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IPNet Digest Volume 3, Number 01 January 31, 1996

Today's Editor: Patricia K. Lamm
Michigan State University

Today's Topics:

Conference: Inverse and Ill-Posed Problems
Conference: Inverse Problems in Wave Propagation and Diffraction
Conference Session: Inverse Problems in Heat Transfer
Book: Special Offer for IPNet Subscribers
Announcement: Last Call for Nominations for 1996 Reid Prize
Table of Contents: SIAM Journal on Numerical Analysis
Table of Contents: SIAM Journal on Mathematical Analysis
Table of Contents: SIAM Journal on Optimization
Table of Contents: Computational and Applied Mathematics
Table of Contents: Advances in Computational Mathematics

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<http://www.mth.msu.edu/ipnet>

From: "Krylov A.S." <kryl@cs.msu.su>
Subject: IIPP-96 Information
Date: Wed, 3 Jan 1996

INTERNATIONAL CONFERENCE ON
INVERSE and ILL-POSED PROBLEMS (IIPP-96)

SEPTEMBER 9-14, 1996
MOSCOW, RUSSIA

Organised by: Moscow Lomonosov State University

SECOND ANNOUNCEMENT

Framework: The International Conference on Inverse and Ill-Posed Problems is planned to be held in Moscow Lomonosov State University, Moscow, Russia from September 9 to September 14, 1996. The Conference is dedicated to the memory of A.N.Tikhonov on the occasion of his 90th birthday.

Conference Chairman:

V.A.Sadovnichii, Rector of Moscow Lomonosov State University

International Program Committee:

A.Bensoussan, A.M.Denisov, V.I.Dmitriev, H.W.Engl, A.V.Goncharskii, M.M.Lavrentiev, A.Lorenzi, M.Z.Nashed, Yu.S.Osipov, V.G.Romanov, P.C.Sabatier, V.A.Sadovnichii, A.A.Samarskii, V.N.Strahov and M.Yamamoto.

Scientific Secretaries:

A.S.Krylov and A.Yu.Shcheglov.

Conference Themes

1. Inverse Problems for Differential Equations
2. Inverse Problems in Natural Sciences, Engineering and Industry
3. Mathematical Problems of Tomography
4. Theory of Ill-Posed Problems
5. Numerical Methods and Computational Algorithms for Ill-Posed Problems Solving.

Conference Language: The languages of the conference will be English and Russian.

Format: The Conference consists of oral reports of 45 min. and 30 min. No poster session is planned.

Call for abstracts: Abstracts and Registration forms for IIPP-96 must be sent by e-mail or on a floppy disk by February 15, 1996. All abstracts in English of one page length should be delivered in LaTeX format with article.sty style file and 12pt letters. Commands \textwidth 150mm and \textheight 230mm must be used. The submission should be accompanied by a printout sent by ordinary mail. Authors who are enable to produce an abstract in LaTeX format are requested to contact the organisers.

Accommodation: Accommodations will be available in the University campus or in the hotel near the University. Details will be given in the third circular.

The third announcement of IIPP-96 will be available in March, 1996. The conference information is available from WWW site <http://www.cs.msu.su/iipp-96>

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International Conference on Inverse and Ill-Posed Problems
IIPP-96
September 9-14, 1996, Moscow, Russia

REGISTRATION FORM

Name: (First) (Middle) (Last)

Affiliation:
Mailing Address:

Country:
Tel:
Fax:
E-mail:
Title of report:

Subject category (see "Conference Themes") (1 to 5):

Please send the abstract and REGISTRATION FORM to:
Dr. A.S.Krylov
E-mail(internet): kryl@cs.msu.su
Faculty of Computational Mathematics and Cybernetics,
Moscow Lomonosov State University,
Vorobievsky Gory, 119899, Moscow, Russia.

From: "PROF.HEINZ W. ENGL" <engl@indmath.uni-linz.ac.at>
Subject: Conf. on Inverse Problems in Wave Propagation and Diffraction
Date: Mon, 15 Jan 1996

Conference on Inverse Problems in Wave Propagation and Diffraction

Aix les Bains (France)
September 23-27, 1996

SIAM and GMM have been conducting a conference series on various application fields of inverse problems; the committee for this series is chaired by H.W.Engl (Linz) and W.Rundell (College Station, USA) and includes also A.Louis (Saarbrücken) and D.Colton (Delaware). The first conferences were on Inverse Problems in Diffusion Processes (St.Wolfgang, June 1994) and on Inverse Problems in Geophysics (California, December 1995). Proceedings have been published (and will be published, respectively) by SIAM. After a conference on Inverse Problems in Medical Imaging and Nondestructive Testing in Oberwolfach (February 1996; not formally part of this series, but chaired by H.W.Engl, A.Louis, and W.Rundell, hence coordinated with the series), the next conference will be coorganized with INRIA and chaired by G. Chavent and P.C.Sabatier. According to their call for papers, it will focus on modeling, mathematical analysis, and the numerical solution of inverse problems in wave propagation and diffraction. The targeted audience is multidisciplinary. The organizers hope to incite successful exchanges between the specialists in applied fields and those whose academic background and interest are more centered on mathematics.

The conference takes place in Aix les Bains in the French Alps between September 23 and 27, 1996. Abstracts should be submitted by March 1 to

INRIA Rocquencourt
M.-C.Sance
Relations exterieurs
Bureau des cours et colloques
B.P. 105
F-78153 Le Chesnay Cedex
France.
E-Mail: Marie-Claude.Sance@inria.fr

The complete conference announcement including an electronic reply card can be found on the WWW-homepage

p

<http://www.indmath.uni-linz.ac.at/>

by clicking at "conference announcements".

Prof.Dr.Heinz W. Engl	E-Mail: engl@indmath.uni-linz.ac.at
Industriemathematik	or na.engl@na-net.ornl.gov
Institut fuer Mathematik	secretary: nikolaus@indmath.uni-
linz.ac.at	
Johannes-Kepler-Universitaet	Phone: +43-(0)732-2468; ext.9219 or
693,	
Altenbergerstrasse 69	secretary: 9220; home: +43-(0)732-
245518	
A-4040 Linz	Fax: +43-(0)732-2468855
Oesterreich / Austria	Telex: 2-2323 uni li a

World Wide Web: <http://www.indmath.uni-linz.ac.at/>

From: kwoodbur@me.ua.edu (Keith A Woodbury)
Subject: Call for Papers
Date: Tue, 2 Jan 1996 12:06:31 -0600

The attached CALL FOR PAPERS includes a session on INVERSE PROBLEMS IN HEAT TRANSFER.
Note the JANUARY 15th deadline for abstracts is approaching.

Thanks,
Keith Woodbury
woodbury@me.ua.edu

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CALL FOR PAPERS

ASME Heat Transfer Division

ad hoc COMMITTEE ON COMPUTATIONAL HEAT TRANSFER

1996 INTERNATIONAL MECHANICAL ENGINEERING CONGRESS & EXPOSITION

Atlanta Hilton & Towers
Atlanta, Georgia

November 17-22, 1996

The 1996 International Mechanical Engineering Congress & Exposition will be held at the Atlanta Hilton & Towers in Atlanta, Georgia from November 17 to 22, 1996. Sessions sponsored by the Heat Transfer Division of ASME will be held during the first part of the week, beginning Sunday. The ad hoc Committee on Computational Heat Transfer is sponsoring three (3) sessions. The session titles and organizers (with email addresses) are:

Inverse Problems in Heat Transfer (with K-12)
Keith Woodbury (woodbury@me.ua.edu), Ben Blackwell, and Jim Beck

Multidisciplinary Design Optimization in Heat Transfer (with K-12)
Christina Amon (amon@amonra.me.cmu.edu)

Benchmark Problem in Computational Heat Transfer
Darrell Pepper (pepperu@nye.nscee.edu), Juan Heinrich, Ben Blackwell

If you wish to submit an abstract for consideration, please complete the information on the following page and submit THREE (3) copies of the original Abstract (including to which ad hoc Session the abstract is responding) to Dr. G. P. Peterson AND ONE (1) copy to the designated ad hoc Committee Session Organizer (see attached Abstract Submission Form). (NOTE: Paper (i.e. hard copy via US mail), FAX, and email responses are equally acceptable, but send three copies to Dr. Peterson ONLY if replying via US mail. In all other cases, one copy is sufficient.) Dr. Peterson is the Technical Program Representative for the '96 IMECE; his address is:

Dr. G.P. Peterson

IMECE Technical Program Chair
Department of Mechanical Engineering
Texas A&M University
College Station, Texas 77843-3123

ph: (409) 845-5337
Fax: (409) 845-3081
email: gppeterson@mengr.tamu.edu

SCHEDULE OF IMPORTANT DATES

Abstract submission Deadline is: January 15, 1996.
Notice of acceptance will be made by February 15, 1996.
Completed manuscripts for accepted abstracts are due by March 31, 1996.
Notice of paper acceptance will be by April 15, 1996.
Final mats must be received by July 1, 1996.

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BENCHMARK PROBLEM

Specific Benchmark Info: Contact Dr. Darrell Pepper (address is below) directly for a detailed problem statement for this year's Heat Transfer Benchmark Problem.

- 2 -

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ABSTRACT SUBMISSION FORM

ad hoc COMMITTEE ON COMPUTATIONAL HEAT TRANSFER
1996 INTERNATIONAL MECHANICAL ENGINEERING CONGRESS & EXPOSITION

Corresponding Author's Full Name and Address: _____

Corresponding Author's Phone: () _____

FAX: () _____

email: _____

Author('s) Name(s): _____

Abstract Title: _____

SPECIFIC ad hoc SESSION TITLE FOR ABSTRACT'S CONSIDERATION: _____

Send 3 copies, by January 15, 1996 to:

Dr. G.P. Peterson
IMECE Technical Program Chair
Department of Mechanical Engineering
Texas A&M University
College Station, Texas 77843-3123

AND 1 copy to the appropriate Session Organizer:

- Inverse Problems in Heat Transfer
Dr. Keith Woodbury
Department of Mechanical Engineering
University of Alabama
PO Box 870276
Tuscaloosa, AL 35487-0276

woodbury@me.ua.edu
(205) 348-1647
(205) 348-6419 FAX

- Multidisciplinary Design Optimization in Heat Transfer
Dr. Christina Amon
Department of Mechanical Engineering
Carnegie Mellon University
Pittsburgh, PA 15213-3890

(412) 268-3651
(412) 268-3348 FAX
amon@amonra.me.cmu.edu

- Benchmark Problem in Computational Heat Transfer
Darrell Pepper
Department of Mechanical Engineering
4505 Maryland Parkway
University of Nevada-Las Vegas
Las Vegas, NV 89154-4027

(702) 895-1056
(702) 895-3936 FAX
pepperu@nye.nscee.edu

- 3 -

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ABSTRACT
(Limit, 500 words)

Title:
Authors:
Abstract:

From: ipnet
Subject: Special book offer for IPNet subscribers
Date: Mon, 8 Jan 1996

William Begell, Begell House Inc. Publishers, announces the publication of the following book:

Extreme Methods for Solving Ill-Posed Problems
with Applications to Inverse Heat Transfer Problems

by

O. M. Alifanov, E. A. Artyukhin, and S. V. Rumyantsev

Major chapter headings are as follows:

1. Identification and Inverse Problems in the Studies of Thermophysical Processes
2. Iterative Regularization of Ill-Posed Problems
3. Construction of Gradient Algorithms for Solving Inverse Heat Transfer Problems
4. Iterative Solution of Boundary Inverse Heat Conduction Problems
5. Algorithms for Solving Coefficient Inverse Problems
6. Design of Experiments for Solving Inverse Heat Conduction Problems

Appendix: Some Information from the Theory of Operators in Hilbert Spaces

References

The list price of the book is \$75.00, however the publishers have extended a 10% discount to orders placed by readers of the IPNet Digest. Orders must be prepaid and a fee of \$5.00 added for postage. All major credit cards are accepted and orders can be placed in one of four ways:

Mail: Begell House Inc. Publishers
79 Madison Avenue
New York, NY 10016-7892 USA
Telephone: (212) 725-1999
Fax: (212) 213-8368
E-mail: 74353.2052@compuserve.com

From: blackmore@siam.org
Subject: Last Call for Nominations for 1996 Reid Prize
Date: Thu, 04 Jan 96

Second Reid Prize To Be Awarded
at SIAM Annual Meeting in Kansas City

LAST CALL FOR NOMINATIONS

DEADLINE EXTENDED TO JANUARY 31, 1996

SIAM is soliciting nominations for the 1996 W.T. and Idalia Reid Prize in Mathematics. The prize, established in memory of long-time University of Oklahoma mathematics professor W.T. Reid, who died in 1977, recognizes outstanding work in the areas of differential equations and control theory. The recipient will be asked to present a lecture at the 1996 SIAM Annual Meeting in Kansas City, where the prize will be awarded.

The prize was awarded for the first time in 1994 to Wendell Fleming of Brown University, who was cited for his pioneering research in geometric measure theory, the calculus of variations, differential games, and stochastic control and filtering, as well as for his generous nurturing of generations of applied mathematicians and his loyal service to the mathematical sciences community.

Letters of nominations for the prize should be sent to Reid Prize, SIAM, 3600 University City Science Center, Philadelphia, PA 19104-2688; fax: (215) 386-7999. Additional information can

be obtained from Donna Blackmore at (215) 382-9800 or
blackmore@siam.org.

From: tschoban@siam.org
Subject: SINUM 33-1 Table of Contents
Date: Fri, 05 Jan 96 15:06:11 EST

SIAM Journal on Numerical Analysis February 1996, Volume 33, Number 1
Table of Contents

A Well-Balanced Scheme for the Numerical Processing of Source Terms
in Hyperbolic Equations J. M. Greenberg and A. Y. Leroux

A Multilevel Mesh Independence Principle for the Navier-Stokes Equations
W. Layton and H. W. J. Lenferink

Finite Volume Methods for Convection-Diffusion Problems
R. D. Lazarov, Ilya D. Mishev, and P. S. Vassilevski

Optimal Rates of Convergence for Degenerate Parabolic Problems
in Two Dimensions Jim Rulla and Noel J. Walkington

Error Analysis for Implicit Approximations to Solutions to
Cauchy Problems Jim Rulla

Finite Element Approximation of Some Degenerate Monotone
Quasilinear Elliptic Systems W. B. Liu and John W. Barrett

Analysis of a Streamline Diffusion Finite Element Method for the Stokes
and Navier-Stokes Equations Lutz Tobiska and Rudiger Verfurth

Complexity of Bezout's Theorem IV: Probability of Success; Extensions
Michael Shub and Steve Smale

Convergence Estimates for the Wavelet Galerkin Method
Sonia M. Gomes and Elsa Cortina

Optimal Filtering for the Backward Heat Equation
Thomas I. Seidman

Coupling of FEM and BEM for Interface Problems in Viscoplasticity and
Plasticity with Hardening Carsten Carstensen

Stieltjes Derivatives and B-Polynomial Spline Collocation for Volterra
Integrodifferential Equations with Singularities Qiya Hu

A Posteriori Error Estimation for Hierarchic Models of Elliptic Boundary
Value Problems on Thin Domains I. Babuska and C. Schwab

A Priori Estimates and Convergence for the Discrete Forward and Inverse
Problems of Reflection Seismology Wing Kwong Yeung and Kenneth P. Bube

On the Gibbs Phenomenon III: Recovering Exponential Accuracy in a
Sub-Interval From a Spectral Partial Sum of a Piecewise Analytic
Function David Gottlieb and Chi-Wang Shu

The Numerical Analysis of Random Particle Methods Applied to
Vlasov-Poisson-Fokker-Planck Kinetic Equations

Karl J. Havlak and Harold Dean Victory, Jr.

