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[1] C. V. Rao, S. J. Wright, and J. B. Rawlings. Application of interior-point methods to model predictive control. Preprint ANL/MCS-P664-0597, Argonne National Laboratory, July 1997.

[2] T. L. Disz, M. Henderson, W. Nickless, R. Olson, M. E. Papka, and R. Stevens. Argonne's computing and communications infrastructure futures laboratory: Designing the future. Preprint ANL/MCS-P665-0597, Argonne National Laboratory, July 1997.

[3] L. Feitag, M. Jones, and P. Plassmann. A parallel algorithm for mesh smoothing. Preprint ANL/MCS-P668-0697, Argonne National Laboratory, July 1997.

[4] J. N. Lyness and S. Joe. A nonabstract approach to lattice rule canonical forms. Preprint ANL/MCS-P669-0697, Argonne National Laboratory, July 1997.

[5] M. Batdorf, L. A. Freitag, and C. Ollivier-Gooch. A computational study of the effect of unstructured mesh quality on solution efficiency. Preprint ANL/MCS-P672-0697, Argonne National Laboratory, July 1997.

[6] P. Hovland and M. Heath. Adaptive SOR: A case study in automatic differentiation of algorithm parameters. Preprint ANL/MCS-P673-0797, Argonne National Laboratory, July 1997.

[7] Anne C. Morlet. Further properties of a continuum of model equations with globally defined flux. Preprint ANL/MCS-P678-0897, Argonne National Laboratory, August 1997.

[8] H. G. Kaper, B. Wang, and S. Wang. Determining nodes for the Ginzburg-Landau equations of superconductivity. Preprint ANL/MCS-P683-0897, Argonne National Laboratory, September 1997.

[9] Anne C. Morlet. An improved model equation with globally defined flux for the vortex sheet equation: Analytical results. Preprint ANL/MCS-P685-0997, Argonne National Laboratory, September 1997.

[10] R. B. Lehoucq, S. K. Gray, D.-H. Zhang, and J. C. Light. Vibrational eigenstates of four-atom molecules: A parallel strategy employing the implicitly restarted Lanczos method. Preprint ANL/MCS-P689-0997, Argonne National Laboratory, September 1997.

[11] H. G. Kaper, S. Tipei, and E. Wiebel. High-performance computing, music composition, and the sonification of scientific data. Preprint ANL/MCS-P690-0997, Argonne National Laboratory, September 1997.

[12] M. Tobis, I. T. Foster, C. M. Schafer. R. L. Jacob, and J. R. Anderson. Foam: Expanding the horizons of climate modeling. Preprint ANL/MCS-P691-0997, Argonne National Laboratory, October 1997.

[13] M. Wenzel, J. Czyzyk, and S. Wright. Computational experience with a dense column feature for interior-point methods. Technical Memorandum ANL/MCS-TM-227, Argonne National Laboratory, August 1997.

*Reports can be obtained by writing to the person or address given for the publishing institution. We recommend requesting reports by author, title, and number, since the information listed in this column has been transcribed at least once from the original sources. URLs included in the contact's address point to reports that are available online. SIGNUM Newsletter Institutional Reports columns and their BibTeX bibliographies are available online at *http://www.netlib.org/signum-reports/*

[14] D. Levine, P. Hallstrom, D. Noelle, and B. Walenz. Experiences with the PGAPack parallel genetic algorithm library. Technical Memorandum ANL/MCS-TM-228, Argonne National Laboratory, July 1997.

[15] J. M. Herbert. Symbolic derivation of high-order Rayleigh-Schrodinger perturbation energies using computer algebra: Application to vibrational-rotational analysis of diatomic modules. Technical Report ANL-97/11, Argonne National Laboratory, 1997.

Bell Labs

URL: *http://netlib.bell-labs.com/cm/cs/doc/nam.html*

[1] R. W. Freund. Computing minimal partial realizations via a Lanczos-type algorithm for multiple starting vectors. Technical Report 97/3-07, Bell Labs, 1997.

[2] R. W. Freund, F. Jarre, and S. Mizuno. Convergence of a class of inexact interior-point algorithms for linear programs. Technical Report 97/3-11, Bell Labs, 1997.

[3] P. Feldmann and R. W. Freund. Circuit noise evaluation by Pade approximation based model-reduction techniques. Technical Report 97/4-07, Bell Labs, 1997.

