least squares problems. In A. J. M. Morell, editor, *Proceedings of the IFIP Congress 68*, pages 122–126. North-Holland Publishing Co., Amsterdam, The Netherlands, 1968.

Powell:1969:AHT

- [PR69] M. J. D. Powell and J. K. Reid. On applying Householder transformations to linear least squares problems. In Morrell [Mor69], pages 122–126. ISBN 0-7204-2032-6. LCCN QA76 .I578.

Powell:1980:DC

- [PR80] M. J. D. Powell and F. D. K. Roberts. A discrete characterization theorem for the discrete L_1 linear approximation problem. *Journal of Approximation Theory*, 30(3):173–179, 1980. CODEN JAXTAZ. ISSN 0021-9045 (print), 1096-0430 (electronic).

Prekopa:1979:SMP

- [Pré79] A. (András) Prékopa, editor. *Survey of mathematical programming: proceedings of the 9th International Mathematical Programming Symposium, Budapest, August 23-27, 1976*. North-Holland Publishing Co., Amsterdam, The Netherlands, 1979. ISBN 0-444-85033-3 (hardcover). LCCN QA402.5.

Powell:1966:WUS

- [PS66] M. J. D. Powell and J. Swann. Weighted uniform sampling — a Monte Carlo technique for reducing variance. *Journal of the Institute of Mathematics and its Applications*, 2(3):228–236, September 1966. CODEN JMTAA8. ISSN 0020-2932.

Powell:1977:PQA

- [PS77] M. J. D. Powell and M. A. Sabin. Piecewise quadratic approximations on triangles. *ACM Transactions on Mathematical Software*, 3(4):316–325, December 1977. CODEN ACMSCU. ISSN 0098-3500 (print), 1557-7295 (electronic).

Powell:2000:SMO

- [PS00] M. J. D. Powell and S. Scholtes, editors. *System Modelling and Optimization: Methods, Theory and Applications: 19. IFIP-TC7 Conference on System Modelling and Optimization, July 12–16, 1999, Cambridge, UK*. Kluwer Academic Publishers Group, Norwell, MA, USA, and Dordrecht, The Netherlands, 2000. ISBN 0-7923-7881-4. LCCN QA402.3 .I4536 1999.

Powell:1979:ESH

- [PT79] M. J. D. Powell and Ph. L. Toint. On the estimation of sparse Hessian matrices. *SIAM Journal on Numerical Analysis*, 16(6):1060–1074, December 1979. CODEN SJNAAM. ISSN 0036-1429 (print), 1095-7170 (electronic).

Powell:1981:STP

- [PT81] M. J. D. Powell and Ph. L. Toint. The Shanno–Toint procedure for updating sparse symmetric matrices. *IMA Journal of Numerical Analysis*, 1(4):403–413, October 1981. CODEN IJNADH. ISSN 0272-4979 (print), 1464-3642 (electronic).

- [PY84] **Powell:1984:CSC**
M. J. D. Powell and Y. Yuan. Conditions for superlinear convergence in l_1 and l_∞ solutions of overdetermined nonlinear equations. *IMA Journal of Numerical Analysis*, 4(2):241–251, April 1984. CODEN IJNADH. ISSN 0272-4979 (print), 1464-3642 (electronic).
- [PY86] **Powell:1986:RQP**
M. J. D. Powell and Y. Yuan. A recursive quadratic programming algorithm that uses differentiable exact penalty functions. *Mathematical Programming*, 35(3):265–278, 1986. CODEN MH-PGA4. ISSN 0025-5610 (print), 1436-4646 (electronic).
- [PY91] **Powell:1990:TRA**
M. J. D. Powell and Y. Yuan. A trust region algorithm for equality constrained optimization. *Mathematical Programming*, 49(2):189–211, 1990/91. CODEN MHPGA4. ISSN 0025-5610 (print), 1436-4646 (electronic).
- [Qia17] **Qian:2017:APH**
Xiaoshan Qian. Application of Powell–HS algorithm in image classification. In IEEE, editor, *2017 International Conference on Computer Systems, Electronics and Control (ICC-SEC)*, pages 1–1003. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2017. ISBN 1-5386-3573-9, 1-5386-3574-7 (print). LCCN QA75.5 .I578 2018.
- [Rei87] **Reid:1987:SM**
J. K. Reid. Sparse matrices. In Iserles and Powell [IP87], pages 59–85. ISBN 0-19-853614-3. LCCN QA297 .J65 1986; QA297 .S781 1987. UK£55.00, US\$77.50. URL <http://www.gbv.de/dms/hbz/toc/ht002967923.pdf>; <http://zbmath.org/?q=an:0611.00024>.
- [Ric77] **Rice:1977:MSI**
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, USA, 1977. ISBN 0-12-587260-7. LCCN QA3 .U45 no. 39; QA297 .M36 1977. URL <https://www.sciencedirect.com/book/9780125872607/mathematical-software>.
- [RMR70] **Rosen:1970:NPP**
J. B. Rosen, O. L. Mangasarian, and K. Ritter, editors. *Nonlinear Programming: Proceedings of a Symposium Conducted by the Mathematics Research Center, The University of Wisconsin, Madison May 4–6, 1970*, number 25 in Publication of the Mathematics Research Center,