An Optimal-Order Estimate for Eulerian-Lagrangian Localized Adjoint
Methods for Variable-Coefficient Advection-Reaction Problems
Richard E. Ewing and Hong Wang

Nth-Order Operator Splitting Schemes and Nonreversible Systems
Daniel Goldman and Tasso J. Kaper

Symplectic Partitioned Runge-Kutta Methods for Constrained Hamiltonian
Systems Laurent Jay

The Degree of Copositive Approximation and a Computer Algorithm
Yingkang Hu and Xiang Ming Yu

Multigrid Convergence for Discretizations of Singular Perturbation
Problems with Grid-Aligned Flow James S. Otto

From: spiegelman@siam.org
Subject: SIMA 27-2 (March 1996) TOC
Date: Fri, 05 Jan 96

SIAM Journal on Mathematical Analysis Volume 27, Number 2 March 1996
Table of Contents

On L_p -Theory of Stochastic Partial Differential Equations in the Whole
Space
N. V. Krylov

Behaviour in the Limit, as p [approaches infinity], of Minimizers of
Functionals Involving p -Dirichlet Integrals Ulf Janfalk

Determining Linear Cracks by Boundary Measurements: Lipschitz Stability
Giovanni Alessandrini, Elena Beretta, and Sergio Vessella

Young Measure Solutions for a Nonlinear Parabolic Equation of
Forward-Backward Type Sophia Demoulini

On the Cahn-Hilliard Equation with Degenerate Mobility
Charles M. Elliott and Harald Garcke

Analyticity of Essentially Bounded Solutions to Semilinear Parabolic
Systems and Validity of the Ginzburg-Landau Equation
P. Takac, P. Bollerman, A. Doelman, A. Van Harten, and E. S. Titi

Large-Time Behavior in Incompressible Navier-Stokes Equations
Ana Carpio

The Degeneracy of a Fast-Diffusion Equation and Stability
Yuan-Wei Qi

Asymptotic Analysis of the Boundary Layer for the Reissner-Mindlin
Plate Model Douglas N. Arnold and Richard S. Falk

Two Problems from Draining Flows Involving Third-Order Ordinary
Differential Equations F. Bernis and L. A. Peletier

Global Bifurcation of an Elastic Conducting Rod in a Magnetic Field
Peter Wolfe

On Semilinear Problems with Nonlinearities Depending Only on Derivatives
A. Canada and P. Drabek

Tracking Invariant Manifolds up to Exponentially Small Errors
C. K. R. T. Jones, Tasso J. Kaper, and Nancy Kopell

On Subdivision Interpolation Schemes Gustaf Gripenberg

Wavelets from Square-Integrable Representations
David Bernier and Keith F. Taylor

From: tschoban@siam.org
Subject: SIOPT 6-1 Table of contents
Date: Wed, 10 Jan 96

SIAM Journal on Optimization February 1996, Volume 6, Number 1
Table of Contents

A Superlinear Infeasible-Interior-Point Affine Scaling Algorithm for LCP
R. D. C. Monteiro and S. J. Wright

An Infeasible Interior-Point Predictor-Corrector Algorithm for Linear
Programming Florian A. Potra

On Long Step Path Following and SUMT for Linear and Quadratic
Programming Kurt M. Anstreicher

The Mehrotra Predictor-Corrector Interior-Point Method as a Perturbed
Composite Newton Method R. Tapia, Y. Zhang, M. Saltzman, and A. Weiser

On the Relationship Between the Curvature Integral and the Complexity of
Path-Following Methods in Linear Programming Gongyun Zhao

An Efficient Newton Barrier Method for Minimizing a Sum of Euclidean
Norms Knud D. Andersen

Augmented Lagrangian-SQP-Methods in Hilbert Spaces and Application to
Control in the Coefficients Problems Kazufumi Ito and Karl Kunisch

An Infinite-Dimensional Convergence Theory for Reduced SQP Methods in
Hilbert Space F.-S. Kupfer

Convex Analysis on the Hermitian Matrices A. S. Lewis

Classical Optimality Conditions Under Weaker Assumptions
Simon Di

Dini Derivatives of the Marginal Function of a Non-Lipschitzian Program
D. E. Ward

A Generalized Convexity and Variational Inequality for Quasi-Convex
Minimization Phan Thien Thach and Masakazu Kojima

Restricted Step and Levenberg-Marquardt Techniques in Proximal Bundle
Methods for Nonconvex Nondifferentiable Optimization
Krzysztof C. Kiwiel

On the Complexity of the Production-Transportation Problem

Dorit S. Hochbaum and Sung-Pil Hong

From: Carlos Antonio de Moura <demoura@dee.ufc.br>
Subject: Comp Appl Math V.14(3) 1995
Date: Fri, 5 Jan 1996

COMPUTATIONAL AND APPLIED MATHEMATICS (Matematica Aplicada e
Computacional)

Published by Birkhauser/Boston and SBMAC - Brazilian Soc. for Comp. and
Applied Mathematics Vol.14, Issue 3, 1995 (pp.217-320)
Table of Contents

Incremental unknowns in finite differences in 3-space dimensions
M Chen, A Miranville and Roger Temam

A higher order modified Korteweg-de Vries equation
Felipe Linares

On weak solutions of a nonlinear hyperbolic-parabolic PDE
Jorge Ferreira

Combining stabilized finite element methods
FGC Valentin and Leopoldo P Franca

On quasilinear bidegenerate Parabolic equations
Y Ebihara and Junji Kameda

From: publish@baltzer.nl (Baltzer Science Publishers)
Subject: Advances in Computational Mathematics - Contents
Date: Fri, 26 Jan 1996

Advances in Computational Mathematics, Volume 4, No. IV, 1995
Table of Contents

Wavelets on irregular meshes F. Plantevin

Multilevel preconditioning on the refined interface and optimal boundary
solvers for the Laplace equation B.N. Khoromskij and S. Proessdorf

On the construction of wavelets on a bounded interval
G. Plonka, K. Selig and M. Tasche

Piecewise polynomial, positive definite and compactly supported radial
functions of minimal degree H. Wendland

Submissions of articles and proposals for special issues are to be
addressed to the Editors-in-Chief:

John C. Mason
School of Computing and Mathematics, University of Huddersfield,
Queensgate, Huddersfield, HD1 3DH, United Kingdom
E-mail: j.c.mason@hud.ac.uk

or

Charles A. Micchelli
Mathematical Sciences Department

IBM Research Center

P.O. Box 218, Yorktown Heights, NY 10598, USA E-mail: cam@yktvmz.bitnet

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Computational

Mathematics are to be sent to: E-mail: publish@baltzer.nl or see our
homepage at <http://www.NL.net/~baltzer/>

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IPNet Digest Volume 3, Number 02 February 29, 1996

Today's Editor: Patricia K. Lamm
Michigan State University

Today's Topics:

New Web Directory of IPNet Subscribers
Conference: 1996 SIAM Conference on Sparse Matrices
Reprinted Book: Numerical Solution of Initial-Value Problems ...
New Book: Afternotes on Numerical Analysis
New Journal: Computational Geosciences
Table of Contents: SIAM Review
Table of Contents: SIAM J. on Applied Mathematics
Table of Contents: SIAM J. on Control and Minimization
Table of Contents: SIAM J. on Scientific Computing
Table of Contents: Linear Algebra and Its Applications

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<http://www.mth.msu.edu/ipnet>

From: IPNet
Subject: New Web directory for IPNet
Date: Wed, 28 Feb 1996

There is now a directory of IPNet subscribers available on the Web, found off of the main IPNet Web page which is at URL

<http://www.mth.msu.edu/ipnet>

If you click on the "directory of IPNet subscribers", you will find an alphabetical listing of subscribers, their institution, and their e-mail address, along with the option of being able to click on the e-mail address to quickly send that subscriber a message (provided your Web-browser has this capability).

We have also enlarged the amount of information that may be made available to others who use the directory. Subscribers may also include:

- the name of a department
- the URL of a World Wide Web home page
- a brief description of research interests

If a home page address is provided by a subscriber, the IPNet Web directory contains a link to that subscriber's home page. Any or all of these new fields are optional.

If you are an existing subscriber and you wish to add information to this directory regarding your department, World Wide Web home page, and/or research interests, you should send an e-mail message to

ipnet-request@math.msu.edu

with the following in the body of your message (the subject line is ignored):

change <your usual e-mail address>
lastname <your last, or family, name>
firstname <your first name>
institution <your institution>
department <your department>
url <URL of your World Wide Web home page, if any>
interests <brief description of your research interests>

where you should provide the information in the brackets < >
without typing the brackets. An example is given below.

The 'interests' field must be given last, and multi-line descriptions of research interests are allowed. Please note that the e-mail address supplied in the 'change' field must be the same e-mail address that you are using as part of your IPNet subscription. (Note: It is also possible to change e-mail address; you can find out about all possible options by visiting the IPNet Web home page or by sending a blank message to ipnet-request@math.msu.edu).

NOTE: Any changes in subscriber information are confirmed by e-mail to the address officially listed with the IPNet subscription.

EXAMPLE of change-of-information (or add-new-information) for existing IPNet subscriber Joe Foobar:

```
change foobar@math.stanford.edu
lastname Foobar
firstname Joe
institution Stanford University
department Mathematics
url http://www.math.stanford.edu/~foobar
interests I work on numerical methods for inverse problems
          with applications to inverse scattering.
```

Joe Foobar would send the above information in the body of a message to the address ipnet-request@math.msu.edu.

- IPNet

From: flores@siam.org
Subject: 1996 SIAM Conf. SPARSE MATRICES
Date: Thu, 29 Feb 1996

1996 SIAM Conference on SPARSE MATRICES
October 9-11, 1996
Coeur d'Alene Resort
Coeur d'Alene, Idaho

DEADLINE for submission of a one-page abstract is: APRIL 15, 1996.

Send electronic submissions to: meetings@siam.org
and cc electronically to: esmond@msr.epm.ornl.gov
dpierce@espresso.rt.cs.boeing.com

For more information regarding the conference, please access SIAM's World Wide Web site at

<http://www.siam.org/meetings/sm96/sm96home.htm>

From: slc@math.ncsu.edu (Steve Campbell)
Subject: New Book
Date: Thu, 1 Feb 1996

Our book on the numerical solution of differential algebraic equations is being reprinted by SIAM: Some of the developments since the first edition are addressed in the new Chapter 7 and its supplementary bibliography.

Numerical Solution of Initial-Value Problems in Differential-Algebraic Equations

K.E. Brenan, S.L. Campbell, and L.R. Petzold

Series: Classics in Applied Mathematics 14

Many physical problems are most naturally described by systems of differential and algebraic equations. This book describes some of the places where differential-algebraic equations (DAE's) occur. The basic mathematical theory for these equations is developed and numerical methods are presented and analyzed. Examples drawn from a variety of applications are used to motivate and illustrate the concepts and techniques.

This classic edition, originally published in 1989, develops guidelines for choosing different numerical methods. It discusses DAE codes, including the popular DASSL code. An extensive discussion of backward differentiation formulas details why they have emerged as the most popular and best understood class of linear multistep methods for DAE's. New to this edition is a chapter that brings the discussion of DAE software up to date.

The objective of this monograph is to advance and consolidate the existing research results for the numerical solution of DAE's. The authors present results on the analysis of numerical methods, and also show how these results are relevant for the solution of problems from applications. They develop guidelines for problem formulation and effective use of the available mathematical software and provide extensive references for further study.

Contents

Preface; Chapter 1: Introduction. Why DAE's?; Basic Types of DAE's; Applications; Overview; Chapter 2: Theory of DAE's. Introduction; Solvability and the Index; Linear Constant Coefficient DAE's; Linear Time Varying DAE's; Nonlinear Systems; Chapter 3: Multistep methods. Introduction; DBF Convergence; BDF Methods, DAE's and Stiff Problems; General Linear Multistep Methods; Chapter 4: One-Step Methods. Introduction; Linear Constant Coefficient Systems; Nonlinear Index One Systems; Semi-Explicit Nonlinear Index Two Systems; Order Reduction and Stiffness; Extrapolation Methods; Chapter 5: Software and DAE's. Introduction; Algorithms and Strategies in Dassl; Obtaining Numerical Solutions; Solving Higher Index Systems; Chapter 6: Applications. Introduction; Systems of Rigid Bodies; Trajectory Prescribed Path control; Electrical Networks; DAE's Arising from the Method of Lines; Bibliography; Chapter 7: The DAE Home Page. Introduction; Theoretical Advances; Numerical Analysis Advancements; DAE Software; DASSL; Supplementary Bibliography; Index.

Fall 1995 / 256 pages / Softcover / ISBN 0-89871-353-6
List Price \$29.50 / SIAM Member Price \$23.60 / Order Code CL14

From: stewart@cs.UMD.EDU (G. W. Stewart)
Subject: Afternotes on Numerical Analysis
Date: Mon, 26 Feb 1996

I have recently published a book entitled Afternotes on Numerical Analysis which members of this group may find useful. It is a series of 22 lectures on elementary numerical analysis. The notes themselves were prepared after the lectures were given and are an accurate snapshot of what went on in class. Although they are no substitute for a full-blown numerical analysis textbook, many people have found them a useful supplement to a first course.

The book is published by SIAM. For further information contact service@siam.org.

G. W. (Pete) Stewart

From: publish@baltzer.nl (Baltzer Science Publishers)
Subject: COMPUTATIONAL GEOSCIENCES - NEW JOURNAL
Date: Fri, 2 Feb 1996

Computational Geosciences Modeling, Simulation and Data Analysis

Editors-in-Chief:

Hans (C.J.) van Duijn Department of Mathematics Math. Delft University of Technology P.O. Box 5031 2600 GA Delft The Netherlands	Mary F. Wheeler Dept. of Computational & Applied Rice University P.O. Box 1892 Houston TX 77251 - 1892 USA
--	---

Aims and Scope:

Accurate and efficient imaging of subsurface structure and modeling of processes in the subsurface require multidisciplinary collaboration among mathematicians, engineers, chemists, physicists and geoscientists. Presently there exists no journal whose main objective is to provide a platform for interaction among these diverse scientific groups. To remedy this we propose to establish a new journal, Computational Geosciences. The aim of this international journal is to facilitate the exchange of ideas across the disciplines and among universities and industrial and governmental laboratories.

