

# A Bibliography of Publications by, and about, Magnus Rudolph Hestenes

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05 June 2024

Version 1.05

## Abstract

6 [Tab70].

This bibliography records publications of Magnus Rudolph Hestenes.

70th [Rus76].

## Title word cross-reference

$Ax = \lambda Bx$  [HK51a].  $E$  [Hes46c].

-function [Hes46c].

13-15 [Cra87]. 1968 [ZNB69]. 1970 [Rei71a]. 1987 [Cra87].

2 [Tab70]. 23 [PT53]. 2nd [ZNB69].

447 [Jer77].

Academic [Tab70]. Accelerated [Jit80]. ACM [Cra87]. adaptive [DLLL19]. adjoint [Hes61c]. affine [DHG<sup>+</sup>17]. Algebra [Hes62c, LH91, Hes73b, SM02]. algebraic [FW48, Mae54]. algebraischer [Mae54]. algebras [BI64]. Algorithm [SLLT18, WZ14, LLW22, YZ13, YML16]. Algorithms [Ano22, DS00, GO89, HWY20, WSH<sup>+</sup>17, Wan23]. alternate [Hes47a]. analogue [Hes41b]. Analysis [HT91, PT53, Hes54, Hes76b, Hes87]. Andenken [Zus79]. Anelli [BP77]. Angeles [PT53]. application [HM40, HWY20, LLW22]. Applications

[Hes50b, Hes51a, Hes62c, LH91, Rei71a].  
**applied** [Roc73]. **appreciation** [Mie74].  
**approach** [BKG15, SM02]. **April** [Rei71a].  
**Armijo** [DW12]. **articles** [Ano74].  
**Artinian** [Cag80, Pro77]. **artiniani** [BP77].  
**Auflösung** [Mae54]. **Augmentability**  
 [Hes80a]. **augmented** [wDLLQ09, For75].  
**August** [PT53].

**B70** [Tab70]. **B70-6** [Tab70].  
**Balakrishnan** [Dre65, Tab70]. **based**  
 [BKG15, Sug14, WSH<sup>+</sup>17, Zha09]. **basis**  
 [Hes34a]. **Beckenbach** [Dea64]. **BFGS**  
 [BKG18]. **bilateri** [BP77].  
**Biorthogonalization** [Hes58]. **Bipedal**  
 [SLLT18]. **birthday** [Rus76]. **Bolza**  
 [BH33a, Hes33c, Hes34a, Hes34c, Hes34d,  
 Hes34e, Hes36c, Hes36b, Hes37, Hes39,  
 Hes42, Hes46a, Hes47a, Hes47b]. **Book**  
 [Buk67, Cul77, Dea64, Dre65, Jer77, Ste82].  
**boundary** [Sny82]. **Bounded** [Gui65a].

**calculation** [HK51b]. **Calculus**  
 [BH35a, BH35c, BH35d, Buk67, Hes33e,  
 HB33, Hes34d, Hes49, Hes50a, Hes50b,  
 Hes56b, Hes66b, Hes80b, Hes13, Rus76,  
 You68, BH35b, BH32, BH33a, BH33b, Bol01,  
 Hes33a, Hes33d, Hes33c, Hes34b, Hes34c,  
 Hes34e, Hes36c, Hes37, Hes38, Hes39, HR39,  
 HM40, Hes41b, Hes42, Hes46a, Hes46b,  
 Hes46c, Hes48, Hes51a, Hes66a]. **California**  
 [PT53]. **Case** [Hes75b, Cul77, Jer77].  
**Catherine** [Rei71a]. **Center** [Rus76].  
**Century** [Ano22, Lid01]. **certain**  
 [HR74a, HR74b]. **CG** [CLS24, HAE21].  
**characteristic** [HK51b]. **characterization**  
 [Sci77]. **Chisholm** [Rus76]. **Chronicle**  
 [Lid01]. **class** [Wan23]. **close** [RLHK51].  
**coefficient** [RMMF10]. **Collection** [Ano74].  
**College** [Rei71a]. **combination**  
 [DHG<sup>+</sup>17, Rup75]. **combined** [BGR05].  
**Computation** [Cra87]. **computational**  
 [Hes55]. **Computer** [Lee95, Zus79].  
**Computerentwicklung** [Zus79].

