A Bibliography of Publications of Ulrich Ruede

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13 October 2017
Version 0.11

Abstract

This bibliography records publications of Ulrich Ruede.

Title word cross-reference

-Solution [GHRS92a, GHRS92b].

abstraction [Rüd93a]. **Accurate** [Rüd88a, KR04]. **Adaptive** [MR89, Rüd93f, Rüd91a, Rüd92a, Rüd94, PR93, Rüd92c, Rüd92d, Rüd93d]. **Algebraic** [MRZ88, RR93]. **Algorithmen** [ZFR88]. **algorithms** [Rüd93a]. **AMG** [MRZ88, RR93]. **Analysis** [BR92]. **Anwendung** [Rüd85]. **Application** [MRZ88]. **Aspekte** [ZFR88].

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Werkzeuge [FR90]. **Workbench** [RZ86b]. **Workstation** [GHRS92a, GHRS92b].

zur [FR90, Rüd85, Rüd88b].

References

Arbesmeier:1991:TMM

[AR91] M. Arbesmeier and U. Rüde. A toolbox for multigrid methods. Bericht I-9136, Institut für Informatik, TU München, September 1991. URL `file://www.tu-chemnitz.de/pub/Local/mathematik/Ruede/mgwb.ps.Z`.

Bungartz:1992:ECS

[BGR92] H. Bungartz, M. Griebel, and U. Rüde. Extrapolation, combination and sparse grid techniques for elliptic boundary value problems. SFB Bericht 342/10/92 A, Institut für Informatik, TU München, May 1992. to be published in *Computer Methods in Applied Mechanics and Engineering* (1994).

Bonk:1992:PAO

[BR92] T. Bonk and U. Rüde. Performance analysis and optimization of numerically intensive programs. SFB Bericht 342/26/92 A, Institut für Informatik, TU München, November 1992. URL `file://www.tu-chemnitz.de/pub/Local/mathematik/Ruede/performance.ps.Z`.

Balder:1994:SGE

[BRSZ94] R. Balder, U. Rüde, S. Schneider, and C. Zenger. Sparse grid and extrapolation methods for parabolic problems. In *Proceedings of the 10th International Conference on Computational Methods in Water Resources, Heidelberg, 19.-22. Juli 1994*, 1994. URL `file://www.tu-chemnitz.de/pub/Local/mathematik/Ruede/heidel94.ps.Z`.

Foessmeier:1987:OSS

[FR87] R. Fößmeier and U. Rüde. Operating system support for parallel numerical software development. Bericht I-8712, Institut für Informatik, TU München, October 1987.

Foessmeier:1990:KWP

[FR90] R. Fößmeier and U. Rüde. Konzepte und Werkzeuge zur parallelen Programmierung auf der Unix-Kommando-Ebene. *unix/mail*, 8(2):66–73, 1990.

Griebel:1992:CTPa

[GHRS92a] M. Griebel, W. Huber, U. Rüde, and T. Störtkuhl. The combination technique for parallel sparse-grid-preconditioning and -solution of PDEs on multiprocessor machines and workstation networks. SFB Bericht 342/11/92 A, Institut für Informatik, TU München, May 1992.

Griebel:1992:CTPb

[GHRS92b] M. Griebel, W. Huber, U. Rüde, and T. Störtkuhl. The combination technique for parallel sparse-grid-preconditioning or -solution of PDEs on workstation networks. In L. Bougé, M. Cosnard, Y. Robert, and D. Trystram, editors, *Parallel Processing: CONPAR 92 – VAPP V*, volume 634 of *Lecture Notes in Computer Science*, pages 217–228. Springer-Verlag, Berlin, Germany / Heidelberg, Germany / London, UK / etc., 1992. Proceedings of the Second Joint International Conference on Vector and Parallel Processing, Lyon, France, September 1–4, 1992.

Johnson:2008:SIC

[JKR08] Chris Johnson, David Keyes, and Ulrich Ruede. Special issue on computational science and engineering. *SIAM Journal on Scientific Computing*, 30(6):vii, ???? 2008. CODEN SJOCE3. ISSN 1064-8275 (print), 1095-7197 (electronic).