Computational Geosciences will publish high quality papers on mathematical modeling, simulation, data analysis, imaging, inversion and interpretation with applications in the geosciences. The themes and application areas to be covered include reservoir and environmental engineering, hydrology, geochemistry, geomechanics, seismic and electromagnetic imaging, geostatistics and reservoir/aquifer characterization, and high performance parallel computing. More specifically, Computational Geosciences welcomes contributions concerning, for example, bioremediation, diffusion and dispersion, geology and geostatistics, scale up, multiphase flow and reactive

transport, geophysical imaging and inversion methods, seismic and electromagnetic modeling, numerical methods and parallel computing. Both theoretical and applied scientists are invited to participate.

Computational Geosciences focusses mainly on quantitative aspects of models describing transport processes in permeable media. It is targeted at petroleum engineers, hydrologists, quantitative environmental engineers, soil physicists, soil- and geochemists, applied mathematicians, geologists and seismologists.

Please request a FREE SAMPLE COPY. Contact us at publish@baltzer.nl.

[Note: An additional "Instructions to Authors" section was deleted, in the interests of space. Please contact publish@baltzer.nl for more information. -Ed.]

From: tschoban@siam.org
Subject: SIREV 38-1 Table of Contents
Date: Thu, 15 Feb 96

SIAM Review March 1996, Volume 38, Number 1
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- Bit Reversal on Uniprocessors Alan H. Karp
- Eigencurves for Two-Parameter Sturm-Liouville Equations
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- On the Extension of a Stability Bound: The Multiple Large-Parameter Variations Case Mansour Eslami
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From: thomas@siam.org
Subject: SIAP 56-2 table of contents
Date: Tue, 13 Feb 96

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An Improved Matching Procedure for Transient Resonance Layers in Weakly
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Stability of Pulses in Nonlinear Optical Fibers Using Phase-Sensitive
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Approximation of Lyapunov Exponents of Nonlinear Stochastic Differential
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From: thomas@siam.org
Subject: SICON 34-2 table of contents
Date: 02 Feb 96

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From: tschoban@siam.org
Subject: SISC 17-2 Table of Contents
Date: Wed, 07 Feb 96

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A Numerical Method for the Incompressible Navier-Stokes Equations Based on an Approximate Projection
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Resurrecting Core Spreading Vortex Methods: A New Scheme That is Both Deterministic and Convergent Louis F. Rossi

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Paul J. Lanzkron, Donald J. Rose, and James T. Wilkes

From: Richard Brualdi <brualdi@math.wisc.edu>
Subject: LAA Contents
Date: Sat, 17 Feb 1996

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Eigenvalue Bounds on the Solutions of Coupled Lyapunov and Riccati
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IPNet Digest Volume 3, Number 03 March 31, 1996

Today's Editor: Patricia K. Lamm
Michigan State University

Today's Topics:

New Book on Inverse Problems
Conference: More Information on SIAM Sparse Matrices Conference
Electronic Journal: J. Universal Computer Science
Electronic Submissions to SIAM J. Optimization
Table of Contents: SIAM J. on Mathematical Analysis
Table of Contents: SIAM J. on Numerical Analysis
Table of Contents: SIAM J. on Control and Optimization
Table of Contents: SIAM J. on Scientific Computing
Table of Contents: SIAM J. on Matrix Analysis and Applications
Table of Contents: Advances in Computational Mathematics
Table of Contents: Linear Algebra and Its Applications

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<http://www.mth.msu.edu/ipnet>

From: "PROF.HEINZ W. ENGL" <engl@indmath.uni-linz.ac.at>
Subject: submission for digest
Date: Fri, 29 Mar 1996

New Book on Inverse Problems:

The book

Heinz W. Engl, Andreas Neubauer, Martin Hanke
Regularization of Inverse Problems

will be published by Kluwer Dordrecht within the next few weeks.
Information about its contents will be available on our WWW-homepage

<http://www.indmath.uni-linz.ac.at/>

Heinz W. Engl, Linz, Austria

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From: flores@siam.org
Subject: Re: Announcement: SIAM Conference on Sparse Matrices
Date: Tue, 12 Mar 96

1996 SIAM Conference on SPARSE MATRICES
October 9-11, 1996
Coeur d'Alene Resort
Coeur d'Alene, Idaho

The conference will focus on various aspects of sparse matrix computations, including, but not limited to, the following topics.

Applications
Iterative Methods for Non-Hermitian Matrices
Parallel Sparse Direct Methods
Preconditioning Techniques
Sparse Eigenvalue Computations
Sparse Methods in Optimization
Sparse Regularization and Rank-Deficient Methods
Structured matrices

The conference will feature three invited plenary lectures on different aspects of sparse matrix computations and their applications. The plenary speakers are

Tony Chan, UCLA,
Sparse Matrix Problems in Total Variation Image Restoration

Joseph W.H. Liu, York University, Canada
A Sparse Matrix Ordering Perspective

Margaret H. Wright, Bell Laboratories
Sparsity, Structure, and Separability: Connections with
Large-Scale Optimization

The program will include contributed presentations. The program committee invites the submission of extended abstracts, one page in length. From these, long talks (1 hour) and short talks (30 minutes) will be selected.

DEADLINE for submission of abstract is: APRIL 15, 1996.
=====

Send electronic submissions to: meetings@siam.org
and cc electronically to: esmond@msr.epm.ornl.gov
dpierce@espresso.rt.cs.boeing.com

For more information regarding the conference, please access SIAM's World Wide Web site at

<http://www.siam.org/meetings/sm96/sm96home.htm>

From: Carlos Antonio de Moura <demoura@dee.ufc.br>
Subject: Data on J.UCS - Journ. for Universal Comp. Sciences
Date: Wed, 20 Mar 1996

I would like to call your attention to J.UCS - Journal for Universal Computer Science -, an electronic journal sponsored by Springer Verlag and IICM (Graz, Austria), available through the net and which has reached its 1st year, with 12 issues published quite timely. Every volume will also be available on CD-ROM. Its refereeing process is quite careful, a worry that has lead to a very good output of research

articles for our first volume. The "Universal" on its title stands also for a broad area of interest, and this includes Numerical Mathematics, or Scientific Computing or Computational Sciences (where are the boundaries, if any?). So far we didn't have many submissions on this area, and we would like to change this trend. We are particularly aware of the increasing need of interaction between numerical and non-numerical computing as regards to high performance. Wouldn't you consider to present an article of yours to be featured in one of our next issues (certainly refereed after a short time after submission)? You can get more information on J.UCS as well as browse through "published" issues by sailing on

<http://hyperg.iicm.tu-graz.ac.at/home;sk=3EB8A3D1>

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From: gallaghe@siam.org
Subject: E-Submissions to SIOPT
Date: Tue, 05 Mar 96

SIAM and the SIAM Journal on Optimization (SIOPT) are pleased to announce that SIOPT is now accepting electronic manuscript submissions in the form of PostScript files. Detailed instructions and further information can be obtained on SIAM's World Wide Web server (<http://www.siam.org/esubs/esubs.htm>) or by e-mail request from siopt@siam.org.

This foray into electronic submissions is considered an experiment and is therefore limited in scope. Currently, the SIAM Journal on Optimization is the only SIAM journal accepting electronic submissions. However, once our procedures have been tested, we hope to allow electronic submissions on our other journals. Please stay tuned.

Please visit SIAM's World Wide Web server (<http://www.siam.org>) or send e-mail to journals@siam.org for more information about the SIAM Journal on Optimization or other SIAM journals.

From: spiegelman@siam.org
Subject: SIMA 27-3 (May 1996) TOC
Date: Thu, 07 Mar 96

SIAM Journal on Mathematical Analysis Volume 27, Number 3, May 1996
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The Gradient Theory of the Phase Transitions in Cahn--Hilliard Fluids
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From: tschoban@siam.org
Subject: SINUM 33-2 Table of Contents
Date: Wed, 06 Mar 96

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Benqi Guo, Norbert Heuer, and Ernst P. Stephan

A Convergence Analysis of a P-Version Finite Element Method for
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From: thomas@siam.org
Subject: SICON 34-3 table of contents
Date: Thu, 14 Mar 96

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Augmented Lagrangian-SQP Methods for Nonlinear Optimal Control Problems of Tracking Type Kazufumi Ito and Karl Kunisch

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Unique Determination of Multiple Cracks by Two Measurements
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A Duality Theory for Separated Continuous Linear Programs
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A Characterization of Bounded-Input Bounded-Output Stability for Linear Time-Invariant Systems with Distributional Inputs
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Topological Aspects of Universal Adaptive Stabilization
Stuart Townley

H_∞ Control of Nonlinear Systems: Differential Games and Viscosity Solutions Pierpaolo Soravia

From: tschoban@siam.org
Subject: SISC 17-3 Table of Contents
Date: Tue, 19 Mar 96

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Multiprocessors Chunguang Sun

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From: tschoban@siam.org
Subject: SIMAX 17-2 Table of Contents
Date: Fri, 08 Mar 96

SIAM Journal on Matrix Analysis and Applications APRIL 1996, Vol.17, No.
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Stan Cabay, Anthony R. Jones, and George Labahn

On Two-Sided Bounds Related to Weakly Diagonally Dominant M-Matrices
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From: publish@baltzer.nl (Baltzer Science Publishers)

Subject: ADVANCES IN COMPUTATIONAL MATHEMATICS - CONTENTS

Date: Mon, 11 Mar 1996

Advances in Computational Mathematics, Vol. 5, No. 1, 1996, ISSN 1019
7168

Editors-in-Chief: John C. Mason & Charles A. Micchelli

Advances in Computational Mathematics is an interdisciplinary journal of high quality, driven by the computational revolution and emphasising innovation, application and practicality. This journal is of interest to a wide audience of mathematicians, scientists and engineers concerned with the development of mathematical principles and practical issues in computational mathematics.

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Submissions of articles and proposals for special issues are to be addressed to the Editors-in-Chief:

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School of Computing and Mathematics
University of Huddersfield
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Mathematical Sciences Department
IBM Research Center
P.O. Box 218
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USA
E-mail: cam@yktvmz.bitnet

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From: Richard Brualdi <brualdi@math.wisc.edu>
Subject: LAA Contents
Date: Wed, 6 Mar 1996

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IPNet Digest Volume 3, Number 04 April 30, 1996

Today's Editor: Patricia K. Lamm
Michigan State University

Today's Topics:

IPNet Membership Directory of Research Interests, Web Pages, etc.
Query: Parameter Identification for Diffusion-Reaction Equations
New Book: Intro. to the Mathematical Theory of Inverse Problems
Workshop: Industrial Math. Workshop for Graduate Students
Meeting: Second SIAM Conference on Sparse Matrices
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Submissions for IPNet Digest:

Mail to ipnet-digest@math.msu.edu

Information about IPNet:

Mail to ipnet-request@math.msu.edu
<http://www.mth.msu.edu/ipnet>

From: IPNet
Subject: IPNet Membership Directory of Research Interests, Web Pages,
etc.
Date: Thu, 25 Apr 1996

As a reminder, the new Web directory of IPNet members may be used to obtain information about e-mail addresses, World Wide Web home pages, research interests, etc., of members. You will find the directory off of the IPNet Home Page, at URL

<http://www.mth.msu.edu/ipnet>

If you are an existing subscriber and you wish to add this information to your entry in the directory, send an e-mail message to

ipnet-request@math.msu.edu

with the following in the body of your message (the subject line is ignored):

```
change <your usual e-mail address>
lastname <your last, or family, name>
firstname <your first name>
institution <your institution>
department <your department>
url <URL of your World Wide Web home page, if any>
interests <brief description of your research interests>
end
```

where you should provide the information in the brackets < > without typing the brackets. All fields are optional, except for the 'change' field. An example is given below.

The 'interests' field must be given last (prior to the 'end' statement), and multi-line descriptions of research interests are allowed. Please

note that the e-mail address supplied in the 'change' field must be the same e-mail address that you are using as part of your IPNet subscription. (Note: It is also possible to change e-mail address; you can find out about all possible options by visiting the IPNet Web home page or by sending a blank message to ipnet-request@math.msu.edu).

NOTE: Any changes in subscriber information are confirmed by e-mail to the address officially listed with the IPNet subscription. The Web directory is updated automatically.

EXAMPLE of how to change the information (or add new information) to the directory for existing IPNet subscriber Joe Foobar:

```
change foobar@math.stanford.edu
lastname Foobar
firstname Joe
institution Stanford University
department Mathematics
url http://www.math.stanford.edu/~foobar
interests I work on numerical methods for inverse problems
          with applications to inverse scattering.
end
```

Joe Foobar would send the above information in the body of a message to the address ipnet-request@math.msu.edu.

- IPNet

```
-----
From: rmodel@ChbRB.Berlin.PTB.De
Subject: Diffusion-reaction equations
Date: Tue, 09 Apr 1996
```

I am working on an inverse problem of parameter identification of diffusion equations of the following form

$$d u(x,t) / dt = \text{div}(D(x)\text{grad}(u(x,t))) - m(x)u(x,t) + s(x,t).$$

$D(x)$ and $m(x)$ are the unknown parameter functions. $s(x,t)$ and the flux in normal direction of u on the boundary is known for different $s(x,t)$, in general a delta-function in space and time. An application is the optical tomography. The iterative inverse procedure is based on the repeated solution of the forward problem with known parameter functions.

I am looking for a 3D solver for the diffusion equation, commercial or scientific software possibly with source code. I am interested in theoretical results about uniqueness of the parameter functions, too.

Any suggestions would be appreciated. Thanks.

Regine Model
Physikalisch-Technische Bundesanstalt
Abbestrasse2-12, D-10587 Berlin
regine.model@ptb.de
fax: (+4930) 3481406

```
-----
From: Andreas Kirsch <kirsch@am.uni-erlangen.de>
Subject: submission for digest
Date: Wed, 10 Apr 96
```

Soon the following new book on Inverse Problems will come out,
published by Springer Verlag, New York:

Andreas Kirsch: An Introduction to the Mathematical Theory of
Inverse Problems

Information about its content is available on my WWW-page:

<http://www.am.uni-erlangen.de/am2/publications/publications.html>

Prof. Dr. Andreas Kirsch
Mathematisches Institut II
Universitaet (TH) Karlsruhe
Englerstrasse 2 Tel.: (+49)721 608-2050 (-2051)
D-76128 Karlsruhe email: kirsch@am.uni-erlangen.de

From: "ht tran" <tran@control.math.ncsu.edu>
Subject: Industrial Math. Workshop for Graduate Students
Date: Tue, 23 Apr 1996

Dear Colleagues,

I would like to invite your students to apply to the fourth Industrial Mathematics Modeling Workshop for Graduate Students, to be held here at NCSU at the end of this summer. This is an excellent opportunity for students to experience group problem-solving as applied to problems from industry and government laboratories.

Below, I have included the na-digest announcement of the workshop. Additional (and more recent) information is kept at

<http://www4.ncsu.edu/unity/lockers/class/immworkshop/public/announce.html>

Please feel free to contact me for further information.