**Computing**  
 [Nas90, ZNB69, ZNB69, Dre65, Tab70].  
**condition** [DLHY15, Hes33a, Hes34b, HR39,  
 Pel91, Zha09]. **Conditions** [BH35c, BH35d,  
 Hes32b, HB33, Hes34d, BH32, BH33b,  
 Hes31, Hes32a, Hes33b, Hes33d, Hes33c,  
 Hes34e, Hes36b, Hes46a, Hes48, KBA23b].  
**conducted** [Rus76]. **Conference**  
 [Cra87, Rei71a, ZNB69]. **Conjugacy**  
 [Hes87, Hes90, DLHY15, KBA23b].  
**Conjugate** [GO89, HS52, Hes56a, Hes75c,  
 Hes78a, Hes80c, O'L01b, Rai17, Rei71b,  
 SLLT18, AFP19, BKG15, BKG17, BSA18,  
 DC05, DW12, DLHY15, DLL<sup>+</sup>17, DHG<sup>+</sup>17,  
 DLLL19, FA21, GXS95, Heg88b, Heg88a,  
 HWY20, KBA23b, LLW22, NK21, QHL96,  
 RMMF10, SW15, SA16, Shi01, WSH<sup>+</sup>17,  
 Wan23, WHT10, YZ13, YML16, Zha09,  
 Ste82]. **Considered** [Gui65b]. **considering**  
 [KBA23a]. **constrained**  
 [wDLLQ09, HKH<sup>+</sup>22, SL15]. **constraints**  
 [AKAW19]. **Contributions** [Hes33e].  
**Control** [Buk67, Hes65, Hes66b, Hes69c,  
 Hes80b, Rus76, You68, Dur99, Hes64,  
 Hes66a, Hes75a, Hes76a]. **Controller**  
 [SLLT18]. **Convergence**  
 [Rai17, BSA18, DW12, GXS95, Jit80, SW15,  
 Sci77, Shi01, SL15, WHT10, ZZ12, ZZ13].  
**Convergent** [SLLT18]. **convex**  
 [AKAW19, Roc73]. **Coordinates** [Gui65a].  
**critical** [Hes45]. **CUDA** [CMN18].

**Dai** [BKG15, NK21]. **Dan** [DC05]. **Date**  
 [Ano22]. **Deaths** [Ano91a]. **Decomposition**  
 [WZ14]. **decompositions** [BI64].  
**Dedicated** [Rus76, Ano74]. **derivative**  
 [HKH<sup>+</sup>22]. **derivative-free** [HKH<sup>+</sup>22].  
**Derivatives** [Rai17]. **descent**  
 [BKG17, BSA18, DLHY15, KBA23a,  
 KBA23b, SRMM14, Wan23]. **Describing**  
 [CC97]. **Determination** [Hes53, PT53].  
**development** [Zus79]. **differentiable**  
 [For75, Hes41a]. **Differential**  
 [O'L01a, Hes61b, HG68]. **Dimensional**

[Cul77, Hes75b, Jer77]. **direct**  
 [BI64, Heg88b, Hes37]. **Direction**  
 [Hes80c, Rai17, Ste82, Hes78a]. **directions**  
 [Heg88b, Heg88a]. **Discovers** [Ano22].  
**discrete** [Dur99]. **dual** [SW75].