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[1] Hans Munthe-Kaas. High-order Runge-Kutta methods on manifolds. Technical Report NA1997/14, University of Cambridge, 1997.

[2] Yunkang Liu. Numerical solution of the heat equation with nonlocal boundary conditions. Technical Report NA1997/15, University of Cambridge, 1997.

[3] Mari Paz Calvo, Arieh Iserles, and Antonella Zanna. Semi-explicit methods for isospectral flows. Technical Report NA1997/16, University of Cambridge, 1997.

[4] Antonella Zanna. Collocation and relaxed collocation for the Fer and the Magnus expansions. Technical Report NA1997/17, University of Cambridge, 1997.

[5] M.J.D. Powell. Trust region calculations revisited. Technical Report NA1997/18, University of Cambridge, 1997.

[6] Aurelian Bejancu. Local accuracy for radial basis function interpolation on finite uniform grids. Technical Report NA1997/19, University of Cambridge, 1997.

[7] Yunkang Liu. Runge–Kutta-collocation methods for systems of functional–differential and functional equations. Technical Report NA1997/20, University of Cambridge, 1997.

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[1] Pablo Tarazaga and Juan E. Gallardo. Some properties of Euclidean distance matrices and elliptic matrices. Technical Report CRPC-TR97678, Center for Research on Parallel Computation, February 1997.

[2] Anne Gelb and David Gottlieb. The resolution of the Gibbs phenomenon for spliced functions in one and two dimensions. Technical Report CRPC-TR97679, Center for Research on Parallel Computation, January 1997.

[3] T. Arbogast and I Yotov. A non-mortar mixed finite element method for elliptic problems on non-matching multiblock grids. Technical Report CRPC-TR97680, Center for Research on Parallel Computation, January 1997.

[4] T. Arbogast, L.C. Cowsar, M.F. Wheeler, and I Yotov. Mixed finite element methods on non-matching multi-block grids. Technical Report CRPC-TR97681, Center for Research on Parallel Computation, January 1997.

[5] T. Arbogast, N. Dawson, P.T. Keenan, M.F. Wheeler, and I Yotov. Enhanced cell-centered finite differences for elliptic equations on general geometry. Technical Report CRPC-TR97682, Center for Research on Parallel Computation, January 1997.

[6] T. Arbogast, P.T. Keenan, M.F. Wheeler, and I Yotov. Logically rectangular mixed methods for darcy flow on general geometry. Technical Report CRPC-TR97683, Center for Research on Parallel Computation, January 1997.

[7] T. Arbogast, M.F. Wheeler, and I Yotov. Mixed finite element methods for elliptic problems with tensor coefficients as cell-centered finite differences. Technical Report CRPC-TR97684, Center for Research on Parallel Computation, January 1997.

[8] T. Arbogast, M.F. Wheeler, and I Yotov. Logically rectangular mixed methods for flow in irregular, heterogenous domains. Technical Report CRPC-TR97685, Center for Research on Parallel Computation, January 1997.

[9] S. Chippeda, C. Dawson, M. Wheeler, and M. Martinez. Parallel computing for finite element models of surface water flows. Technical Report CRPC-TR97686, Center for Research on Parallel Computation, January 1997.

[10] S. Chippeda, C. Dawson, M. Wheeler, and M. Martinez. A Godunov-type finite volume method for systems of shallow water equations. Technical Report CRPC-TR97687, Center for Research on Parallel Computation, January 1997.

[11] S. Chippeda, C. Dawson, M. Wheeler, and M. Martinez. A projection method for constructing a mass conservative velocity field. Technical Report CRPC-TR97688, Center for Research on Parallel Computation, January 1997.

[12] S. Chippeda, C. Dawson, M. Wheeler, and M. Martinez. Finite element approximation to the system of shallow water equations, Part I: Continuous time a priori error estimates. Technical Report CRPC-TR97689, Center for Research on Parallel Computation, January 1997.

[13] S. Chippeda, C. Dawson, M. Wheeler, and M. Martinez. Finite element approximation to the system of shallow water equations, Part II: Discrete time a priori error estimates. Technical Report CRPC-TR97690, Center for Research on Parallel Computation, January 1997.