I hope to hear from you (your students) soon,
H.T. Tran

Announcing the

INDUSTRIAL MATHEMATICS MODELING WORKSHOP
FOR GRADUATE STUDENTS
August 5 - 13, 1996

Center for Research in Scientific Computation
North Carolina State University
Raleigh, North Carolina

FOREWORD

The Industrial Mathematics Modeling Workshop for Graduate Students, which is the fourth in the series, will take place at the Center for Research in Scientific Computation at North Carolina State University in Raleigh, North Carolina, 5-13 August 1996. This workshop is being held annually, the previous highly successful meetings was held at the Claremont College in 1993 and 1994, and at North Carolina State University last year. In line with the previous workshops the goals of this workshop are:

- * to expose 30 graduate students in mathematics and statistics to the challenging and exciting real-world problems from industry and government laboratories;
- * to introduce students to the team approach to problem solving.

Funding for the workshop is provided by the National Security Agency. Additional support is anticipated from the Center for Research in Scientific Computation (CRSC) and the Department of Mathematics at NCSU.

FORMAT

In the workshop the students will be divided into six teams to work on "industrial mathematics" problems presented by experienced applied mathematicians. These problems are challenging, real-world problems from industry or applied science and require fresh, new insight for their formulation and solution. The problem presenters, primarily from industry and government laboratories, are being recruited and their names will be announced subsequently. We are expecting one problem presenter from the NSA. Other scientists with whom we have discussed possible participation include: scientists from Lord Corp., Micro Craft Technologies, Aerospace Corporation, Chemical Industry Institute of Toxicology, and the U.S. Air Force School of Aerospace Medicine (Brooks Air Force Base).

APPLICATION PROCEDURE

Graduate students in mathematics, applied mathematics, statistics or operations research can be nominated for this program by a faculty member by sending a letter of recommendation. In addition, the student is required to send in a copy of a recent transcript. THE DEADLINE FOR APPLICATION IS JUNE, 30. Students will be expected to finance their travel. The workshop will cover all local living expenses for U.S. citizens and permanent residents.

ORGANIZERS

Fernando Reitich (Center for Research in Scientific Computation)
Jeffrey S. Scroggs (Center for Research in Scientific Computation)
Hien T. Tran (Center for Research in Scientific Computation)

CONTACT PERSON

Submit your complete applications or any inquiries you may have concerning this workshop to:

Hien T. Tran
Center For Research in Scientific Computation
Box 8205
North Carolina State University
Raleigh, NC 27695-8205
Telephone: (919) 515-8782
Fax: (919) 515-3798
e-mail: tran@control.math.ncsu.edu

From: flores@siam.org
Subject: Brief announcement
Date: Sat, 20 Apr 96

Second SIAM Conference on SPARSE MATRICES
October 9-11, 1996
The Coeur d'Alene Resort
Coeur d'Alene, Idaho

Deadline for submission of one-page extended abstracts: MAY 15, 1996.

Electronic submissions in LaTeX or ASCII files are encouraged. Send completed abstracts to:

meetings@siam.org
esmond@msr.epm.ornl.gov
dpierce@espresso.rt.cs.boeing.com

Information regarding the conference can be accessed in electronic format via SIAM's World Wide Web:

<http://www.siam.org/meetings/sm96/sm96home.htm>

From: tschoban@siam.org
Subject: SIREV 38-2 Table of Contents
Date: Fri, 26 Apr 96 08:36:15 EST

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Models for Predator-Prey Systems at Multiple Scales
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A Variational Calculus Approach to the Modelling of Flexible Manipulators K. A. Morris and K. J. Taylor

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From: spiegelman@siam.org
Subject: SIMA 27-4 (July 1996) TOC
Date: Mon, 01 Apr 96

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From: thomas@siam.org
Subject: SIAP 56-3 table of contents
Date: Fri, 12 Apr 96

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From: tschoban@siam.org
Subject: SIOPT 6-2 Table of Contents
Date: Mon, 15 Apr 96

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IPNet Digest Volume 3, Number 05 May 31, 1996

Today's Editor: Patricia K. Lamm
Michigan State University

Today's Topics:

Post-graduate program in Inverse and Ill-Posed Problems
Table of Contents: SIAM J. Numerical Analysis
Table of Contents: SIAM J. Computing
Table of Contents: SIAM J. Scientific Computing
Table of Contents: SIAM J. Control and Optimization
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Information about IPNet:

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<http://www.mth.msu.edu/ipnet>

From: "Mirjuk V.I." <mirjuk@cs.msu.su>
Subject: Post-graduate program in Inverse and Ill-Posed Problems
Date: Mon, 6 May 1996

Faculty of Computational Mathematics and Cybernetics of
Moscow State University enrolls foreign students on contract
basis for the post-graduate program "Inverse and Ill-Posed Problems".

Major fields of study and research by discipline are:

- Inverse Problems for Differential Equations;
- Inverse Problems in Geophysics;
- Mathematical Problems of Tomography;
- Theory of Ill-Posed Problems;
- Numerical Methods and Computational Algorithms for Ill-Posed Problems Solving;
- Inverse Problems in Optics.

The post-graduate program takes 3 years. Within this period students have to pass some special examinations and present a scientific thesis. The program leads to C.Sc (Candidate of Science) which is equivalent to a Ph.D.

For additional information please contact:
Dr. V.I.Mirjuk: mirjuk@cs.msu.su

From: tschoban@siam.org
Subject: SINUM 33-3 Table of Contents
Date: Wed, 01 May 96

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From: spiegelman@siam.org
Subject: SICOMP 25-4 (August 1996) TOC

Date: Fri, 03 May 96

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From: tschoban@siam.org
Subject: SISC 17-4 Table of Contents
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Primal-Dual Combinatorial Relaxation Algorithms for the Maximum Degree
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C. Falco Korn, B. Hormann, and C. P. Ullrich

From: thomas@siam.org
Subject: SICON 34-4 table of contents
Date: Mon, 13 May 96

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Perturbed Optimization in Banach Spaces II: A Theory Based on a Strong
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On Finite-Gain Stabilizability of Linear Systems Subject to Input
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On Some Relations Between Chaney's Generalized Second-Order Directional
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Consistent Approximations for Optimal Control Problems Based on
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On L^2 Sufficient Conditions and the Gradient Projection Method for
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Equivalent Subgradient Versions of Hamiltonian and Euler-Lagrange
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Hamilton-Jacobi-Isaacs Equations, and Nonlinear H_∞ Control
M. R. James and J. S. Baras

Inverse Optimality in Robust Stabilization
R. A. Freeman and P. V. Kokotovic

The Structured Singular Value for Linear Input/Output Operators
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A Turnpike Theory for Infinite-Horizon Open-Loop Competitive Processes
D. Carlson and A. Haurie

The Generalized Solutions of Nonlinear Optimization Problems with
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A Differential Game with Two Players and One Target
Pierre Cardaliaguet

Information Capacity of Channels with Partially Unknown Noise.
II. Infinite-Dimensional Channels
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From: Jan van Schuppen <J.H.van.Schuppen@cwi.nl>
Subject: Contribution to eletter
Date: Mon, 20 May 1996

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S.K. Biswas and N.U. Ahmed

Rational wavelet decompositions of transfer functions in Hardy-Sobolev
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A frequency response function for linear time-varying systems

J.A. Ball, I. Gohberg, and M.A. Kaashoek

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A. Feintuch

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A. Iggidr, B. Kataline, and R. Outbin

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R. Sepulchre and D. Aeyels

Stabilization in spite of matched unmodelled dynamics and an equivalent definition of input-to-state stability Y. Wang and L. Praly

INFORMATION

Information on MCSS including tables of contents is available at its home pages:

<http://www.cwi.nl/cwi/departments/BS3/mcss.html>

<http://www.math.rutgers.edu/~sontag/mcss.html>

Papers must be submitted to:

J.H. van Schuppen (Co-Editor MCSS)

CWI

P.O. Box 94079

1090 GB Amsterdam

The Netherlands

Bradley Dickinson, Eduardo Sontag, Jan van Schuppen (Editors)

----- end -----

IPNet Digest Volume 3, Number 06 June 30, 1996

Today's Editor: Patricia K. Lamm
Michigan State University

Today's Topics:

Request for Math-Related URLs on SIAM 'World' Web Page
Table of Contents: SIAM J. Applied Mathematics
Table of Contents: SIAM J. Matrix Analysis and Applications
Table of Contents: SIAM J. Numerical Analysis
Table of Contents: SIAM J. Scientific Computing
Table of Contents: Computational and Applied Mathematics

Submissions for IPNet Digest:

Mail to ipnet-digest@math.msu.edu

Information about IPNet:

Mail to ipnet-request@math.msu.edu
<http://www.mth.msu.edu/ipnet>

From: helfrich@siam.org
Subject: Request for Math-Related URLs
Date: Mon, 24 Jun 96

SIAM is currently reorganizing and expanding our "World of Mathematics and Computing" web pages. Our goal is to provide a comprehensive list of mathematics-related Web servers, FAQs, bibliographies, software repositories, newsgroups, etc. To that end, we are requesting URLs from those in the mathematics and computing community.

The World of Mathematics and Computing page, still very much under construction, is available at <http://www.siam.org/world/>. (It is not currently available from SIAM's home page.) The optimization link is the best developed of those subjects currently linked and can be used as an example of the type of information we are hoping to provide for our users.

Please note that we will not be relying only on the information provided via this request. We will continue to build this area using the various search engines available on the Web.

If you have a URL that you would like to submit, please send it to helfrich@siam.org. Please include several key words to assist us in properly categorizing the site. You are not limited to the key words listed on the World of Mathematics and Computing main page. We expect to add other topics as this site grows.

Laura B. Helfrich
On-Line Services Manager
SIAM

From: thomas@siam.org
Subject: SIAP 56-4
Date: Tue, 04 Jun 96

SIAM Journal on Applied Mathematics August 1996 Vol. 56, No. 4
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Integral Method Solution of Time-Dependent Strained Diffusion-Reaction
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Electromagnetic Inverse Problems and Generalized Sommerfeld Potentials
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Reconstruction of Source and Medium Parameters via Wave-Splitting and
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Stochastic Turning Point Problem in a One-Dimensional Refractive Random
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Recovery of Blocky Images from Noisy and Blurred Data
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What Is the Best Causal Scale Space for Three-Dimensional Images?
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From: tschoban@siam.org
Subject: SIMAX 17-3 Table of Contents
Date: Thu, 06 Jun 96

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On the Spectral Radius of $(0, 1)$ -Matrices with 1's in Prescribed
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Interlacing Properties of Tridiagonal Symmetric Matrices with
Applications to Parallel Computing Ilan Bar-On

On Eigenvalues of Quadratic Matrix Polynomials and Their Perturbations
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A Chain Rule for Matrix Functions and Applications
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Further Study and Generalization of Kahan's Matrix Extension Theorem
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On the Derivatives of Matrix Powers Paola Sebastiani

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From: tschoban@siam.org
Subject: SINUM 33-4 Table of Contents
Date: Fri, 14 Jun 96

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An Operator Splitting Method for the Wigner-Poisson Problem
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Optimal Time Step Control for the Numerical Solution of Ordinary Differential Equations Masaki Utumi, Ryuji Takaki, and Toshio Kawai

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A Nonlinear Mixed Finite Element Method for a Degenerate Parabolic Equation Arising in Flow in Porous Media
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From: tschoban@siam.org
Subject: SISC 17-5 Table of Contents
Date: Fri, 28 Jun 96

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A Model Numerical Scheme for the Propagation of Phase Transitions in
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A Sparse Approximate Inverse Preconditioner for the Conjugate Gradient
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On Weak Residual Error Estimation
Jinn-Liang Liu

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Susanne C. Brenner

From: demoura@iprj.uerj.br (Carlos A. de Moura)
Subject: Contents: COMPUTATIONAL and APPLIED MATHEMATICS
Date: Mon, 10 Jun 96

COMPUTATIONAL and APPLIED MATHEMATICS
Ed: Sociedade Brasileira de Matematica Aplicada e Computacional-SBMAC
and Birkhauser Boston
Editors: Jim Douglas Jr.; C.S. Kubrusly; C.A. de Moura

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----- end -----

IPNet Digest Volume 3, Number 07 July 31, 1996

Today's Editor: Patricia K. Lamm
Michigan State University

Today's Topics:

Report: 2nd Int'l Conference on Inverse Problems in Engineering
Announcement: Scale-Space Theory in Computer Vision Conference
Announcement: Workshop on PDE: Theory, Computation, Applications
Announcement: Postdoctoral Research Position in Inverse Problems
Table of Contents: SIAM J. Control and Optimization
Table of Contents: SIAM J. Mathematical Analysis
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<http://www.mth.msu.edu/ipnet>

From: kwoodbur@me.ua.edu (Keith A Woodbury)
Subject: 2icipe - Conf. Report
Date: Wed, 24 Jul 1996

CONFERENCE REPORT
2nd International Conference on
Inverse Problems in Engineering
(2ICIPE)
June 10-15, 1996
LeCroisic, FRANCE

The Second International Conference on Inverse Problems in Engineering was held in the beautiful setting of the Port aux Rocs resort hotel at LeCroisic, FRANCE. The conference was attended by over 110 engineers, mathematicians, and scientists from around the world. France contributed the largest contingent with about half the total number of delegates, but attendees came from many other countries including USA, Russia, Japan, Deutschland(Germany), Ukraine, Italy, Norway, Sweden, UK, Austria, Slovakia, Poland, Hungary, Denmark, Uzbekistan, Canada, Brazil and Holland.

In addition to the wonderful food, the participants enjoyed four keynote lectures by authorities in the field from different technical and geographic areas. These lectures were given by J. V. Beck (Heat Transfer/USA), Bill Rundell (Mathematics/USA), Shiro Kubo (Mechanics/Japan), and O. M. Alifanov (Heat Transfer/Russia). Particularly enjoyable was the lecture delivered by Bill Rundell on the second day of the conference.

Preliminary proceedings were distributed at the conference, but bound formal proceedings will be prepared by the Engineering Foundataion. As some of the papers required further review before publication, these proceedings may not be available until the end of the year. By the way, all of the keynote lectures should be available in the final proceedings.

The conference was beautifully organized under the direction of the

conference chairman, Didier Delaunay of ISITEM (University of Nantes). He and his many assistants (especially Ms. Isabelle Mace', the conference secretary) are due a large debt of gratitude.

Plans are already beginning for the 3rd International Conference on Inverse Problems in Engineering (3icipe), which is tentatively scheduled for June, 1999. Keith Woodbury (USA) will be the conference chairman, and co-chair support will be provided by Marc Bonnet (FRANCE), Yvon Jarny (FRANCE), and Shiro Kubo (JAPAN).

The area of inverse problems is thriving in many countries. There are plans to have national conferences in the USA and France in 1997 and Japan has an active large committee. Russia is planning an international meeting in Moscow, possibly for 1997. Mathematics societies are having meetings on this topic. Other countries, societies and groups regularly have sessions on inverse problems. The area is growing in size and importance.