**Edited** [Dea64]. **Editors** [DS00]. **Eds**  
 [Tab70]. **Eduard** [Zus79, Zus79]. **Edwin**  
 [Dea64]. **effective** [Cag80]. **effettivi** [BP77].  
**efficient** [DLLL19, SA16]. **Eigenvalue**  
 [O'L01a]. **Eigenvalues**  
 [PT53, Hes53, RLHK51]. **eigenvectors**  
 [Hes53]. **Elementary** [Hes50a]. **Elements**  
 [Hes56b, Hes66a, Hes13]. **elliptic** [Hes61b].  
**embedding** [HG68]. **End**  
 [Hes32b, Hes31, Hes33b]. **End-Points**  
 [Hes32b, Hes31]. **Endpoint** [Hes49].  
**endpoints** [Hes32a]. **Engineer**  
 [Bec56, Bec62, Bec13a, Bec13b, Dea64].  
**Engineering** [LH91, SW75]. **Equation**  
 [Rai17b]. **Equations** [AMI<sup>+</sup>21, Hes51b,  
 HS51, PT53, Rei71a, AKAW19, AWK<sup>+</sup>20,  
 FHR51, FHW48, HKH<sup>+</sup>22, Hes61b, HG68,  
 Hes73a, HS73, Mae54, SL15, YML16]. **ETH**  
 [Zus79, Zus79]. **Exactness** [wDLLQ09].  
**examples** [CLS24]. **Excellence** [Lid01].  
**Extension**  
 [Hes41a, DLLL19, FW98a, FW98b, Pel91].  
**Extensions** [BKG17].

**F** [Dea64, You68]. **family**  
 [KBA23a, KBA23b]. **Finite**  
 [Cul77, Hes75b, Jer77]. **First**  
 [Bec56, Bec13a]. **Fixed** [Hes49]. **form**  
 [Hes34c, Hes36c, Hes47b]. **Formalization**  
 [CC97]. **Forms** [Hes68, HM40, Hes51a].  
**FPGA** [WZ14]. **free** [HKH<sup>+</sup>22]. **function**  
 [wDLLQ09, Hes41a, Hes46c]. **functionals**  
 [For75, HR74a, HR74b]. **Functions**  
 [Hes36a, FW98a, FW98b].

**Gage** [Fri73]. **gaps** [SW75]. **General**  
 [Heg88b, Heg88a, Hes32b, Hes50b, Hes31,  
 Hes33b]. **Generalized** [BH35a, BH35b,

FW98a, FW98b, Hes39, FW08]. **German**  
 [Mae54, Zus79]. **Gleichungen** [Mae54].

**Global**

[DW12, GXS95, BSA18, SW15, Shi01].

**GMRES** [CLS24]. **GPU** [CMN18].

**GPU-CUDA** [CMN18]. **Gradient**

[GO89, Hes56a, SLLT18, AFP19, BKG15,  
 BKG17, BSA18, DC05, DW12, DLHY15,  
 DLL<sup>+</sup>17, DHG<sup>+</sup>17, DLLL19, FA21, GXS95,  
 Hes69a, Hes69b, HWY20, KBA23b, LLW22,  
 NK21, QHL96, RMMF10, SW15, SA16,  
 Shi01, WSH<sup>+</sup>17, Wan23, WHT10, YZ13,  
 YML16, Zha09]. **Gradients** [HS52, Hes75c,  
 O'L01b, Rei71b, HK51b, Hes87, Hes90].

**Gram** [Rai17]. **Green** [Hes41b]. **Guest**  
 [DS00].

**held** [PT53, Rei71a]. **Hermitian** [Hes61a].

**Hestene** [Rai17]. **Hestenes**

[Buk67, Cul77, Jer77, AMI<sup>+</sup>21, AFP19,  
 Ano74, Ano91a, Ano91b, Anoxx, AKAW19,  
 AWK<sup>+</sup>20, BKG15, BKG17, BKG18, BF81,  
 BSA18, BP77, BI64, BCH<sup>+</sup>91, Ber92, BGR04,  
 BGR05, Cag80, Cag81, Cha91, CC97,  
 CMN18, DC05, DW12, DLHY15, DLL<sup>+</sup>17,  
 DHG<sup>+</sup>17, DLLL19, wDLLQ09, Dur99, FA21,  
 FW98a, FW98b, FW08, For75, Fri73, Gui65a,  
 Gui65b, GXS95, HAE21, Han88, HKH<sup>+</sup>22,  
 Heg88b, Heg88a, HWY20, JBM21, Jit80,  
 KBA23a, KBA23b, Lee95, LLW22, Mie74,  
 NK21, Pel91, Pro77, QHL96, RMMF10,  
 Roc73, Rup75, SW15, SA16, Sci77, SRMM14,  
 Shi01, Smi69, Sny82, Spe76, Spe78, Ste82,  
 SW75, Ste68, Ste73, Sug14, SM02, SL15,  
 SLLT18, WZ14, WSH<sup>+</sup>17, Wan23, WHT10,  
 You68, YZ13, YML16, Zha09, ZZ12, ZZ13].  
**Hilbert** [Hes51a, Hes54, Hes61c]. **Hill**  
 [Dea64]. **History** [Cra87, GO89, Nas90].  
**HSNC'87** [Cra87]. **hybridization**  
 [BKG15, BKG18, NK21]. **Hypotheses**  
 [Gui65b].