Jung:1994:IEM

[JR94] M. Jung and U. Rüde. Implicit extrapolation methods for multilevel finite element computations. In T. Manteuffel, editor, *Preliminary Proceedings of the Colorado Conference on Iterative Methods, Breckenridge, Colorado, April 4-10, 1994*, 1994. URL `file://www.tu-chemnitz.de/pub/Local/mathematik/Ruede/impl_extrapolation.ps.Z`.

Jaensch:1988:MET

[JRS88] Christian R. Jaensch, Ulrich Ruede, and Klaus Schnepper. Macro expansion, a tool for the systematic development of scientific software. Report I-8814, Institut für Informatik, TU München, München, West Germany, November 1988.

Koestler:2004:ETC

[KR04] H. Koestler and U. Ruede. Extrapolation techniques for computing accurate solutions of elliptic problems with singular solutions. In *Computational science—ICCS 2004. Part IV*, volume 3039 of *Lecture Notes in Comput. Sci.*, pages 410–417. Springer, Berlin, 2004.

McCormick:1989:FVC

[MR89] S. McCormick and U. Rüde. A finite volume convergence theory for the fast adaptive composite grid method. Technical report, University of Colorado at Denver, 1989. To be published in Applied Numerical Mathematics (14) 1994, Elsevier.

McCormick:1990:LRH

[MR90] S. McCormick and U. Rüde. On local refinement higher order methods for elliptic partial differential equations. *International Journal of High Speed Computing*, 2(4):311–334, 1990. Also available as TU-Bericht I-9034.

Muszynski:1988:AAM

[MRZ88] P. Muszynski, U. Rüde, and C. Zenger. Application of algebraic multigrid (AMG) to constrained quadratic optimization. Bericht I-8801, Institut für Informatik, TU München, January 1988.

Pflaum:1993:GAR

[PR93] C. Pflaum and U. Rüde. Gauß' adaptive relaxation for the multilevel solution of partial differential equations on sparse grids. SFB-Bericht 342/13/93 A, Institut für Informatik, TU München, September 1993. URL `file://www.tu-chemnitz.de/pub/Local/mathematik/Ruede/gauss.ps.Z`. to appear in the proceedings of the 2nd Gauß Symposium, Munich, Aug. 2–7, 1993.

Regler:1993:LOA

[RR93] H. Regler and U. Rüde. Layout optimization with algebraic multigrid methods (AMG). In *Proceedings of the Sixth Copper Mountain Conference on Multigrid Methods, Copper Mountain, April 4-9, 1993*, Conference Publication. NASA, 1993. URL `file://www.tu-chemnitz.de/pub/Local/mathematik/Ruede/amg.ps.Z`.

Renaut:2003:E

[RR03] Rosemary A. Renaut and Ulrich Ruede. Editorial. *Future Generation Computer Systems*, 19 (8):1265, November 2003. CODEN FGSEVI. ISSN 0167-739X (print), 1872-7115 (electronic).

Ruede:1985:AMB

[Rüd85] U. Rüde. Anwendung der Mehrgittermethode zur Berechnung von digitalen Höhenmodellen in der Photogrammetrie. Bericht I-8525, Institut für Informatik, TU München, November 1985.

Ruede:1986:DMM

[Rüd86] U. Rüde. Discretizations for multigrid methods. In W. Hackbusch and U. Trottenberg, editors, *Multigrid Methods: Special Topics and Applications, Papers presented at the 2nd European Conference on Multigrid Methods, October 1-4, 1985*, volume 110 of *GMD Studien*, pages ??–?? (of 178). Cologne, May 1986. ISBN 3-88457-110-9. LCCN QA377.E87 1985. Also available as TU-Bericht I-8519.

Ruede:1987:MTE

[Rüd87] U. Rüde. Multiple tau-extrapolation for multigrid methods. Bericht I-8701, Institut für Informatik, TU München, January 1987.