Respectfully Submitted,
Keith A. Woodbury
woodbury@me.ua.edu

From: "Bart M. ter Haar Romeny" <Bart.terHaarRomeny@cv.ruu.nl>
Subject: Announcement "Scale-Space '97" Conference
Date: Tue, 9 Jul 1996

* First International Conference on *
* Scale-Space Theory in Computer Vision *

July 2-4 1997, Utrecht University Utrecht, the Netherlands

Call for Papers

Scale-Space theory has developed into a serious branch of multiscale computer vision theory. The foundations are mathematically well established, and its application areas cover the whole area of digital imaging. This first international conference is an extension of successful workshops of the "Diffusion" consortium, a US-NSF/EC-ESPRIT collaboration (1993-1996). The conference will combine tutorial sessions with a scientific single track 3-day meeting.

Papers are solicited in (but not restricted to) the following areas:

Methods

- Linear Scale-Space Theory
- Nonlinear Scale-Space Theory
- Geometric Scale-Spaces

Special Topics

- Axiomatic Foundation
- Differential Geometry and Invariants
- Discrete Scale-Spaces and Algorithms
- Scale Selection and Deep Structure
- Biological Relevance
- Relation to Regularization Methods
- Fast implementations

Applications

- Optic Flow and Stereo

Segmentation
Shape Analysis
Texture Analysis
Applications in Medicine and Industry

Papers will be peer reviewed by three independent reviewers. The proceedings of the meeting will be published.

Conference Chairs:

Bart M. ter Haar Romeny (chair)
Luc M.J. Florack
Jan J. Koenderink
Max A. Viergever

Conference Board and Program Committee:

Luis Alvarez, Las Palmas University
Amir Amini, Yale University
Rein van de Boomgaard, University of Amsterdam
Alfred Bruckstein, Technion, Haifa
Vincent Caselles, Illes Balears University, Palma de Mallorca
Rachid Deriche, INRIA Sophia-Antipolis
Olivier Faugeras, INRIA Sophia Antipolis
Guido Gerig, ETH Zrich
Luc van Gool, Catholic University Leuven
Peter Johansen, DIKU Copenhagen University
Stiliyan Kalitzin, Utrecht University
Benjamin Kimia, Brown University Providence
Ron Kimmel, UC Berkeley
Tony Lindeberg, KTH Stockholm
Jitendra Malik, UC Berkeley
Sherif Makram-Ebeid, Philips Research, Paris
Farzin Mokhtarian, University of Surrey, Guildford
Mads Nielsen, Copenhagen University
Eric Pauwels, KU Leuven
Pietro Perona, CalTech Pasadena
Stephen M. Pizer, UNC Chapel Hill
Nicolas Rougon, Institut National des Telecommunications Evry
Guillermo Sapiro, Hewlett Packard Labs Palo Alto
Joachim Weickert, Utrecht University
Stephen Zucker, MacGill University

Important Dates:

Deadline full paper submission (4 copies, 10 pages or less
single spaced): November 15, 1996
Notification of authors: January 15, 1997
Camera-ready paper due: March 15, 1997

For full information and registration;

URL: <http://www.cv.ruu.nl/Conferences/ScaleSpace97.html>
Email: scalespace97@cv.ruu.nl

From: wedp97@Brahms.fluid.impa.br (1997 WorkShop on E.D.P.)
Subject: Workshop on PDE-97
Date: Tue, 23 Jul 1996

First announcement

V WORKSHOP ON PARTIAL DIFFERENTIAL EQUATIONS:
THEORY, COMPUTATION AND APPLICATIONS

July 14 - 18, 1997

Instituto de Matematica Pura e Aplicada - IMPA
Estrada Dona Castorina 110, Rio de Janeiro, RJ - 22460-320, Brazil

The Workshop will cover the following topics:

* The study of fundamental solutions of nonlinear conservation laws. They describe the evolution of many systems arising in fluid dynamics, elasticity, flow in porous media, etc, often giving rise to mixed type problems.

* The general theory of involutive systems of first order linear PDE's, with focus mainly on its strong connection with Cauchy-Riemann manifolds and multi-dimensional complex analysis.

* The analysis of nonlinear evolution equations and their applications to Science and Technology. Within this category topics of special interest are well-posedness issues, as well as completely integrable systems and their perturbations.

* The study of inverse problems that arise in partial differential equations, with applications such as computerized tomography and medical imaging.

* The numerical analysis of solution methods, as well as exploration of the related theory via scientific computing.

The Workshop will cover theory, applications, and numerical methods, in order to reflect the interplay between all kinds of differential equations. One of its main goals is to promote the interaction between theoretical and applied scientists. There will also be talks on other topics of interest to the participants.

Organizing Committee: Paulo Cordaro - Univ. Sao Paulo - USP
Dan Marchesin - IMPA
Andre Nachbin - IMPA
Jorge P. Zubelli - IMPA

Information: wedp97@fluid.impa.br
Telephone: (55-21) 529-5069
FAX: (55-21) 512-4115
Home Page: <http://www.impa.br/fluid/wedp97>

From: "PROF.HEINZ W. ENGL" <engl@indmath.uni-linz.ac.at>
Subject: short term research position (inverse problems) in linz,austria
Date: Tue, 23 Jul 1996

We might have money available for funding an additional postdoctoral research position in inverse problems at the Johannes Kepler Universitaet in Linz, Austria, for about six months starting this October or November. We are interested in researchers whose interests and experience match ours closely enough for successful joint research to be possible within this relatively short period. We are currently mostly interested in regularization methods for nonlinear ill-posed inverse problems (also large scale, in combination with efficient solvers for the direct problems; see our WWW-page, address belo, for details). Those who are interested and match these criteria should contact me with details about their interest and experience urgently by

E-Mail.

Heinz W. Engl

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A-4040 Linz	Fax: +43-(0)732-2468855
Oesterreich / Austria	Telex: 2-2323 uni li a
World Wide Web: http://www.indmath.uni-linz.ac.at/	

From: thomas@siam.org
Subject: SICON 34-5 table of contents
Date: Thu, 11 Jul 96

SIAM Journal on Control and Optimization Sept 1996 Vol. 34, No. 5
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A Uniqueness Result for the Linear System of Elasticity and Its Control
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Boundary Exact Controllability of Interface Problems with Singularities
I: Addition of the Coefficients of Singularities Serge Nicaise

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Andrzej Banaszuk and John Hauser

Perturbed Optimization in Banach Spaces III: Semi-infinite Optimization
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Optimal Relaxed Controls for Infinite-Dimensional Stochastic Systems of
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Stabilization by Constrained Controls Georgi V. Smirnov

Minimax Rendezvous on the Line Wei Shi Lim and Steve Alpern

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Heavy Traffic Analysis of a Controlled Multiclass Queueing Network via
Weak Convergence Methods Harold J. Kushner and L. Felipe Martins

Stabilizability Does Not Imply Homogeneous Stabilizability for
Controllable Homogeneous Systems Rodolphe Sepulchre and Dirk Aeyels

Modified Projection-Type Methods for Monotone Variational Inequalities
Michael V. Solodov and Paul Tseng

From: spiegelman@siam.org
Subject: SIMA 27-5 (9/96) TOC
Date: Wed, 17 Jul 96

SIAM Journal on Mathematical Analysis Vol. 27, No. 5 Sept. 1996
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Traveling-Wave Solutions to Combustion Models for a Reversible Reaction
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Traveling-Wave Solutions of Convection-Diffusion Systems in
Nonconservation Form Lionel Sainsaulieu

The Stability of Roll Solutions of the Two-Dimensional Swift-Hohenberg
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Unique Determination of a Collection of a Finite Number of Cracks from
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Families of Orthogonal Two-Dimensional Wavelets Peter Maass

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From: thomas@siam.org
Subject: SIAP 56-5 table of contents
Date: Mon, 29 Jul 96

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The Linearization of the Dirichlet-to-Neumann Map in the Anisotropic
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----- end -----

IPNet Digest Volume 3, Number 08 August 31, 1996

Today's Editor: Patricia K. Lamm
Michigan State University

Today's Topics:

- Announcement: Call for Papers for Inverse Analysis Session
- Announcement: New Book on Inverse Problems
- Announcement: New Class of SIAM Membership
- Table of Contents: Proc. 2nd Int'l Conf. Inverse Probs. in Eng.
- Table of Contents: SIAM Review
- Table of Contents: SIAM J. Numerical Analysis
- Table of Contents: SIAM J. Matrix Analysis and Applications
- Table of Contents: J. Math. Systems, Estimation, and Control
- Table of Contents: Linear Algebra and Its Applications

 From: Shiro KUBO <kubo@saos.meim.eng.osaka-u.ac.jp>
 Subject: FW: Call for Papers
 Date: Fri, 30 Aug 1996

An organized session on

"Inverse Analysis: Computation-Assisted Understanding of Observations"

will be held in ATEM95 (Symp. on Advanced Technology in Experimental Mechanics) to be held in Wakayama, Japan, July-25-26,1996. Attached please find a call for papers of ATEM95 (Symp. on Advanced Technology in Experimental Mechanics).

All papers contributing to theoretical background of inverse analysis, numerical study of inverse analysis, application of inverse analysis to experimental data are welcome.

Shiro Kubo
Organizer
Osaka University, Osaka Japan
Fax +81-6-879-7305

=====
Second Announcement and Call for Papers

International Conference on
ADVANCED TECHNOLOGY IN EXPERIMENTAL MECHANICS
(ATEM '97, Wakayama)

July 25-26, 1997

Wakayama City, JAPAN

Sponsored by JSME-MMD
Cosponsored by SEM, EPCEM, BSSM and SSEM

Introduction:

Welcome to Wakayama! The JSME-MMD invites you to the conference on Advanced Technology in Experimental Mechanics at Wakayama. The ATEM '97, Wakayama will be held on July 25 and 26, 1997 in Noritsu Koki Co. Ltd.,

Wakayama, Japan, as a joint conference of the International Conference on Materials and Mechanics (held on July 20 and 22 in Tokyo), one of the international conferences and symposia of the JSME Centennial Grand Congress.

This is the third conference on Advanced Technology in Experimental Mechanics sponsored by JSME-MMD, following ATEM '93, Kanazawa and ATEM '95, Tokyo.

The major aims of the conference will be to provide an opportunity for discussion of new developments of advanced technology in experimental mechanics by leading researchers, scientists and engineers all over the world.

Conference location:

Noritsu Koki Co. Ltd., Umehara, Wakayama City, Wakayama Prefecture, Japan

Sponsors and supporting organizations:

Sponsored by The Japan Society of Mechanical Engineers, Materials and Mechanics Division (JSME-MMD)

In cooperation with The Japan Society of Mechanical Engineers, Kansai Branch (JSME-KB) Noritsu Koki Co. Ltd.

Cosponsored by

Society for Experimental Mechanics (SEM)
European Permanent Committee on Experimental Mechanics (EPCEM)
British Society for Strain Measurement (BSSM)
Slovenian Society of Experimental Mechanics (SSEM)

Supported by

Wakayama Industrial Technology Center (WINTEC)
Wakayama Technology Promotion Foundation

Scientific topics:

All aspects of Advanced Technology in Experimental Mechanics will be covered in the conference, including optical methods, thermal methods, transducers, sensors, hybrid methods and so on.

Submittals for the following organized sessions will be welcomed.

- (1) Strength evaluation at elevated temperatures (Organizer K. Hatanaka)
- (2) Fracture mechanics and dynamic failure (Organizer K. Arakawa)
- (3) Inverse analyses: Computation-assisted understanding of observations (Organizer S. Kubo)
- (4) Micromechanical testing (Organizer K. Minoshima)

Both oral sessions and table sessions will be held. The table sessions will provide the opportunity for in-depth discussions between a small group of people around a table. In the table sessions, Computers, VCRs, OHPs and posters will be available.

Schedule and deadlines:

- i) Reply form submission: August 31, 1996
 - ii) Abstract submission: November 30, 1996 (500-words abstract in English)
 - iii) Acceptance notification: January 31, 1997
 - iv) Full paper submission: March 31, 1997 (4 or 6 pages)
- * A few papers on "hot topics" of immediate interest will be accepted by submission of a full paper without abstract submission after reviewing the

full paper.

Conference Tours:

A post conference tour, a technical tour and a spouses city tour will be scheduled.

Registration fees:

30,000 Japanese Yen (until March 31, 1997)

40,000 Japanese Yen (after March 31, 1997)

10,000 Japanese Yen for student (until March 31, 1997)

15,000 Japanese Yen for student (after March 31, 1997)

US \$1.00 is approximately 110 Japanese Yen as of July, 1996.

The regular participant fees include a copy of the proceedings and a banquet ticket. The student fees do not include a banquet ticket.

Site:

Wakayama City is located to the south of Osaka, the second biggest city in

Japan. It takes 40 minutes by train from the nearest airport, Kansai International Airport. This airport is Japan's first full-scale, 24-hour airport, and was constructed on a site reclaimed from the 18-meter-deep sea. Wakayama Prefecture has many famous historical sites, hot springs and

beautiful natural features such as Koya-san, Kumano Nachi Shrine, Nachi Waterfall, Shirahama Spa and Kushimoto.

Advisory Committee:

Chairman: K. Ogura (Osaka University & JSME-MMD Chairman)

Members

Y. Miyano (Kanazawa Institute of Technology)

Y. Murakami (Kyushu University)

H. Nakamura (Tokyo Institute of Technology)

M. Takashi (Aoyama Gakuin University)

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Organizing Committee:

Chairman: Y. Morimoto (Wakayama University)

Members :

K. Arakawa (Kyushu University)

K. Hatanaka (Yamaguchi University)

S. Kubo (Osaka University)

K. Minoshima (Kyoto University)

[Please contact the below conference URL/e-mail for more information about Program Committee, Executive Committee, reply form, etc.. -Ed.]

Prof. Yoshiharu MORIMOTO

ATEM '97, Wakayama

Dept. of Opto-Mechatronic

Faculty of Systems Engineering

Wakayama University

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Phone/Fax: +81-(0)734-54-2309 (Direct)

E-mail: atem@sys.wakayama-u.ac.jp

URL: <http://www.wakayama-u.ac.jp/~atem/>

From: "PROF.HEINZ W. ENGL" <engl@indmath.uni-linz.ac.at>
Subject: new book on inverse problems
Date: Wed, 07 Aug 1996

The following book has just appeared:

Heinz W. Engl, Martin Hanke, Andreas Neubauer
Regularization of Inverse Problems
Kluwer, Dordrecht, 1996
ISBN: 0-7923-4157-0

The table of contents can be found on my WWW-Page (see below).

Heinz W. Engl, Linz (Austria)

Prof.Dr.Heinz W. Engl	E-Mail: engl@indmath.uni-linz.ac.at
Industriemathematik	or na.engl@na-net.ornl.gov
Institut fuer Mathematik	secretary: nikolaus@indmath.uni-
linz.ac.at	
Johannes-Kepler-Universitaet	Phone: +43-(0)732-2468; ext.9219 or
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245518	
A-4040 Linz	Fax: +43-(0)732-2468855
Oesterreich / Austria	Telex: 2-2323 uni li a
World Wide Web: http://www.indmath.uni-linz.ac.at/	

From: montgomery@siam.org
Subject: New class of membership at SIAM
Date: Fri, 30 Aug 96

SIAM is pleased to announce that a new class of membership will be offered in 1997 to new as well as current members who are recent graduates. "Postgraduate memberships" are available to individuals for up to three consecutive years immediately after they receive their highest degree.