**ideal** [Cag81]. **ideali** [BP77]. **ideals**  
 [Cag80]. **II** [Heg88a, Hes34e, HR74b]. **Image**

- [AMI<sup>+</sup>21, CC97, HKH<sup>+</sup>22, HWY20, Wan23]. **Implementation** [CMN18, WZ14]. **INA** [HT91]. **indefinite** [BGR04]. **indirect** [Hes47b]. **inequality** [wDLLQ09]. **inexact** [BGR05]. **Institute** [HT91, PT53, Rei71a]. **Integral** [O'L01a, Hes48]. **interior** [BGR04]. **interior-point** [BGR04]. **International** [ZNB69]. **Introduction** [DS00, Hes50a, Hes62a, Hes62b, Smi69]. **inverse** [Sug14]. **Inversion** [Hes58]. **Isoperimetric** [BH35c, BH35d, Hes38, Hes46a]. **Italy** [ZNB69]. **Iteration** [O'L01a]. **Iterative** [FHR51, Hes51b, Hes55, Hes73a, Mae54]. **iterativen** [Mae54].
- Jacobi** [CMN18, Hes33a, Hes34b, WZ14]. **Jacobi-One-Sides** [CMN18]. **Jacobson** [Ste68, Ste73]. **Jersey** [Cra87]. **John** [Jer77].
- Karush** [BGR05]. **kinematics** [Sug14]. **Kuhn** [BGR05].
- L** [Tab70]. **Lagrange** [Hes33d, Hes34a, Hes36b]. **Lagrangian** [wDLLQ09, For75]. **Lanczos** [GO89]. **Large** [Rei71a, Rei71b, DLL<sup>+</sup>17, Wan23, YZ13, YML16]. **large-scale** [DLL<sup>+</sup>17, Wan23, YZ13, YML16]. **Laurence** [Rus76]. **Least** [Hes50b, BKG15]. **least-squares** [BKG15]. **lemma** [FW98a, FW98b, FW08]. **light** [SM02]. **like** [AKAW19]. **Lindeberg** [Hes46b]. **line** [DW12, JBM21]. **Linear** [CC97, Hes51b, HS51, HS52, Hes56a, Hes62c, LH91, O'L01a, O'L01b, PT53, Rei71a, Rei71b, BKG18, FHR51, FHW48, Hes61b, Hes73a, HS73, NK21, SL15]. **London** [Jer77]. **Lucien** [Dre65].
- M** [Mie74]. **M.** [Buk67]. **Madison** [Rus76]. **Magnus** [Cul77, Jer77, Ste82, Ano74, Ano91a, Ano91b, Anox, BCH<sup>+</sup>91, Ber92, Cha91, Lee95, You68]. **Mathematics** [Bec56, Bec62, Bec13a, Bec13b, Dea64, LH91, Rei71a, Rus76]. **Matrices** [Hes58, Hes62c, Hes53, Hes61a]. **matrix** [HK51b, RLHK51]. **May** [Cra87]. **Mayer** [BH32, BH33b, Hes31, Hes32b, Hes32a, Hes33b, HB33]. **McGraw** [Dea64]. **McGraw-Hill** [Dea64]. **Measurements** [Lid01]. **memory** [Ber92, Zus79]. **memoryless** [BKG18]. **Method** [AMI<sup>+</sup>21, CMN18, HAE21, Han88, Hes56a, O'L01a, Rai17, Rei71b, AFP19, AKAW19, AWK<sup>+</sup>20, BKG18, BSA18, BGR04, BGR05, DC05, DW12, DLHY15, DLLL19, Dur99, FA21, For75, GXS95, HKH<sup>+</sup>22, HK51b, Jit80, KBA23a, KBA23b, NK21, QHL96, Roc73, Rup75, SW15, SA16, Sci77, SRMM14, Shi01, Sny82, SW75, Sug14, SL15, WHT10, Zha09, ZZ12, ZZ13]. **Methods** [Hes49, Hes51b, HS52, Hes80c, O'L01b, Ste82, Tab70, ZNB69, BKG15, BKG17, DLL<sup>+</sup>17, DHG<sup>+</sup>17, Dre65, FHR51, Hes54, Hes55, Hes69a, Hes69b, Hes73a, Hes78a]. **minimal** [Cag81]. **Minimax** [BH35a, Hes36a, BH35b]. **Minimization** [For75, HS51, HS73, HR74a, HR74b]. **minimizations** [YML16]. **mixed** [DC05]. **Modern** [Bec56, Bec62, Bec13a, Bec13b, Dea64]. **modification** [JBM21, SA16, SRMM14]. **Modifications** [HAE21]. **Modified** [RMMF10, AFP19, BSA18, DW12, DLHY15, DLL<sup>+</sup>17, HWY20, KBA23b, LLW22, QHL96, Shi01, SL15, WHT10, YZ13, YML16, ZZ13]. **Monotone** [AMI<sup>+</sup>21, AKAW19, AWK<sup>+</sup>20]. **Motroni** [Fri73]. **multiple** [Hes48]. **Multiplier** [Hes69a, Hes69b, BGR05, Jit80, Roc73, Rup75, Sug14]. **multipliers** [Sci77, SW75].
- Natural** [BH35c, BH35d]. **NBS** [Ano22, HT91, Lid01]. **NBS-INA** [HT91]. **NBS/NIST** [Lid01]. **necessary** [Pel91]. **Neustadt** [Tab70, Dre65]. **Newton** [BGR05, KBA23a, Rup75]. **NIST** [Lid01].