Ruede:1988:ACS

[Rüd88a] U. Rüde. On the accurate computation of singular solutions

of Laplace's and Poisson's equation. In S. F. McCormick, editor, *Multigrid Methods: Theory, Applications, Supercomputing: Proceedings of the Third Copper Mountain Conference on Multigrid Methods, April 5-10, 1987*, pages ??–?? (of xiv + 644). Marcel Dekker, New York, NY, USA, 1988. ISBN 0-8247-7979-7. LCCN QA377 .M9431 1988.

Ruede:1988:NBS

[Rüd88b] U. Rüde. Zur numerischen Behandlung von Singularitäten in elliptischen partiellen Differentialgleichungen. Bericht I-8810, Institut für Informatik, TU München, August 1988.

Ruede:1989:LCE

[Rüd89] U. Rüde. Local corrections for eliminating the pollution effect of reentrant corners. In J. Mandel, editor, *Proceedings of the Fourth Copper Mountain Conference on Multigrid Methods, April 9-14, 1989*, pages 365–382. SIAM, Philadelphia, PA, USA, 1989.

Ruede:1991:AHO

[Rüd91a] U. Rüde. Adaptive higher order multigrid methods. In W. Hackbusch and U. Trottenberg, editors, *Proceedings of the Third European Conference on Multigrid Methods, October 1-4, 1990*, pages 339–351. Birkhäuser, Cambridge, MA, USA; Berlin, Germany; Basel, Switzerland, 1991. International Series of Numerical Mathematics, Vol. 98.

Ruede:1991:ERT

[Rüd91b] U. Rüde. Extrapolation and related techniques for solving elliptic equations. Bericht I-9135, Institut für Informatik, TU München, September 1991. URL `file://www.tu-chemnitz.de/pub/Local/mathematik/Ruede/extra_rel.ps.Z`.

Ruede:1992:DSM

[Rüd92a] U. Rüde. Data structures for multilevel adaptive methods and iterative solvers. Bericht I-9217, Institut für Informatik, TU München, May 1992. URL `file://www.tu-chemnitz.de/pub/Local/mathematik/Ruede/data_structures.ps.Z`.

Ruede:1992:HBE

[Rüd92b] U. Rüde. The hierarchical basis extrapolation method. *SIAM J. Sci. Stat. Comput.*, 13(1):307–318, January 1992. CODEN SIJCD4. ISSN 0196-5204. Proceedings of the First Copper Mountain Conference on Iterative Methods, April 1-5, 1990, T. Manteuffel ed.

Ruede:1992:REF

[Rüd92c] U. Rüde. On the robustness and efficiency of the fully adaptive multigrid method. In A. Quarteroni, editor, *Proceedings of the Sixth International Conference on Domain Decomposition in Science and Engineering, Como, Italy, June 15-19, 1992*, pages ??–?? (of xxii + 484). Amer. Math. Soc., Providence, RI, USA, 1992. ISBN 0-8218-5158-6. LCCN QA402.2 .I55 1992.

Ruede:1992:VCF

[Rüd92d] U. Rüde. On the V-cycle of the fully adaptive multigrid method. Bericht I-9215, Institut für Informatik, TU München, May 1992. URL `file://www.tu-chemnitz.de/pub/Local/mathematik/Ruede/kiel93.ps.Z`. to be published in the proceedings of the 9th GAMM Seminar, Kiel, January 22–24, 1993.

Ruede:1993:DAT

[Rüd93a] U. Rüde. Data abstraction techniques for multilevel algorithms. In *Proceedings of the GAMM-Seminar on Multigrid Methods, Sept. 21 – 25, 1992 in Gosen, Germany*. Institut für Angewandte Analysis und Stochastik, Berlin, Germany, 1993. URL `file://www.tu-chemnitz.de/pub/Local/mathematik/Ruede/gosen92.ps.Z`. Report 5, ISSN 0942–9077.

Ruede:1993:EEB

[Rüd93b] U. Rüde. Error estimators based on stable splittings. Submitted to the proceedings of the 7th International Conference On domain Decomposition, Penn State University, 1993. URL `file://www.tu-chemnitz.de/pub/Local/mathematik/Ruede/ddm7.ps.Z`.