Postgraduate members have the same benefits as regular members.

Postgraduate membership is available on a one time basis to individuals. It is offered for the first time in 1997 and is not retroactive. Dues for 1997 for Postgraduate members are \$45.

If you are a current student member for 1996 and cannot claim student status for 1997, please consider the Postgraduate membership category when you receive your renewal notice for 1997. Simply note on your renewal what degree you have earned and where and remit the \$45.00 Postgraduate Membership Dues.

SIAM reminds current students that a discounted membership class is available to them as well - \$20 for the calendar year 1997. Student Members receive membership in one SIAM activity group at no charge, and have all the benefits of regular members.

Please contact SIAM Customer Service for more information:

service@siam.org

SIAM

3600 University City Science Center
Philadelphia, PA 19104
215-382-9800
fax 215-386-7999

From: Dr James Beck <beck@egr.msu.edu>
Subject: Table of Contents 2ICIPE
Date: Fri, 23 Aug 1996 01:48:03 -0400

A preliminary Table of Contents for Volumes 1 and 2 of the

2nd International Conference on
INVERSE PROBLEMS IN ENGINEERING: THEORY AND PRACTICE

is now available. [See below.]

James V. Beck, Professor
Department of Mechanical Engineering
A231 Engineering Building
Michigan State University
East Lansing, MI 48824-1226
Tel. No.: 517-355-8487
Fax: 517-353-1750
E-mail: beck@egr.msu.edu

[NOTE: Due to the length of this submission, the Table of Contents will
not
appear here but is instead available on the IPNet server. To retrieve
this document, send an e-mail message to:

ipnet-request@math.msu.edu

with the following in the body of the message:

get Proc_2nd_Intl_Conf_Inverse_Probs_in_Eng

-Ed.]

From: tschoban@siam.org
Subject: SIREV 38-3 Table of Contents
Date: Mon, 05 Aug 96

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Introduction to Perturbation Methods (M. H. Holmes), Robert E. O'Malley, Jr.

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Perturbation Methods in the Computer Age (David C. Wilcox), R. H. Rand

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SELECTED COLLECTIONS
LATER EDITIONS
CHRONICLE

From: tschoban@siam.org
Subject: SINUM 33-5 Table of Contents
Date: Wed, 07 Aug 96

SIAM Journal on Numerical Analysis October 1996 Volume 33, Number 5
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From: tschoban@siam.org
Subject: SIMAX 17-4 Table of Contents
Date: Thu, 22 Aug 96

SIAM Journal on Matrix Analysis and Applications Oct. 1996, Vol. 17,
No. 4

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Normal Toeplitz Matrices
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From: hyman@birkhauser.com (Elizabeth Hyman)
Subject: Table of contents
Date: Fri, 2 Aug 1996

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Volume 6, Number 3, 1996

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Viswanath Ramakrishna

-Elizabeth Hyman
Journal Production Editor

From: Richard Brualdi <brualdi@math.wisc.edu>
Subject: Contents, vol 245 of LAA
Date: Mon, 19 Aug 1996

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IPNet Digest Volume 3, Number 09 September 30, 1996

Today's Editor: Patricia K. Lamm
Michigan State University

Today's Topics:

Oops: Empty IPNet Digest
Announcement: Information on Nonacademic Mathematics Careers
Announcement: New Book on Subspace Identification
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Table of Contents: SIAM J. Control and Optimization
Table of Contents: SIAM J. Mathematical Analysis
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Submissions for IPNet Digest:

Mail to ipnet-digest@math.msu.edu

Information about IPNet:

Mail to ipnet-request@math.msu.edu
<http://www.mth.msu.edu/ipnet>

From: IPNet
Subject: Oops: Empty IPNet Digest
Date: Mon, 30 Sep 96

Due to some changes in the computer system here, the software used to send out yesterday's IPNet Digest malfunctioned. Thus the entire mailing list received an empty mailing. This is the mailing that you should have received on 30 September, 1996. Sorry for any confusion.

-IPNet

From: montgomery@siam.org
Subject: Information on Nonacademic Mathematics Careers
Date: Fri, 20 Sep 96

The AMS-SIAM Mathematical Sciences Career Information Web site opened in November at <http://www.siam.org> (then click on "career information"). Each month the site profiles the careers of mathematicians working in nonacademic positions in industry, business, or government in an effort to demonstrate the range of career opportunities available to mathematicians. These featured mathematicians then participate in an ongoing bulletin board in which they are available to answer open forum questions from users pertaining to preparation for or employment in the nonacademic sector.

The Web site also contains descriptions of industry applications and links to sites with resource information for students entering the job market. The professional profiles link to companies employing mathematicians, many of which post information about job opportunities on their Web sites. There are also links to on-line job listing services

that advertise positions in the sciences and engineering.

Beginning in November 1996, the Web site will allow graduate students in the mathematical sciences interested in finding out more about nonacademic careers to sign up to participate in a mentoring program that will match them with a mathematician working in the nonacademic sector. Mentors can answer questions about the work environment in industry and about the process of applying for jobs outside academia.

If you would like to participate in this project as a mentor or be considered as a featured mathematician, contact Linda C. Thiel, Project Director, at thiel@siam.org.

Featured on the bulletin board in October are Mary Brewster, a senior research scientist with Battelle Pacific Northwest National Laboratory who does probabilistic modeling for waste tank safety analysis and develops numerical wavelet methods for problems in computational chemistry; Stewart Gleason, a consulting actuary with Ernst & Young who is building a model that will be used to price medical malpractice business for doctor groups; Jeff Kidder, a senior software engineer with Intel Corporation who is leading a project that is implementing and optimizing speech compression algorithms for use in a video conferencing system; and Craig Benham, acting chair of the Department of Biomathematical Sciences at Mount Sinai School of Medicine who works on problems related to DNA structure.

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fax 215-386-7999
siam@siam.org
<http://www.siam.org>

From: Bart De Moor <Bart.DeMoor@esat.kuleuven.ac.be>
Date: Sun, 15 Sep 1996

Contributed by: Bart De Moor <bart.demoor@esat.kuleuven.ac.be>

We are happy to announce the publication of a new book, of which we enclose the abstract, the table of contents (1 level deep) and an order form.

Title: Subspace Identification for Linear System
Theory, Implementation, Applications

Authors: Peter Van Overschee (Katholieke Universiteit Leuven)
Bart De Moor (Katholieke Universiteit Leuven)

Publisher: Kluwer Academic Publishers, PO Box 17,
3300 AA Dordrecht, The Netherlands

254 pp. Hardbound/ISBN: 0 7923 9717 7
Contains floppy disk with Matlab files for subspace identification

Price: USD: 105, NLG: 195, GBP: 74.75

Publication date: May 1996

More information: services@wkap.nl
peter.vanoverschee@esat.kul.ac.be
bart.demoor@esat.kul.ac.be
<http://www.esat.kuleuven.ac.be/~vanovers/bookann.html>

Abstract:

This book focuses on the theory, implementation and applications of subspace identification algorithms for linear time-invariant finite-dimensional dynamical systems. These algorithms allow for a fast, straightforward and accurate determination of linear multivariable models from measured input-output data.

The theory of subspace identification algorithms is presented in detail. Several chapters are devoted to deterministic, stochastic and combined deterministic-stochastic subspace identification algorithms. For each case, the geometric properties are stated in a main 'subspace' Theorem. Relations between existing algorithms and literature are explored, as are the interconnections between different subspace algorithms. The subspace identification theory is linked to the theory of frequency weighted model reduction, which leads to new implementations and insights.

The implementation of subspace identification algorithms is discussed in terms of the robust and computationally efficient RQ and singular value decompositions, which are well-established algorithms from numerical linear algebra. The algorithms are implemented in combination with a whole set of classical identification algorithms, processing and validation tools in Xmath's ISID, a commercially available graphical user interface toolbox. The basic subspace algorithms in the book are also implemented in a set of Matlab files accompanying the book.

One application of ISID to an industrial glass tube manufacturing process is presented in detail, illustrating the power and user-friendliness of the subspace identification algorithms and of their implementation in ISID. The identified model allows for an optimal control of the process, leading to a significant enhancement of the production quality. The applicability of subspace identification algorithms in industry is further illustrated with the application of the Matlab files to ten practical problems. Since all necessary data and Matlab files are included, the reader can easily step through these applications, and thus get more insight in the algorithms.

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- 3.1. Stochastic systems
- 3.2. Geometric properties of stochastic systems
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 - 6.2. Interactive system identification
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- Appendix B: Matlab functions
- Appendix C: Notation
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- Index

[Please consult the above Web page for more information
about ordering. -Ed.]

 From: Jesse de Does <mailer@ns.baltzer.nl>
 Subject: Advances in Computational Mathematics content list
 Date: Mon, 2 Sep 1996

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Solvable models of layered neural networks based on their differential

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Critical points for least-squares problems involving certain analytic functions, with applications to sigmoidal nets E.D. Sontag

Linear unlearning for cross-validation
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From: thomas@siam.org
Subject: SICON 34-6 table of contents
Date: Thu, 05 Sep 96

SIAM Journal on Control and Optimization Nov. 1996 Vol. 34, No. 6
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From: spiegelman@siam.org
Subject: SIMA 27-6 (11/96) TOC
Date: Fri, 06 Sep 96

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From: tschoban@siam.org
Subject: SISC 17-6 Table of Contents
Date: Mon, 09 Sep 96

SIAM Journal on Scientific Computing Nov. 1996, Volume 17, Number 6
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Composite Step Product Methods for Solving Nonsymmetric Linear Systems
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From: thomas@siam.org
Subject: SIAP 56-6 table of contents
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From: poulson@siam.org
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Date: Wed, 25 Sep 96

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From: Secretary Support - Magrijn <magrijn.secsup@tip.nl>
Subject: Table of contents journal MCSS
Date: Wed, 11 Sep 1996

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On control of two-scale stochastic systems with linear dynamics in the fast variables, W.J. Runggaldier and Y.M. Kabanov

INFORMATION

Information on MCSS including tables of contents is available at its home pages:

<http://www.cwi.nl/cwi/departments/BS3/mcss.html>

<http://www.math.rutgers.edu/~sontag/mcss.html>

Papers must be submitted to:

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Bradley Dickinson, Eduardo Sontag, Jan van Schuppen (Editors)

Contributed by Jan H. van Schuppen

(J.H.van.Schuppen@cwi.nl)

From: Richard Brualdi <brualdi@math.wisc.edu>
Subject: LAA Contents Vol 246
Date: Sat, 21 Sep 1996

Linear Algebra and Its Applications Vol. 246, Nos. 1-3, 1996
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Doubly Stochastic Matrices and Dicycle Covers and Packings in Eulerian Digraphs A. Borobia, Z. Nutov, M. Penn

From: demoura@brie.iprj.uerj.br (Carlos A. de Moura)
Subject: Re: Comp Appl Math: contents V.15 n.2 (1996)
Date: Fri, 27 Sep 1996

Matematica Aplicada e Computacional Computational and Applied Mathematics
Edited by Birkhauser-Boston and SBMAC- Brazilian Soc for Computational and Applied Mathematics

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A Pseudo-Wavelet Scheme for the Two-Dimensional Navier-Stokes Equation
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Condition Numbers for Wavelets and Filter Banks
Strang, G

From: Baltzer Science <mailer@ns.baltzer.nl>
Subject: Numerical Algorithms content list
Date: Tue, 17 Sep 1996

Numerical Algorithms April, 1996 Volume 12
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Model reduction of state space systems via an implicitly restarted Lanczos method E.J. Grimme, D.C. Sorensen and P. van Dooren

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On the validity of a front-oriented approach to partitioning large
sparse graphs with a connectivity constraint

P. Ciarlet, Jr and F. Lamour

Smoothing scattered data with a monotone Powell-Sabin spline surface

K. Willemans and P. Dierckx

A linear system solver based on a modified Krylov subspace method for
breakdown recovery C.H. Tong and Q. Ye

Book reviews

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IPNet Digest Volume 3, Number 10 October 31, 1996

Today's Editor: Patricia K. Lamm
Michigan State University

Today's Topics:

Special Session: Inverse Problems in Heat Transfer, Fluid Flow
Conference: Finite Difference Methods - Theory and Applications
Employment Opportunity: Industrial Mathematics Position
Tutorial: Scale-Space Theory Tutorial on Web
Table of Contents: SIAM J. Numerical Analysis
Table of Contents: SIAM J. Computing

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From: kwoodbur@me.ua.edu (Keith A Woodbury)
Subject: 97 NHTC I.P. Session
Date: Wed, 2 Oct 1996

CALL FOR PAPERS
for the session on

INVERSE DESIGN PROBLEMS IN HEAT TRANSFER AND FLUID FLOW

1997 National Heat Transfer Conference
Baltimore, Maryland, August 10- 12, 1997

The Ad Hoc Committee on Computational Heat Transfer of the Heat Transfer Division of ASME is sponsoring a stand-up session on "Inverse Design Problems in Heat Transfer and Fluid Flow" at the 1997 National Heat Transfer conference.

Appropriate topics include, but are not limited to inverse conjugate thermal problems involving: conduction and convection, conduction and radiation, radiation and convection, all three heat transfer modes, electromagnetics and/or acoustics, phase change and/or combustion. In addition, papers on topics involving- inverse determination of: unknown thermal boundary and initial conditions, thermal properties of the material, the appropriate governing system of equations, locations and strengths of heat sources/sinks, time variation of friction heating in slide contacts, etc. are solicited. Papers on inverse shape design for over-specified thermal and flow field boundary conditions are especially welcome. Contributions dealing with optimization of: 2-D and 3-D cooling passage shapes, sizes and locations-, thermal coating thickness distributions, unsteady quenching and freezing/thawing protocols, etc. are welcome. The prospective authors should mail three (3) copies of an extended abstract of not less than 500 words to either of the session organizers.

In addition, they should mail one (1) copy of the extended abstract to: Prof. Matthew D. Kelleher, Mech. Eng. Dept., Naval Postgraduate School, 700 Dyer Rd., Code ME/KK, Monterey, CA 93943. Abstracts and eventually complete papers will be peer reviewed. Accepted full papers

will be published in a bound volume available at the meeting. Feel free to get additional information about the conference from <http://www.asme.org>.