[14] Jason Abate, Christian Bischof, Lucas Roh, and Alan Carle. Algorithms and design for a second-order automatic differentation module. Technical Report CRPC-TR97691-S, Center for Research on Parallel Computation, May 1997.

[15] Michael Ulbrich, Stefan Ulbrich, and Matthias Heinkenschloss. Global convergence of trust-region interior-point algorithms for infinite-dimensional nonconvex minimization subject to pointwise bounds. Technical Report CRPC-TR97692, Center for Research on Parallel Computation, March 1997.

[16] K. Mani Chandy, Joseph Kiniry, Adam Rifkin, and Daniel Zimmerman. Webs of archived distributed computations for asychronous collaboration. Technical Report CRPC-TR97693, Center for Research on Parallel Computation, April 1997.

[17] Xiaoming Li. Runtime oriented HPF compilation. Technical Report CRPC-TR97694, Center for Research on Parallel Computation, February 1997.

[18] Gerald H. Roth. Optimizing Fortran 90D/HPF for distributed-memory computers. Technical Report CRPC-TR97695-S, Center for Research on Parallel Computation, April 1997.

[19] Ronald D. Henderson. Spectral elements: Adaptivity and applications in fluid dynamics. Technical Report CRPC-TR97696, Center for Research on Parallel Computation, June 1997.

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[1] T. Braconnier. Complete iterative method for computing pseudospectra. Technical Report TR_PA_97_13, CERFACS, 1997.

[2] S. Baldini, L. Giraud, J. M. Jimenez, L. M. Matey, and J. G. Izaguirre. High performance computing in multi-body system design. Technical Report TR_PA_97_27, CERFACS, 1997.

[3] T. Braconnier, A. McCoy, and V. Toumazou. Using the field of values for pseudospectra generation. Technical Report TR_PA_97_28, CERFACS, 1997.

[4] H. Kharraz-Aroussi. Parall lisation de GMRES avec PVM. une application en astrophysique. Technical Report TR_PA_97_30, CERFACS, 1997.

[5] P. Wiberg. A study of the HR and extended HR methods for the standard eigenvalue problem. Technical Report TR_PA_97_33, CERFACS, 1997.

[6] T.A. Davis and I.S. Duff. A combined unifrontal/multifrontal method for unsymmetric sparse matrices. Technical Report TR_PA_97_34, CERFACS, 1997.

[7] Iain S. Duff, Roger G. Grimes, and John G. Lewis. The Rutherford-Boeing sparse matrix collection. Technical Report TR_PA_97_36, CERFACS, 1997.

[8] R. A. McCoy and V. Toumazou. PRECISE user's guide - Version 1.0. Technical Report TR_PA_97_38, CERFACS, 1997.

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[1] M. Verlaan. Convergence of the RRSQRT algorithm for large scale Kalman filtering problems. Technical Report 97-19, Delft University of Technology, 1997.

[2] S. Lipovetsky and F.A. Lootsma. Generalized golden sections, repeated bisections, and aesthetic preference. Technical Report 97-20, Delft University of Technology, 1997.

[3] T. Illes, C. Roos, and T. Terlaky. Polynomial affine-scaling algorithms for P(K) linear complementarity problems. Technical Report 97-21, Delft University of Technology, 1997.

[4] A.J. van Zanten and Agung Lukito. Lower bounds for the maximal range of cyclic á m,nñ -codes. Technical Report 97-22, Delft University of Technology, 1997.

[5] P.Wesseling, A. Segal, C.G.M. Kassels, and H. Bijl. Computing flows on general three-dimensional nonsmooth staggered grids. Technical Report 97-23, Delft University of Technology, 1997.

[6] H. van Haeringen. Pfaff-Kummer-type transformation in relation to some bilateral hypergeometric functions. Technical Report 97-24, Delft University of Technology, 1997.

[7] K. Fukuda and T. Terlaky. Criss-cross methods: A fresh view on pivot algorithms. Technical Report 97-26, Delft University of Technology, 1997.

[8] Dmitrii V. Pasechnik. On transitive permutation groups with primitive subconstituents. Technical Report 97-27, Delft University of Technology, 1997.

[9] E. de Klerk, C. Roos, and T. Terlaky. A short survey on semidefinite programming. Technical Report 97-28, Delft University of Technology, 1997.