**no** [Cag80]. **non** [For75]. **non-differentiable** [For75]. **nonconvex** [ZZ13]. **Nonlinear** [AMI<sup>+</sup>21, AKAW19, AWK<sup>+</sup>20, DW12, HKH<sup>+</sup>22, SA16, Sny82, SL15, YML16, Zha09]. **nonmonotone** [DLL<sup>+</sup>17]. **nonparametric** [Hes47b]. **nonsmooth** [YML16]. **normal** [Hes47a]. **note** [BH33a, Hes33a, Hes34b, HR39, ZZ12]. **Notes** [FHW48]. **Number** [Han88]. **Numeric** [Cra87]. **Numerical** [Dur99, Hes49, HT91, PT53, Rai17, Hes54]. **NY** [Tab70].

**Obituary** [BCH<sup>+</sup>91]. **Obtaining** [Hes49]. **occasion** [Rus76]. **One** [Ano22, CMN18]. **Operator** [AMI<sup>+</sup>21]. **Operators** [O'L01a, Hes61c]. **Optimal** [Buk67, Hes65, Hes66b, Hes69c, Hes80b, SLLT18, You68, AFP19, Dur99, Hes64]. **Optimization** [HAE21, Hes75b, Hes80c, Rai17, Tab70, ZNB69, Dre65, wDLLQ09, Hes78a, Hes78b, Hes80a, NK21, RMMF10, SW75, Wan23, YZ13, Zha09, ZZ13, Ste82, Cul77, Jer77]. **optimum** [Hes66a]. **original** [ZZ12]. **Osgood** [Bol01]. **Oxford** [Rei71a, Rei71a].