DEADLINES

Mail your abstracts (3 + 1 copy) by	25 October, 1996
Notification about acceptance of your abstract by	8 November, 1996
Submit your complete manuscript (4 copies) by	31 December, 1996
Notification of final acceptance by	1 March, 1997
Final papers on mats to session organizers by	1 April, 1997

ORGANIZERS

Prof. George S. Dulikravich Dcpt. of Aero. Eng., 233 Hammond The Pennsylvania State University University Park, PA 16802, U.S.A. phone: (814) 863-0134 FAX: (814) 865-7092 e-mail: GSD@ECL.PSU.EDU	Prof. Keith A. Woodbury Department of Mechanical Engineering The University of Alabama Tuscaloosa, AL 35487, U.S.A. phone: (205) 348-1647 FAX: (205) 348-6419 e-mail: woodbury@me.ua.edu
--	--

From: Lubin Georgiev Vulkov <vulkov@ami.ru.acad.bg>
Subject: Conference
Date: Thu, 24 Oct 1996

Finite Difference Methods: Theory and Applications
Rousse, Bulgaria, August 10-13, 1997

The Conference "Finite Difference Methods: Theory and Applications"
is organized by

Institute of Numerical Modelling, Russian Ac.Sci.
Institute of Mathematics, Ac.Sci. of Belarus
University of Rousse, Bulgaria
Technical University of Gabrovo, Bulgaria

The scope of the Conference is concerned with problems of development, validation and practical usage of finite difference methods for numerical solution of modern problems of science and engineering. Basic topics:

Validation of finite difference methods for solving problems of mathematical physics

Iterative methods and parallel algorithms for solving grid equations

Finite difference methods for nonlinear problems

Inverse problems and problems of control

Finite difference methods in continuum mechanics

Application of difference methods to engineering problems

International Programme Committee
A.A.Samarskii, Russia (Chairman), ...

Organizing Committee
L.Vulkov,Bulgaria (Chairman), P.N.Vabishchevich,Russia, P.P.Matus,
Belorus,...

Programme of the Conference includes plenary lectures, invited
lectures, reports at sessions, minisymposiums.

For contacts:

P.N.Vabishchevich	Lubin Vulkov
Institute for Mathematical Modelling	Center of Applied
Mathematics	
Russian Academy of Sciences	and Informatics
Miusskaya Square	University of Rousse
Moscow 125047, RUSSIA	7017 Rousse, BULGARIA
e-mail:vab@imamod.msk.su	e-mail:vulkov@ami.ru.acad.bg

From: "PROF.HEINZ W. ENGL" <engl@indmath.uni-linz.ac.at>
Subject: digest submission
Date: Fri, 04 Oct 1996

EMPLOYMENT OPPORTUNITY

For a joint research and development project between the Department of Industrial Mathematics at the University of Linz (Austria) and the affiliated company MathConsult GmbH, we are looking for a mathematician (with at least a degree comparable to a Master's degree or diploma) to be employed at MathConsult from January 1,1997, for one year initially (renewable in case of success). The project involves modelling and numerical simulation of solid and gas flows and chemical reactions. Programming should be done in C++. Competitive salary. For employment law reasons, citizenship of a European Union country or of Norway or Switzerland required. For further information contact

Prof.Heinz Engl, University, A-4040 Linz, Austria; fax: +43-732-2468855,
E-Mail: engl@indmath.uni-linz.ac.at

From: "Bart M. ter Haar Romeny" <Bart.terHaarRomeny@cv.ruu.nl>
Subject: Tutorial on Scale-Space Theory
Date: Wed, 9 Oct 1996

Tutorial on Scale-Space Theory:

Many people find the mathematics of scale-space theory quite difficult to enter, and often search for a more intuitive introduction to the field. A short tutorial on scale-space theory is now available.

The bottom line of the Web page of the First International Conference on Scale-Space Theory, 2-4 July 1997 in Utrecht, the Netherlands, contains a pointer to the (Acrobat or PostScript) tutorial:

<http://www.cv.ruu.nl/Conferences/ScaleSpace97.html>

Originated as a tutorial given at the VBC'96 conference in Hamburg, and based on contributions by many in the field, it is an excerpt of a much more elaborating book, appearing in 1997 with Kluwer.

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ftp: ftp.cv.ruu.nl
http://www.cv.ruu.nl

From: tschoban@siam.org
Subject: SINUM 33-6 Table of Contents
Date: Tue, 15 Oct 96

SIAM Journal on Numerical Analysis December 1996 Volume 33, Number 6
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Zhimin Zhang and Ivo Babuska

Algorithms for Computing Motion by Mean Curvature
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Stability Analysis of Numerical Schemes for Stochastic Differential
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Second-Order Spectral Differentiation Matrices G. E. Sneddon

Error Estimates for Finite Difference Methods for a Wide-Angle "Parabolic" Equation G. D. Akrivis, V. A. Dougalis, and G. E. Zouraris

From: spiegelman@siam.org
Subject: SICOMP 25-6 (12/96) TOC
Date: Thu, 03 Oct 96

SIAM Journal on Computing Volume 25, Number 6 December 1996
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Kolmogorov Complexity and Instance Complexity of Recursively Enumerable Sets Martin Kummer

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A Deterministic $\text{poly}(\log \log N)$ -Time N -Processor Algorithm for Linear Programming in Fixed Dimensions Miklos Ajtai and Nimrod Megiddo

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Prefix Codes: Equiprobable Words, Unequal Letter Costs Mordecai J. Golin and Neal Young

On Unapproximable Versions of NP-Complete Problems David Zuckerman

A Linear-Time Algorithm for Finding Tree-Decompositions of Small Treewidth Hans L. Bodlaender

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Michael J. Fischer, Shlomo Moran, Steven Rudich, and Gadi Taubenfeld

Erratum: Fast Parallel Computation of the Polynomial Remainder Sequence
via Bezout and Hankel Matrices Dario Bini and Luca Gemignani

----- end -----

IPNet Digest Volume 3, Number 11 November 30, 1996

Today's Editor: Patricia K. Lamm
Michigan State University

Today's Topics:

Conference on Solving Ill-Posed Inverse Problems
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Position in Symbolic Computatation at Johannes Kepler Univ.
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New Book on Inverse Problems
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From: crj@sci2.cs.utah.edu (Chris Johnson)
Subject: Solving Ill-Posed Inverse Problems - Call for Papers
Date: Mon, 18 Nov 1996

Computational, Experimental, and Numerical Methods for Solving Ill-Posed
Inverse Imaging Problems: Medical and Nonmedical Applications
27 July - 1 August 1997
San Diego, California USA

Conference Chairs: Randall L. Barbour, SUNY/Brooklyn; Mark J. Carvlin,
Bracco Diagnostics Inc.; Michael A. Fiddy, Univ. of Massachusetts/Lowell

Cochairs: Christopher R. Johnson, Univ. of Utah; David Isaacson,
Rensselaer
Polytechnic Institute; Timothy J. Schulz, Michigan Technological Univ.;
Michael V. Klibanov, Univ. of North Carolina/Charlotte; Robert V.
McGahan, Rome Lab.

Imaging methods are increasingly being applied to a wide range of applications including clinical medicine, geophysics, remote sensing, and materials testing. Practical systems invariably must consider nonidealities that corrupt the quality of data, limit the range of measurements and computational effort, and restrict the type of experimental strategies that can be considered. Energy sources used in imaging studies include magnetic, acoustic, electrical and a wide range of electromagnetic sources. These may be located external to the medium or inside. Detection modes may or may not be time dependent and can range from backscatter only to full tomographic measurement schemes. Whereas the types of physical measurements performed can vary, the numerical methods and computational strategies used to evaluate the data are often similar. A common feature complicating many of these methods is the uncertainty regarding the volume of medium probed by the

penetrating or emitted energy. Frequently this uncertainty is due to the effects of scattering. Accurate knowledge of the energy distribution requires information about the properties of the medium, which is the unknown being examined. As a result useful methods frequently must consider approximate solutions that represent compromises between computational effort, physical accuracy of the modeling scheme, and quality and type of available data.

Imaging methods used in clinical medicine currently provide physiological information about in-vivo ion and metabolite levels, enzyme activity, hormone receptors, oxygen-deficient states, sensory-invoked potential, dynamics of vascular flow and other parameters. Methods which provide this information include: magnetic resonance imaging (MRI), positron emission tomography (PET), single photon emission computed tomography (SPECT), optical and microwave tomographic imaging methods, electrical impedance tomography (EIT), EEG and magnetic source imaging methods, among others. Acoustic, impedance, and electromagnetic source imaging methods are also widely applied to probe a range of materials and media to search for foreign objects, carbon fuels, subsurface faults, and other applications in nondestructive testing and remote sensing.

Principal topics of interest will fall into four main areas: I) mathematical aspects of inverse methods (e.g., methods for dealing with ill-conditioning, limited noisy data, missing phase information, superresolution etc.); ii) computational strategies; iii) modeling methods for forward and inverse scattering phenomena; and iv) interdisciplinary applications including clinical medicine, optics, astronomy, geophysics, remote sensing, etc.

This conference will bring together leading experts from universities, medical centers, government laboratories, and industry to discuss the latest developments in the diverse and fast developing field. Topics will include, but are not limited to, the following areas:

Imaging modalities: (MRI, PET, SPECT, EIT, optical, microwave, EEG/magnetic source, and acoustic imaging methods)

- * quantitative methods for imaging strong scatterers
- * inverse scattering problems
- * oxygen deficient states
- * monitoring of organ function (hepatic, cerebral, cardiac, renal, skeletal muscle, breast)
- * metabolite levels
- * tumor detection
- * laboratory modeling studies
- * time-resolved, harmonic, and time-independent illumination schemes
- * novel detection methods
- * multiwavelength analysis.

Methods for solving ill-posed problems

- * explicit methods
- * iterative perturbation methods
- * derivation of homogeneous and inhomogeneous reference states
- * use of a priori information
- * projection methods
- * regularization techniques

- * application of neural net methods
- * layer stripping.

Efficient numerical methods

- * FDTD
- * finite element
- * Monte Carlo
- * discrete ordinate
- * multigrid methods
- * hybrid methods to model complex media.

Computational strategies

- * parallel methods
- * novel problem solving environments.

IMPORTANT DEADLINES

Paper Abstracts Due from Authors:

- 16 December 1996 (on-site proceedings)
- 30 December 1996 (post-meeting proceedings)

Manuscripts Due from Authors:

- 5 May 1997 (on-site proceedings)
- 30 June 1997 (post-meeting proceedings)

To submit an abstract electronically, use our online submission form at

http://www.spie.org/web/meetings/calls/sd97/sd97_submission_form.html

The complete calls for papers will be available on or before 1 November 1996 at

http://www.spie.org/web/meetings/calls/sd97/sd97_home.html

From: Krassimira Zlateva <kzlateva@ami.ru.acad.bg>
Subject: First Announcement for Two Confereces
Date: Tue, 26 Nov 1996

THE ANGEL KANCHEV UNIVERSITY OF ROUSSE
DIVISION OF NUMERICAL ANALYSIS AND STATISTICS

First Announcement and Call for Papers

FINITE DIFFERENCE METHODS:THEORY and APPLICATIONS
ROUSSE,BULGARIA,AUGUST 10-13,1997

The Conference FINITE DIFFERENCE METHODS:THEORY and APPLICATIONS is organized by

Institute of Mathematical Modelling University of Rousse,
Bulgaria
Russian Academy of Sciences

Institute of Mathematics Technical University of
Gabrovo Belarus Academy of Sciences Bulgaria

The scope of the Conference is concerned with problems of development, validation and practical usage of finite difference methods for numerical solution of modern problems of science and engineering.

BASIC TOPICS:

Validation of finite difference methods for solving problems of mathematical physics
Iterative methods and parallel algorithms for solving grid equations
Finite difference methods for nonlinear problems
Inverse problems and problems of control
Finite difference methods in continuum mechanics
Application of difference methods to engineering problems

The scientific programme includes invited plenary talks (45 min), key lecturers (45 min) and contributed talks (20 or 30 min).

CONFERENCE DEADLINES

-proposals for special sessions and minisymposia : February 20, 1997
-abstract (one page abstract, best plain text or Postscript by e-mail) : March 30, 1997

The workshop fee is 200\$ up to May 1, 1997, and 220\$ thereafter. It covers the volume with the proceedings, a volume with abstracts, and social events. The social events include a reception, a 1-day excursion to Veliko Tarnovo and Gabrovo, cocktail, official dinner and daily refreshments.

The account to which the fee can be transferred will be sent to the interested individuals. Limited funds will be available for supporting some of the participants.

The official language of the conference is English. The contributions should present original research which has not been published previously. The papers will be refereed. The papers should be prepared using the LATEX macro package (the style will be provided later), up to 12 pages for the Plenary and Key Lectures, and up to 8 pages for the other participants).

The second announcement will be sent in May 1997 to those who have sent their preregistration form. It will be concerned with the social program, the location of the conference, the transport and climate in Bulgaria.

INTERNATIONAL SCIENTIFIC COMMITTEE

A.A.Samarskii (Russia)-Chairman, V.Abrashin (Belorus), M.Sapogovas (Litva), V. Makarov (Ukraine), G. Meladze (Georgia), L. Vulkov (Bulgaria), I. Gavrilyk (Germany), V. Thomee (Sweden), B. Jovanovic (Yugoslavia), R.Lazarov (USA), P.Hemker (Netherlands), Shi Zhong-ci (China), A. Konovalov (Russia).

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Our address for correspondence is:

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Russian Academy of Sciences	and Informatics
Miuskaya Square	University of Rousse

Moscow 125047, RUSSIA
e-mail:vab@imamod.msk.su

7017 Rousse, BULGARIA
e-mail:vulkov@ami.ru.acad.bg

REPLY FORM

If you are interested in further information, please fill and
E-mail, or mail, or fax us the following form:

Name: _____
Affiliation: _____
Address: _____

Phone: _____
FAX: _____
E-mail: _____

Sixth International Colloquium on Numerical Analysis and Computer
Science with Applications will take place in Plovdiv, Bulgaria, 13-17
of August, 1997.

The work of the Colloquium will proceed in the following sections:

1. Acceleration of convergence, 2. Numerical simulation, 3. Numerical approximation, 4. Numerical methods in complex analysis, 5. Numerical methods in linear algebra, 6. Interval arithmetic, 7. Numerical algebraic or transcendental equations, 8. Mathematical programming, optimization and variational techniques, 9. Numerical analysis for ordinary differential equations, 10. Numerical analysis for partial differential equations, 11. Computer arithmetic and numerical analysis, 12. Computer aspects of numerical algorithms, 13. Parallel and distributed algorithms, 14. Concurrent and parallel computations, 15. Computer networks, 16. Discrete mathematics in relation to computer science, 17. Computer aided design, 18. Theory of data, 19. Image processing, 20. Pattern recognition, 21. Communication systems, 22. Manufacturing systems, 23. Applications in mechanics, physics, chemistry, biology, technology and economics.

If you kindly accept to participate in the work of the Colloquium, please let us know not later than March 1, 1997, together with the number of accompanying persons. Please, send us by the same date an abstract of your talk written in English and not exceeding ONE TYPEWRITTEN PAGE. It should be in a camera-ready form with the size of the text area - 17x24 cm. The text should be typeset using TEX, 12 pt letter size, on high-quality white paper by means of LASER PRINTER. The abstract should be arranged as follows: Title, name(s) of the author(s), full mailing address(es), Keywords, MOS(AMS) Subject Classification, the text of the abstract. The official language of the colloquium will be English.