[10] E. de Klerk, C. Roos, and T. Terlaky. Primal-dual potential reduction methods for semidefinite programming using affine-scaling directions. Technical Report 97-29, Delft University of Technology, 1997.

[11] L.D. Aronson. Node homogeneous routing for node homogeneous traffic patterns on meshes. Technical Report 97-30, Delft University of Technology, 1997.

[12] R.M. Burton, T. Coffey F.M. Dekking, and K. Hyman. Fractal percolation with neighbour interaction. Technical Report 97-31, Delft University of Technology, 1997.

[13] H. Bavink. Differential and difference operators having orthogonal polynomials with two linear perturbations as eigenfunctions. Technical Report 97-32, Delft University of Technology, 1997.

[14] Bernd Heidergott. Infinitesimal perturbation analysis for queuing networks with general service time distributions. Technical Report 97-33, Delft University of Technology, 1997.

[15] Zhi-Quan Luo, Kees Roos, and Tamas Terlaky. Complexity analysis of a logarithmic barrier decomposition method for semi-infinite linear programming. Technical Report 97-34, Delft University of Technology, 1997.

[16] Hans van Maaren and Joost P. Warners. Bounds and fast approximation algorithmics for binary quadratic optimization problems with application to MAX2SAT and MAX CUT. Technical Report 97-35, Delft University of Technology, 1997.

[17] T. Illes and D. Pissinger. Upper bounds on the covering number of Galois-planes with small order. Technical Report 97-36, Delft University of Technology, 1997.

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[1] J.W. Barrett and J.F. Blowey. Finite element approximation of a model for phase separation of a multi-component alloy with non-smooth free energy and a concentration dependent mobility matrix. Technical Report NA-97/01, University of Durham, 1997.

[2] A.J. Perella. A class of Petrov-Galerkin finite element methods for the numerical solution of the stationary convection-diffusion equation. Technical Report NA-97/02, University of Durham, 1997.

[3] J.W. Barrett, J.F. Blowey, and H. Garcke. Finite element approximation of a fourth order nonlinear degenerate parabolic equation. Technical Report NA-97/03, University of Durham, 1997.

[4] A.F. Ware. Discrete projections onto wavelet subspaces. Technical Report NA-97/04, University of Durham, 1997.

[5] J.W. Barrett and J.F. Blowey. An improved error bound for the finite element approximation of a model for phase separation of a multi-component alloy. Technical Report NA-97/05, University of Durham, 1997.

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URL: *ftp://ftp.sam.math.ethz.ch/pub/sam-reports/*

[1] K. Gerdes. A summary of infinite element formulations for exterior Helmholtz problems. Technical Report 97-11, Eidgenössiche Technische Hochschule, 1997.

[2] R. Jeltsch, R.A. Renaut, and J.H. Smit. An accuracy barrier for stable three-time-level difference schemes for hyperbolic equations. Technical Report 97-10, Eidgenössiche Technische Hochschule, 1997.

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[1] James G. Nagy and Dianne P. O'Leary. Fast iterative image restoration with a spatially-varying PSF. Technical Report UMIACS-TR-97-53, Institute for Advanced Computer Studies (UMIACS), June 1997.

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[1] Josip Loncaric. The pseudo-inverse of the derivative operator in polynomial spectral methods. Technical Report NASA CR-201715 ICASE Report No. 97-34, Institute for Computer Applications in Science and Engineering, July 1997.

[2] Victoria Interrante and Chester Grosch. Strategies for effectively visualizing a 3D flow using volume line integral convolution. Technical Report NASA CR-201717 ICASE Report No. 97-35, , Institute for Computer Applications in Science and Engineering, July 1997.

[3] Ye Zhou, W. David McComb, and George Vahala. Renormalization group (RG) in turbulence: Historical and comparative perspective. Technical Report NASA CR-201718 ICASE Report No. 97-36, Institute for Computer Applications in Science and Engineering, August 1997.

[4] Kwan-Liu Ma and Thomas W. Crockett. A scalable parallel cell-projection volume rendering algorithm for three-dimensional unstructured data. Technical Report NASA CR-201719 ICASE Report No. 97-37, Institute for Computer Applications in Science and Engineering, August 1997.

[5] Michael W. Trosset and Virginia Torczon. Numerical optimization using computer experiments. Technical Report NASA CR-201724 ICASE Report No. 97-38, Institute for Computer Applications in Science and Engineering, August 1997.