**Pairs** [Hes68]. **Papers** [ZNB69, Cra87]. **Parallel** [CMN18]. **parameter** [AWK<sup>+</sup>20]. **parametric** [Hes33a, Hes34b, Hes34c, Hes36c]. **partial** [Hes61b]. **Path** [Hes28]. **Paths** [Hes50b]. **Pioneers** [Lee95]. **point** [BGR04, Sny82]. **Points** [Hes32b, Hes31, Hes33b, Hes45]. **Polak** [BKG17]. **polarization** [SM02]. **Polyak** [BKG17]. **Powell** [wDLLQ09, For75, Jit80, Roc73, Rup75, Sug14]. **pp** [Tab70]. **pp**. [Dea64]. **presented** [Cra87, ZNB69]. **Press** [Tab70]. **Primitive** [Cag81]. **Princeton** [Cra87]. **Principle** [BH35a, Hes36a, BH35b]. **prioritized** [Sug14]. **privi** [BP77]. **Problem** [Gui65a, Gui65b, Hes32b, HB33, Hes34d, Hes50b, O'L01a, BH32, BH33a, BH33b,

Hes31, Hes32a, Hes33b, Hes33d, Hes33c, Hes34c, Hes34e, Hes36c, Hes37, Hes39, Hes42, Hes46a, Hes47a, Hes47b]. **Problems** [HAE21, Hes49, Tab70, ZNB69, DLL<sup>+</sup>17, wDLLQ09, Dur99, Hes33a, Hes34a, Hes34b, Hes36b, Hes38, Hes48, Hes75a, Hes76a, Hes78b, Hes83, Sny82, Wan23, Dre65]. **Proceedings** [Rei71a, Cra87, PT53, Rus76]. **processing** [AWK<sup>+</sup>20]. **Professor** [Mie74]. **programming** [Roc73]. **Projected** [SLLT18]. **projection** [AKAW19, AWK<sup>+</sup>20, LLW22, SL15]. **proof** [Bol01, Hes37, Hes38, Hes47a, Hes47b]. **properties** [wDLLQ09, SRMM14, ZZ12]. **property** [AFP19, BKG17, BSA18, SA16]. **pseudoinverse** [Hes76b]. **Pseudoinverses** [Hes75c]. **Publications** [Lid01].

#### Quadratic

[Hes61b, Hes68, Hes75a, Dur99, HM40, Hes51a, HR74a, HR74b, Hes76a, Hes83]. **quasi** [KBA23a]. **quasi-Newton** [KBA23a]. **Quasiprimitive** [BF81].

**R** [Ano74, Ano91a, Ber92, Buk67, Cul77, Jer77, Lee95, Mie74]. **Radical** [Spe76]. **range** [Hes41a]. **Rapidly** [SLLT18]. **rate** [SL15]. **Rates** [Rai17]. **real** [HK51b, RLHK51]. **recursion** [Heg88b, Heg88a]. **recursions** [Heg88b, Heg88a]. **Reducing** [Han88]. **Related** [Hes58]. **Relative** [Hes61a, Hes61c]. **Remarks** [FW08]. **Remo** [ZNB69]. **Replies** [Fri73]. **Report** [Buk67]. **Research** [Rus76]. **resolve** [SW75]. **restart** [SA16]. **Restoration** [AMI<sup>+</sup>21, HKH<sup>+</sup>22, HWY20, Wan23]. **Results** [Hes58]. **reverse** [Heg88a]. **Review** [Cul77, Dea64, Dre65, Jer77, Ste82]. **Reviews** [You68]. **Rivière** [BKG17]. **right** [Cag80, Cag81]. **ring** [Spe76]. **Rings** [Ste68, BF81, Cag80, Cag81, Pro77, Smi69, Spe78, Ste73]. **Robots** [SLLT18]. **Robust** [Sug14, SLLT18]. **role** [Hes76b, Zus79].

**Rolle** [Zus79]. **roots** [HK51b]. **Rotating** [Hes28]. **Rudolf** [BCH<sup>+</sup>91]. **Rudolph** [Anoxx].

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