University of Wisconsin, Madison. Academic Press, New York, USA, 1970. ISBN 0-12-597050-1. LCCN QA3 .U45 no. 25.

Rina:2022:GCA

- [RSR22] Iswan Rina, Dwi Sulistiowati, and Diana RaudhatulOktavi. Graph coloring applications in scheduling courses using Welch–Powell algorithm — a case study. In IEEE, editor, *2022 International Symposium on Information Technology and Digital Innovation (ISITDI)*, pages 131–135. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2022. ISBN 1-66546-116-0, 1-66546-117-9 (printondemand).

Renegar:1996:MNA

- [RSS96] James Renegar, Michael Shub, and Steve Smale, editors. *The mathematics of numerical analysis: 1995 AMS-SIAM Summer Seminar in Applied Mathematics, July 17–August 11, 1995, Park City, Utah*, volume 32 of *Lectures in Applied Mathematics — American Mathematical Society*. American Mathematical Society, Providence, RI, USA, 1996. ISBN 0-8218-0530-4. ISSN 0075-8485. LCCN QA297 .A57 1995.

Sasson:1969:CUP

- [Sas69] Albert M. Sasson. Combined use of the Powell and Fletcher–Powell nonlinear programming methods for optimal load flows. *IEEE Transactions on Power*

Apparatus and Systems, PAS-88 (10):1530–1537, 1969. CODEN IEPSA9. ISSN 0018-9510.

Speleers:2008:MMP

- [SDV08] Hendrik Speleers, Paul Dierckx, and Stefan Vandewalle. Multigrid methods with Powell Sabin splines. *IMA Journal of Numerical Analysis*, 28(4):888–908, 2008. CODEN IJNADH. ISSN 0272-4979 (print), 1464-3642 (electronic).

Sarwar:2012:RTO

- [SRK12] Sajjad Sarwar, Naveed Iqbal Rao, and Muhammad Faisal Khan. Real-time object tracking using Powell’s direct set method for object localization and Kalman filter for occlusion handling. In IEEE, editor, *2012 International Conference on Digital Image Computing Techniques and Applications (DICTA)*, pages 1–7. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2012. ISBN 1-4673-2179-6, 1-4673-2180-X, 1-4673-2181-8. LCCN TA1637 .D46 2012.

Sugihara:2014:RSP

- [Sug14] Tomomichi Sugihara. Robust solution of prioritized inverse kinematics based on Hestenes–Powell multiplier method. In Wolfram Burgard, editor, *2014 IEEE/RSJ International Conference on Intelligent Robots and Systems*, pages 510–515. IEEE Computer Society Press, 1109

- Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2014. ISBN 1-4799-6931-1 (DVD), 1-4799-6934-6, 1-4799-6935-4. LCCN TJ217.5 .I344 2014.
- [Sun06] Xiaoling Sun. An interview with Professor Michael J. D. Powell. Web site, 2006. URL http://www-optima.amp.i.kyoto-u.ac.jp/ORB/issue21/interview_mike.html.
- [SWL⁺06] Bin Shen, Wen-Ying Wang, Zhong-Hua Lu, Xue-Bin Chi, and Hui Yu. Parallel implementation of the global optimization algorithm based on uniform distributional design and Powell method. In Timothy Mark Pinkston and Füsün Özgüner, editors, *2006 International Conference on Parallel Processing Workshops (ICPPW'06), Columbus, OH*, pages 6 pp.–518. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2006.
- [THB18] Nguyen Quoc Tuan, Ta Duy Hoang, and Huynh Thi Thanh Binh. A guided differential evolutionary multi-tasking with Powell search method for solving multi-objective continuous optimization. In IEEE, editor, *2018 IEEE Congress on Evolutionary Computation (CEC)*, pages 1–8. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2018. ISBN 1-5090-6017-0, 1-5090-6018-9 (print). LCCN QA76.618 .I344 2018.
- [TS99] T. Takahama and S. Sakai. Learning fuzzy control rules by a constrained Powell’s method. In IEEE, editor, *FUZZ-IEEE’99. 1999 IEEE International Fuzzy Systems. Conference Proceedings (Cat. No.99CH36315)*, volume 2, pages 650–655 vol.2. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 1999. ISBN 0-7803-5406-0 (soft-bound), 0-7803-5407-9 (case-bound), 0-7803-5408-7 (microfiche). LCCN QA248 .I33 1999.
- [TtJ15] Pan Ting-ting and Zhao Ji. Research on medical image registration based on QPSO and Powell algorithm. In IEEE, editor, *2015 14th International Symposium on Distributed Computing and Applications for Business Engineering and Science (DCABES)*, pages 316–319. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2015. ISBN 1-4673-6592-0, 1-4673-6593-9, 1-4673-6594-7.
- [TZP17] Ye Tang, Wei Zhou, and Xuyu Peng. Application of Powell fruit fly optimization algo-