[6] David Sidilkover. Some approaches towards constructing optimally efficient multigrid solvers for the inviscid flow equations. Technical Report NASA CR-201725 ICASE Report No. 97-39, Institute for Computer Applications in Science and Engineering, August 1997.

[7] R. C. Swanson, R. Radespiel, and E. Turkel. Comparison of several dissipation algorithms for central difference schemes. Technical Report NASA CR-201726 ICASE Report No. 97-40, Institute for Computer Applications in Science and Engineering, August 1997.

[8] Deborah L. Pilkey, Kevin P. Roe, and Daniel J. Inman. Computational issues in damping identification for large scale problems. Technical Report NASA CR-201727 ICASE Report No. 97-41, Institute for Computer Applications in Science and Engineering, August 1997.

[9] Sharath S. Girimaji and S. Balachandar. Analysis and modeling of buoyancy generated turbulence using numerical data. Technical Report NASA CR-201736 ICASE Report No. 97-42, Institute for Computer Applications in Science and Engineering, September 1997.

[10] Bernardo Cockburn and Chi-Wang Shu. The Runge-Kutta discontinuous Galerkin method for conservation laws v: Multidimensional systems. Technical Report NASA CR-201737 ICASE Report No. 97-43, Institute for Computer Applications in Science and Engineering, September 1997.

[11] J. R. Ristorcelli. A closure for the compressibility of the source terms in Lighthill's acoustic analogy. Technical Report NASA CR-201738 ICASE Report No. 97-44, Institute for Computer Applications in Science and Engineering, September 1997.

[12] Urve Kangro and Roy Nicolaides. Divergence boundary conditions for vector Helmholtz equations with divergence constraints. Technical Report NASA CR-201739 ICASE Report No. 97-45, Institute for Computer Applications in Science and Engineering, September 1997.

[13] Siegfried Benkner, Piyush Mehrotra, John Van Rosendale, and Hans Zima. High-level management of communication schedules in HPF-like languages. Technical Report NASA CR-201740 ICASE Report No. 97-46, Institute for Computer Applications in Science and Engineering, September 1997.

[14] Stephen Guattery. Graph embedding techniques for bounding condition numbers of incomplete factor preconditioners. Technical Report NASA CR-201741 ICASE Report No. 97-47, Institute for Computer Applications in Science and Engineering, September 1997.

[15] V. S. Ryaben'kii. Difference potentials and their applications. Technical Report NASA CR-201742 ICASE Report No. 97-48, Institute for Computer Applications in Science and Engineering, September 1997.

[16] J. S. Hesthaven. The analysis and construction of perfectly matched layers for the linearized Euler equations. Technical Report NASA CR-201744 ICASE Report No. 97-49, Institute for Computer Applications in Science and Engineering, September 1997.

[17] Natalia Alexandrov, J. E. Dennis Jr., Robert Michael Lewis, and Virginia Torczon. A trust region framework for managing the use of approximation models in optimization. Technical Report NASA CR-201745 ICASE Report No. 97-50, Institute for Computer Applications in Science and Engineering, October 1997.

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[1] Anthony J. Cox and Nicholas J. Higham. Stability of Householder QR factorization for weighted least squares problems. Numerical Analysis Report 301, University of Manchester (UMIST), February 1997.

[2] Jack Williams and Z. Kalogiratou. The local Haar condition in parameter estimation for second order ordinary differential equations. Numerical Analysis Report 302, University of Manchester (UMIST), February 1997.

[3] Thierry Braconnier and Francoise Chaitin-Chatelin. Chaotic behavior for eigensolvers applied on highly nonnormal matrices in finite precision. Numerical Analysis Report 303, University of Manchester (UMIST), May 1997.

[4] Nicholas J. Higham. Stable iterations for the matrix square root. Numerical Analysis Report 305, University of Manchester (UMIST), April 1997.

[5] Anthony J. Cox and Nicholas J. Higham. Accuracy and stability of the null space method for solving the equality constrained least squares problem. Numerical Analysis Report 306, University of Manchester (UMIST), August 1997.

[6] Sean Norburn and David Silvester. Stabilised vs stable mixed methods for incompressible flow. Numerical Analysis Report 307, University of Manchester (UMIST), September 1997.