Ruede:1993:ETC

[Rüd93c] U. Rüde. Extrapolation techniques for constructing higher order finite element methods. Bericht I-9304, Institut für Informatik, TU München, 1993. URL `file://www.tu-chemnitz.de/pub/Local/mathematik/Ruede/extrapolation.ps.Z`.

Ruede:1993:MCT

[Rüd93d] U. Rüde. *Mathematical and computational techniques for multilevel adaptive methods*, volume 13 of *Frontiers in Applied Mathematics*. SIAM, Philadelphia, PA, USA, 1993. ISBN 0-89871-320-X. xii + 140 pp. LCCN QA377 .R87 1993.

Ruede:1993:MES

[Rüd93e] U. Rüde. Multilevel, extrapolation, and sparse grid methods. SFB Bericht 342/10/93 A/I-9319, Institut für Informatik, TU München, July 1993. URL `file://www.tu-chemnitz.de/pub/Local/mathematik/Ruede/emg93.ps.Z`. to appear in the Proceedings of the European Conference on Multigrid Methods, Amsterdam, July 6–9, P. Hemker and P. Wesseling eds.

Rude:1993:FAM

[Rüd93f] Ulrich Rüde. Fully adaptive multigrid methods. *SIAM Journal on Numerical Analysis*, 30(1): 230–248, February 1993. CODEN SJNAAM. ISSN 0036-1429 (print), 1095-7170 (electronic).

Ruede:1994:MAI

[Rüd94] U. Rüde. On the multilevel adaptive iterative method. *SIAM J. Sci. Stat. Comput.*, 15, 1994. CODEN SIJCD4. ISSN 0196-5204.

also available as TU-Bericht I-9216, and published in the Preliminary Proceedings of the 2nd Copper Mountain Conference on Iterative Methods, April 9–14, 1992, ed. T. Manteuffel, University of Colorado at Denver.

Ruede:2002:CEP

[Rue02] U. Ruede. Computational engineering programs at the University of Erlangen-Nuremberg. *Lecture Notes in Computer Science*, 2331:852–??, 2002. CODEN LNCSD9. ISSN 0302-9743 (print), 1611-3349 (electronic). URL `http://link.springer-ny.com/link/service/series/0558/bibs/2331/23310852.htm; http://link.springer-ny.com/link/service/series/0558/papers/2331/23310852.pdf`.

Ruede:1986:TSM

[RZ86a] U. Rüde and C. Zenger. On the treatment of singularities in the multigrid method. In W. Hackbusch and U. Trottenberg, editors, *Lecture Notes in Mathematics 1228: Multigrid Methods II, Proceedings of the Conference Held at Cologne, October 1-4, 1985*, pages ??–?? (of vi + 335). Springer-Verlag, Berlin, Germany / Heidelberg, Germany / London, UK / etc., 1986. ISBN 0-387-16491-X. LCCN QA3 .L35 v.1228. DM50.00.

Ruede:1986:WMM

[RZ86b] U. Rüde and C. Zenger. A workbench for multigrid methods. Bericht I-8607, Institut für Informatik, TU München, May 1986.

Ruede:1992:TSF

[RZ92] U. Rüde and C. Zenger. On the treatment of singularities in the finite element method. Bericht I-9220, Institut für Informatik, TU München, August 1992.

Slavkovsky:1990:SBK

[SR90] P. Slavkovsky and U. Rüde. Schnellere Berechnung klassischer Matrix-Multiplikationen. SFB Bericht 342/17/90, Institut für Informatik, TU München, September 1990.

Zenger:1988:BSE

[ZFR88] C. Zenger, R. Fößmeier, and U. Rüde. Betriebssystem- und Software-Engineering-Aspekte bei parallelen Algorithmen. *Kerntechnik*, 52(2):120–125, 1988. CODEN KERNEU. ISSN 0004-7198, 0932-3902, 0368-5276.