- rithm to solutions of nonlinear equations. In Yong Liu, Liang Zhao, Guoyong Cai, Guoqing Xiao, Kenli Li, and Lipo Wang, editors, *2017 13th International Conference on Natural Computation, Fuzzy Systems and Knowledge Discovery (ICNC-FSKD): Guilin, China, 29-31 July 2017*, pages 492–496. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2017. ISBN 1-5386-2164-9, 1-5386-2165-7, 1-5386-2166-5 (print). LCCN QA76.9.N37. [Wat76]
- [Vic03] Lus Nunes Vicente. An interview with M. J. D. Powell. *Bulletin of the International Center for Mathematics*, (14):1–7, June 14, 2003. URL <http://www.mat.uc.pt/~lnv/papers/mjdp.pdf>.
- [VWBD02] E. Vanraes, J. Windmolders, A. Bultheel, and P. Dierckx. Dyadic and $\sqrt{3}$ -subdivision for uniform Powell–Sabin splines. In IEEE, editor, *Proceedings Sixth International Conference on Information Visualisation*, pages 639–643. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2002. ISBN 0-7695-1656-4 (paperback). LCCN TK7882.I6 I673 2002. [Wat78]
- [WA15] Xue Wang and Malek Adjouadi. Automatic registration of FDG_CT and FLT_CT images integrating Genetic Algorithm, Powell method and wavelet decomposition. In IEEE, editor, *2015 IEEE Signal Processing in Medicine and Biology Symposium (SPMB)*, pages 1–5. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2015. ISBN 1-5090-1350-4, 1-5090-1351-2.
- Watson:1976:NA**
- G. Alistair Watson, editor. *Numerical analysis (Proc. 6th Biennial Dundee Conf., Univ. Dundee, Dundee, 1975)*, volume 506. Springer-Verlag, Berlin, Germany / Heidelberg, Germany / London, UK / etc., 1976. CODEN LNMAA2. ISBN 3-540-07610-7 (print), 3-540-38129-5 (e-book). ISSN 0075-8434 (print), 1617-9692 (electronic). LCCN QA3.L28 no. 506. URL <http://www.springerlink.com/content/978-3-540-38129-7>.
- Watson:1978:NAP**
- G. A. Watson, editor. *Numerical Analysis: Proceedings of the Biennial Conference Held at Dundee, June 28–July 1, 1977*, volume 630 of *Lecture Notes in Mathematics*. Springer-Verlag, Berlin, Germany / Heidelberg, Germany / London, UK / etc., 1978. CODEN LNMAA2. ISBN 3-540-08538-6 (print), 3-540-35972-9 (e-book). ISSN 0075-8434 (print), 1617-9692 (electronic). LCCN
- Vicente:2003:IMJ**
- Vanraes:2002:DSR**
- Wang:2015:ARF**