[7] Nicholas J. Higham. Stability of block LDL^T factorization of a symmetric tridiagonal matrix. Numerical Analysis Report 308, University of Manchester (UMIST), September 1997.

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[1] P. Castillo and Y. Saad. Preconditioning the matrix exponential operator with applications. Research Report UMSI 97/142, University of Minnesota Supercomputing Institute, September 1997.

[2] T.E. Tezduyar. Advanced flow simulation and modeling. Research Report UMSI 97/148, University of Minnesota Supercomputing Institute, September 1997.

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[1] R. Burrows and A. K. Parrott. A BSP approach to dynamic load balancing using a constrained diffusion algorithm. Technical Report NA-96/17, Oxford, 1996.

[2] C. Glasgow and A. K. Parrott. Mixing calculations in a rotating partitioned pipe. Technical Report NA-96/18, Oxford, 1996.

[3] H. Elman, D. Silvester, and A. Wathen. Iterative methods for problems in computational fluid dynamics. Technical Report NA-96/19, Oxford, 1996.

[4] K. W. Morton. Recent developments in evolution-galerkin methods. Technical Report NA-96/20, Oxford, 1996.

[5] K. W. Morton and N. A. Burgess. The stability of boundary conditions for an angled-derivative difference scheme. Technical Report NA-96/21, Oxford, 1996.

[6] A. T. Hill and E. Suli. Attractors for a second-order approximation of the incompressible Navier-Stokes equations in two space dimensions. Technical Report NA-96/22, Oxford, 1996.

[7] E. Suli and C. Wilkins. Adaptive finite element methods for the damped wave equation. Technical Report NA-96/23, Oxford, 1996.

[8] D. C. Handscomb. Simulations of order transitions on a parallel computer. Technical Report NA-96/24, Oxford, 1996.

[9] P. Monk, A. K. Parrott, and A. Le Hyaric. Analysis of finite element time domain methods in electromagnetic scattering. Technical Report NA-96/25, Oxford, 1996.

[10] A. T. Hill. $L(\infty)$ estimates on the solutions of non-selfadjoint elliptic and parabolic equations in bounded domains. Technical Report NA-96/27, Oxford, 1996.

[11] K. W. Morton. On the analysis of finite volume methods for evoluntary problems. Technical Report NA-97/01, Oxford, 1997.

[12] L. Hemmingsson. A semi-circulant preconditioner for the convection-diffusion equation. Technical Report NA-97/02, Oxford, 1997.

[13] Paul Houston and Endre Suli. A posteriori error analysis for linear convection-diffusion problems under weak mesh regularity assumptions. Technical Report NA-97/03, Oxford, 1997.

[14] Paul Houston and Endre Suli. A posteriori error analysis for systems of nonlinear convection-diffusion equations. Technical Report NA-97/04, Oxford, 1997.

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[1] Mihai Dorobantu. Efficient streamline computations on unstructured grids. Technical Report TRITA-NA-9709, Royal Institute of Technology (KTH), September 1997.

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[1] Iain S. Duff, Roger G. Grimes, and John G. Lewis. The Rutherford-Boeing sparse matrix collection. Technical Report RAL-TR-97-031, Rutherford Appleton Laboratory, 1997.

[2] Timothy A. Davis and Iain S. Duff. A combined unifrontal/multifrontal method for unsymmetric sparse matrices. Technical Report RAL-TR-97-046, Rutherford Appleton Laboratory, 1997.

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

[4] N. I. M. Gould and Ph. L. Toint. A note on the second-order convergence of optimization algorithms using barrier functions. Technical Report RAL-TR-97-055, Rutherford Appleton Laboratory, 1997.

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[1] Gene H. Golub, Peyman Milanfar, and James Varah. A stable numerical method for inverting shape from moments. Technical Report SCCM-97-10, Stanford University, 1997.

[2] H. Lamba and A.M. Stuart. Convergence results for the MATLAB ode23 routine. Technical Report SCCM-97-09, Stanford University, 1997.

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[1] Y. Qiu and D. M. Sloan. Numerical solution of Fisher's equation using a moving mesh method. Technical Report 1997/22, University of Strathclyde, 1997.

[2] A. I. Murdoch. On effecting averages and changes of scale via weighting functions. Technical Report 1997/23, University of Strathclyde, 1997.