During the Colloquium you will get acquainted with the rich archaeology of the town of Plovdiv, as well as excursions will be organized to the Bachkovo Monastery, Sts. Ciric and Lulita Monastery, Pamporovo (a mountain resort), Shiroka Luka (a country village near Pamporovo) and Hissar.

Drumi Bainov
Chairman of the
Organizing Committee
P.O.Box 45, 1504, Sofia
BULGARIA

From: "PROF.HEINZ W. ENGL" <engl@indmath.uni-linz.ac.at>
Subject: position at johannes kepler universitaet linz
Date: Tue, 12 Nov 1996

Tenured Position of a Full Professor for Symbolic Computation at the Johannes Kepler University in Linz (Austria) (Research Institute for Symbolic Computation)

Applicants are invited for a tenured position of a full professor at the School of Technical Sciences, Johannes Kepler University in Linz, Austria. Candidates should have an outstanding research record in at least one of the main areas of Symbolic Computation (Computer Algebra, Computer Analysis, Computational Geometry, Computational Logic, Automatic Programming etc.). Special emphasis is being put on the connection between the mathematical foundations and the algorithmic and software-technological aspects of the area. Applicants should also be ambitious and qualified for teaching Ph.D. and diploma students; interest in industrial applications is desirable. Applicants from foreign countries are very welcome. The working language at RISC-Linz is English. The degree of habilitation acquired at an Austrian university or an equivalent degree from a foreign university as well as the proof of pedagogical qualification is necessary.

The School of Technical Sciences has installed an independent institute for symbolic computation (RISC-Linz, Research Institute for Symbolic Computation), with currently a 15 member faculty, 25 PhD and 20 diploma students, under the direction of Prof.Dr.Dr.h.c. Bruno Buchberger. RISC-Linz operates in close interaction with the departments of Computer Science, Mathematics and Mechatronics.

The site of RISC-Linz in a medieval castle 15 minutes from Linz combines the advantages of city life with the pleasures of a rural environment in one of the most beautiful landscapes and in the cultural heart of Austria.

RISC-Linz is also the center of the Softwarepark Hagenberg, founded and managed by RISC.

Applicants should send their CV (including the publication list and a few important publications) to the Dean of the School of Technical Sciences, Prof.Dr. Heinz Engl, Johannes Kepler University, A-4040 Linz, Austria. (Tel.: Austria 732/2468-312) by Jan. 7th, 1997. Further information can also be obtained from the Chairman of RISC-LINZ, Prof.Dr.Dr.h.c. Bruno Buchberger, Johannes Kepler University, A-4040 Linz (Tel.: Austria 7236/32 31 41, e-mail: buchberger@risc.uni-linz.ac.at)

The Johannes Kepler University Linz wants to increase the percentage of women within the scientific staff and therefore explicitly asks qualified women to apply. At equal qualification women are preferred.

From: "PROF.HEINZ W. ENGL" <engl@indmath.uni-linz.ac.at>
Subject: position (chair for analysis) in linz, austria
Date: Tue, 12 Nov 1996

Tenured Position of Full Professor for Mathematics at the Johannes Kepler Universtaet in Linz (Austria)

At the Johannes Kepler Universtaet in Linz (Austria), the tenured position of a Full Professor for Mathematics is to be filled. The Search Committee is looking for an established researcher in a modern branch of Analysis, for example constructive approximation theory, dynamical systems, function theory, non-linear analysis or partial differential equations. The candidate will be expected to participate in the basic training of mathematicians, natural scientists and teacher trainees, to supervise dissertations and high quality research in his own area and should be willing and qualified to participate in joint research projects with colleagues in mathematics and related areas of research.

The legal requirements for an appointment are:

a doctorate in a field relevant to the position,

a qualification in research equivalent to the Austrian "venia docendi" ("habilitation"),

evidence of a strong teaching background.

The University of Linz encourages applications from women. Female applicants will be preferred over male candidates with equivalent qualifications.

Applications should include a list of publications and curriculum vitae and should be addressed to o.Univ.-Prof.Dr. Heinz Engl, Dekan der Technisch-Naturwissenschaftlichen Fakultdt der Johannes Kepler Universitaet Linz, Altenbergerstr. 69, A-4040 Linz (fax: (0043) (0) 7322468 396). Preference will be given to applications completed by January 10, 1997.

From: "PROF.HEINZ W. ENGL" <engl@indmath.uni-linz.ac.at>
Subject: digest submission
Date: Tue, 26 Nov 1996

Two Positions at MathConsult GmbH

At MathConsult GmbH in Linz, Austria, two positions are vacant.

MathConsult GmbH is a startup company which was founded as a bridge institution between the Industrial Mathematics Institute (Prof. Engl) at the University of Linz and industry. It should help to speed up the transfer of mathematical expertise from university to industry and economy and provide solutions to industrial problems, including software. In general, there is a close cooperation between MathConsult GmbH and the Industrial Mathematics Institute.

We are looking for mathematicians/ software engineers for the following two projects:

The first project deals with a new technology for obtaining metallic iron from iron ore. There will be a project team with one person from the Industrial

Mathematics Institute and one person from MathConsult GmbH working full time on the project and some people from our industrial partner working part time on the project.

The project team should develop a mathematical model for the process and then develop codes for the numerical simulation of the process (in C++). Applicants should have a degree in Applied Mathematics, a sound knowledge of numerics of PDEs and experience in C++ programming.

The second project deals with the mathematics of financial markets. Our partner company provides programs for portfolio management and risk analysis.

We develop codes for new financial instruments and give high-level support (including trainings) to local (i.e. central European) customers. Applicants should have a degree in Mathematics or Computer Science, experience in C++ programming and be interested in Financial Mathematics.

Applicants for both positions must have a citizenship of a country of the European Community or Norway or Switzerland.

Send your applications (including a CV) by e-mail to
binder@mathconsult.co.at

or by fax to

Dr. Andreas Binder, MathConsult GmbH, Altenberger Str. 74, A-4040 Linz,
FAX: +43(0)732-757207-9

From: Johannes Gottlieb <rd04@rz70.rz.uni-karlsruhe.de>
Subject: New Book on Inverse Problems
Date: Tue Nov 19

New Book on Inverse Problems:

The proceedings of the workshop

"Parameter Identification and Inverse Problems
in Hydrology, Geology and Ecology"
Karlsruhe, April 12-14, 1995

Eds.: Johannes Gottlieb, Paul DuChateau

has been published by Kluwer Academic Publishers.

The list price has been fixed at Dfl. 215,--/US\$ 140,--.

The abstracts of the contributions to the proceedings you find in
<http://www.uni-karlsruhe.de/~fzu/Conference/workshop.en.html>
There are a few copies available for a special price for workshop participants at

DM 85,-- (approx. US\$ 58,--)

Please make orders by the first editor.
The price includes postage and handling.

Dr. Johannes Gottlieb
Universitaet Karlsruhe
Forschungszentrum Umwelt (FZU)
Kaiserstrasse 12
D-76128 Karlsruhe

Tel: +49/721/608-2053
Fax: +49/721/608-6109
E-Mail: johannes.gottlieb@fzu.uni-karlsruhe.de

From: Janet Thomas <janet.thomas@iopublishing.co.uk>
Subject: Contents list for Inverse Problems
Date: Tue, 26 Nov 1996

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From: jean-bart@siam.org

Subject: SIAM Review for December 1996

Date: Fri, 01 Nov 96

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From: demoura@brie.iprj.uerj.br (Carlos A. de Moura)
Subject: Contents: Comp. and Appl. Mathematics - VOL. 15 (1996), #3
Date: Fri, 8 Nov 1996

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From: Baltzer Science <mailer@ns.baltzer.nl>
Subject: Numerical Algorithms content list
Date: Thu, 7 Nov 1996

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For more information on this journal: <http://www.baltzer.nl/numa/>

From: Baltzer Science <mailer@ns.baltzer.nl>
Subject: Annals of Numerical Mathematics content list
Date: Thu, 21 Nov 1996

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For more information on this journal: <http://www.baltzer.nl/anuma/>

From: Hans Schneider <hans@math.wisc.edu>
Subject: Contents Direct - Linear Algebra and Its Applications
Date: Tue, 26 Nov 1996

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Announcements

Here's the latest issue lineup for Linear Algebra and Its
Applications. As of Spring 1996, Elsevier will offer electronic
enhancements to the print journal. Readers whose institutions subscribe
will have access to precopyedited accepted LATEX manuscripts, and all
readers will be able to use the ISITE engine to search
author/title/abstracts of papers from January 1995 onwards. For more
information please use: <http://www.elsevier.com/locate/linearalgebra>
----- end -----

IPNet Digest Volume 3, Number 12 December 31, 1996

Today's Editor: Patricia K. Lamm
Michigan State University

Today's Topics:

Happy New Year!
Symposium/LAA: Algorithms for Control, Signals, Image Processing
Conference on Differential Equations & Computational Simulations
New Book on Inverse Problems
Table of Contents: Surveys on Mathematics for Industry
Table of Contents: SIAM J. Control and Optimization
Table of Contents: SIAM J. Mathematical Analysis
Table of Contents: SIAM J. Scientific Computing
Table of Contents: SIAM J. Applied Mathematics
Table of Contents: SIAM J. Matrix Analysis and Appl.
Table of Contents: SIAM J. Numerical Analysis
Table of Contents: Mathematics of Control, Signals, and Systems

Submissions for IPNet Digest:

Mail to ipnet-digest@math.msu.edu

Information about IPNet:

Mail to ipnet-request@math.msu.edu
<http://www.mth.msu.edu/ipnet>

From: Hans Schneider <hans@math.wisc.edu>
Subject: LAA announcement
Date: Thu, 12 Dec 1996

LINEAR ALGEBRA AND ITS APPLICATIONS Special Winnipeg Symposium Issue

A special issue of "Linear Algebra and Its Applications" will be devoted to papers presented at the ILAS Symposium on Fast Algorithms for Control, Signals and Image Processing" organized by the Institute of Industrial Mathematical Sciences (IIMS), University of Manitoba, to be held June 6-8, 1997 in Winnipeg. More information about the meeting can be obtained from insmath@cc.umanitoba.ca or from <http://www.iims.umanitoba.ca>

The Symposium will feature a special emphasis on modern methods in scientific computing and linear algebra relevant to digital control and signal and image processing. There will be research and tutorial talks at the Symposium. Selected papers related to mathematical models of the problems, mathematical theories to overcome difficulties of solving such problems, and fast algorithms related to real-time or data-massive computations will appear in the special issue.

The papers submitted to this special issue should correspond to talks given at the symposium. They will be screened using the usual refereeing procedure and will meet the normal publication standards of the journal.

Papers submitted to this issue should be sent to one of the special editors listed below. The submission deadline is 15 September 1997.

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From: Jiangping Zhu <jzhu@Pascal.Math.MsState.Edu>
Subject: Third Mississippi State Conference
Date: Tue, 3 Dec 1996

Third Mississippi State Conference on
DIFFERENTIAL EQUATIONS & COMPUTATIONAL SIMULATIONS

Preliminary Announcement and Call for Papers

May 16-17, 1997 Mississippi State University

Organized by: Department of Mathematics and Statistics and NSF
Engineering
Research Center, Mississippi State University

Co-Sponsor: Electronic Journal of Differential Equations

Principal

Speakers: Walter Allegretto, University of Alberta, Canada
Jerry L. Bona, University of Texas
Djairo de Figueiredo, University of Campinas, Brazil
S. Godunov, Sobolev Institute of Mathematics, Russia
Antony Jameson, Princeton University
Jean Mawhin, Universite de Louvain, Belgium
Stanley Osher, University of California
Klaus Schmitt, University of Utah
Joseph Shang, Wright Patterson Air Force Base

his interdisciplinary conference will provide a joint forum where mathematicians, scientists, and engineers from academia and industry can exchange research ideas involving theoretical and applied developments in differential equations and computational simulations. In addition to the nine principal lectures, there will be sessions of contributed talks. This conference is held bi-annually. Reviewed manuscripts will be published as a special issue of the Electronic Journal of Differential Equations.

Abstracts for contributed papers should be submitted electronically no later than March 11, 1997, to the program chairman, Dr. Jianping Zhu, jzhu@math.msstate.edu. For further information on the conference organization, program and submission of abstracts, visit the conference

homepage at <http://www.msstate.edu/Dept/Math/conf.html> or contact the organizers.

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From: "PROF.HEINZ W. ENGL" <engl@indmath.uni-linz.ac.at>
Subject: digest submission
Date: Tue, 10 Dec 1996

New book in the field of inverse problems:

H.W.Engl, A.Louis, W.Rundell (eds.)
Inverse Problems in Geophysical Applications
SIAM, Philadelphia 1996
ISBN: 0-89871-381-1

forthcoming (early 1997):

H.W.Engl, A.Louis, W.Rundell (eds.)
Inverse Problems in Medical Imaging and Nondestructive Testing
Springer (Vienna/New York)

Heinz W. Engl, Linz, Austria

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From: "PROF.HEINZ W. ENGL" <engl@indmath.uni-linz.ac.at>
Subject: digest
Date: Wed, 04 Dec 1996

Surveys on Mathematics for Industry (Springer Vienna/New York)
Vol. 6 No. 3 (1996)
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Heinz W. Engl
Institut for Industrial Mathematics
Kepler- Universitaet Linz, Austria
(Managing Editor)

From: thomas@siam.org
Subject: SICON 35-1
Date: Fri, 06 Dec 96

SIAM Journal on Control and Optimization January 1997 Volume 35, Number
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A Convergent Algorithm for the Output Covariance Constraint Control
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From: spiegelman@siam.org
Subject: SIMA 28-1 (1/97) TOC
Date: Tue, 10 Dec 96

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[Control characters in lastnames above are as submitted. -Ed.]

From: tschoban@siam.org
Subject: SISC 18-1 Table of Contents
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From: thomas@siam.org
Subject: SIAP 57-1 table of contents
Date: Wed, 18 Dec 96

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From: tschoban@siam.org
Subject: SIMAX 18-1 Table of Contents
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From: tschoban@siam.org
Subject: SINUM 34-1 Table of Contents
Date: Fri, 20 Dec 96

SIAM Journal on Numerical Analysis FEBRUARY 1997, Volume 34, Number 1
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From: Secretary Support - Magrijn <magrijn.secsup@tip.nl>
Subject: Table of contents new issue MCSS Volume 9, number 2 1996
Date: Wed, 11 Dec 1996

Contributed by Jan H. van Schuppen (J.H.van.Schuppen@cwi.nl)

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 Ω Jie Chen and S.S.-T. Yau

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INFORMATION

Information on MCSS including tables of contents is
available at its home pages:

- <http://www.cwi.nl/cwi/departments/BS3/mcss.html>
- <http://www.math.rutgers.edu/~sonntag/mcss.html>

Papers must be submitted to:
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1090 Gb Amsterdam
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Bradley Dickinson, Eduardo Sontag, Jan van Schuppen (Editors)
----- end -----