- QA3 .L28 no. 630; QA1 .L471 v.630. URL <http://link.springer.com/book/10.1007/BFb0067690>; <http://www.springerlink.com/content/978-3-540-35972-2>. [Wil87]
- 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 LN-MAA2. 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>.
- Watson:2000:NAD**
- [WG00] George Alistair Watson and David Francis Griffiths, editors. *Numerical analysis 1999: [the 18th Dundee Biennial Conference on Numerical Analysis was held at the University of Dundee during the 4 days 29th June–2nd July, 1999]*, volume 420 of *Chapman & Hall/CRC Research Notes in Mathematics*. Chapman and Hall/CRC, Boca Raton, FL, USA, 2000. ISBN 1-58488-020-1 (paperback). LCCN QA297 .D85 1999; QA297 .N825 2000; QA297 .N853 1999.
- Wilkinson:1987:EP**
- J. H. Wilkinson. Eigenvalue problems. In Iserles and Powell [IP87], pages 1–39. ISBN 0-19-853614-3. LCCN QA297 .J65 1986; QA297 .S781 1987. UK£55.00, US\$77.50. URL <http://www.gbv.de/dms/hbz/toc/ht002967923.pdf>; <http://zbmath.org/?q=an:0611.00024>.
- Wang:2023:GOU**
- [WZL⁺23] Zhiping Wang, Fan Zhang, Dongcai Liu, Xiaoting Chen, and Jing Yin. Global optimization using a combination of differential evolution and modified Powell method. In IEEE, editor, *2023 3rd International Conference on Neural Networks, Information and Communication Engineering (NNICE)*, pages 213–218. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2023.
- Zhang:2023:RFD**
- [wZyTL⁺23] Jun wei Zhang, Jun yu Tian, Xin Liu, Long fei Wu, Peng Li, and Tong Wu. Research on fault diagnosis of high voltage circuit breaker based on random forest optimized by Powell-PSO. In IEEE, editor, *2023 3rd International Conference on Consumer Electronics and Computer Engineering (ICCECE)*, pages 468–473. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2023.

- [XD04] **Xu:2004:DEP**
 Xiaoyan Xu and R. D. Dony. Differential evolution with Powell's direction set method in medical image registration. In Sven Lonçariç, A. (Alessandro) Neri, and Hrvoje Babić, editors, *2004 2nd IEEE International Symposium on Biomedical Imaging: Nano to Macro*, pages 732–735 (vol. 1). IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2004. IEEE catalog number 04EX821.
- [XJY+13] **Xiaogang:2013:AMR**
 Du Xiaogang, Dang Jianwu, Wang Yangping, Liu Xinguo, and Li Sha. An algorithm multi-resolution medical image registration based on firefly algorithm and Powell. In IEEE, editor, *2013 Third International Conference on Intelligent System Design and Engineering Applications*, pages 274–277. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2013. ISBN 0-7695-4923-3, 1-4673-4893-7. LCCN QA76.76.E95 I5755 2013.
- [Yav22] **Yavuz:2022:SLJ**
 Gürcan Yavuz. Senior learning JAYA with Powell's method and incremental population strategy. *IEEE Access*, 10:103765–103780, 2022. ISSN 2169-3536.
- [YGL10] **Yang:2010:SSM**
 Jie Yang, Zengliang Gao, and Yi Liu. Soft sensor modeling of $\text{AlCl}_3\cdot 6\text{H}_2\text{O}$ content based on Powell-BP. In Yanwen Wu and Jian Li, editors, *2010 2nd International Asia Conference on Informatics in Control, Automation and Robotics (CAR 2010)*, volume 2, pages 413–416. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2010. ISBN 1-4244-5192-2.
- [YZM+18] **Yang:2018:ILC**
 Gun Yang, Fangrong Zhou, Yi Ma, Zhanqing Yu, Yijun Zhang, and Jinliang He. Identifying lightning channel-base current function parameters by Powell particle swarm optimization method. *IEEE Transactions on Electromagnetic Compatibility*, 60(1):182–187, 2018. CODEN IEMCAE. ISSN 0018-9375 (print), 1558-187X (electronic).
- [ZCW+20] **Zhuang:2020:PEL**
 Li Zhuang, Longpeng Cao, Yong Wu, Yonghong Zhong, Lili Zhangzhong, Wengang Zheng, and Long Wang. Parameter estimation of Lorenz chaotic system based on a hybrid Jaya-Powell algorithm. *IEEE Access*, 8:20514–20522, 2020. ISSN 2169-3536.
- [ZGGZ09] **Zhang:2009:PSO**
 Ye Zhang, Yan Guo, Yanfeng Gu, and Weizhi Zhong. Particle swarm optimization with Powell's direction set method for remote sensing image registration. In Haiying Wang,

editor, *2009 Fifth International Conference on Natural Computation*, volume 4, pages 388–392. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2009. ISBN 0-7695-3736-7, 1-4244-4542-6 (print). LCCN QA76.9.N37 I67 2009.

Zhu:2011:DSE

- [ZTBL11] Xinjian Zhu, Shengzhen Tao, Jing Bai, and Ke Liu. Displacement and strain estimation based on numerical optimization method with Powell algorithm and wavelet analysis in ultrasound elastography. In Peihua Qiu, editor, *2011 4th International Congress on Image and Signal Processing*, volume 1, pages 130–133. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 2011. ISBN 1-4244-9304-8, 1-4244-9306-4. LCCN TA1637 .I68.