Contents

IPNet Digest Volume 5, Number 01 January 30, 1998

Today's Editors: Patricia K. Lamm and Aaron C. Cinzori
Michigan State University

Today's Topics:

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: kress@math.uni-goettingen.de
Subject: New Book: Inverse Acoustic & Electromagnetic Scattering Theory
Date: Tue, 20 Jan 98

The following book has just appeared:

D. Colton, R. Kress:
Inverse Acoustic and Electromagnetic Scattering Theory
Applied Mathematical Sciences, Vol. 93. 2nd ed. 1998
Springer-Verlag, New York, Heidelberg
ISBN 3-540-62838-X
DM 118,-; 45,50; FF 445,-; Lit. 130.320; S 861,40; sFr 107,50;
US $ 69,95

The inverse scattering problem is central to many areas of science and technology such as radar and sonar, medical imaging, geophysical exploration and nondestructive testing. This book is devoted to the mathematical and numerical analysis of the inverse scattering problem for acoustic and electromagnetic waves. To this second edition the authors have added new material on Newton's method for the inverse obstacle problem, a new elegant proof of uniqueness for the inverse medium problem, a discussion of the spectral theory of the far field operator and a presentation of a new method for determining the support of an inhomogeneous medium from far field data. In addition the text has been updated in various places.

From: Lijia Guo <lguo@bsu-cs.bsu.edu>

Subject: Ninth Inverse Problems in Engineering Seminar
Date: Tue, 30 Dec 1997

Announcement and Call For Papers

The Ninth Inverse Problems in Engineering Seminar
Monday, June 8 -- Tuesday, June 9, 1998

Workshop on Selected Topics in Inverse Problem Solving
Sunday, June 7, 1998

Ball State University
Muncie, IN 47306

The Ninth Inverse Problems in Engineering Seminar is the continuation of the informal seminars which were initiated at Michigan State University in 1987. This seminar will be sponsored by the Department of Mathematical Science, Department of Computer Science, College of Science Humanities, and Center for Energy Research and Education at the Ball State University.

Papers are solicited from all areas involving inverse methods and their applications. Four broad categories are being used to organize sessions. These categories, with some subtopics delineated, are:

1. Inverse Problems in Heat Transfer (Inverse Heat Conduction, Thermal Property Estimation)
2. Mathematical Aspects of and Techniques for Inverse Problems (Inverse Theory and Methods, Stability Considerations)
3. Design of Experiments and Applications of Inverse Methods (Optimal Experiment Design, Analysis of Actual Experimental Data)
4. Inverse Problems Exclusive of Heat Transfer (Bio-Engineering Inverse Problems, Shape Optimization, Inversion of Inferometric Data, Inverse Scattering and Tomography)

Presentations will be informal twenty minute talks, followed by discussion. If the number of submissions warrants additional program time, a poster session will be included.

About the Workshop: A workshop on selected topics in inverse problem solving is being planned in conjunction with this year's seminar. Tentative topics of coverage include mathematical aspects and relationships between different types of inverse problems, inverse problems in financial engineering, mollification techniques applied to inverse problems. Everyone registered for the seminar are welcome to attend the workshop. The workshop will provide general overviews in a tutorial format. The workshop will be on Sunday, June 7th, in the afternoon.

How to Register or Submit a Paper: The seminar fee is $65.
If you are interested in registering for this conference, please contact the chair to receive registration material. If you would like to submit a paper, please submit a tentative title and an abstract by March 1, 1998. Send titles and abstracts or other inquiries to:

Chair: Prof. Lijia Guo
Department of Mathematical Science
Ball State University
Muncie, IN 47306
Phone: (765) 285-8681

fax: (765) 285-1721
e-mail: lguo@bsu.edu

From: helmberg@zib.de (Christoph Helmberg)
Subject: ICM'98 Second Announcement
Date: Tue, 20 Jan 1998

Dear Colleague:

The Organizing Committee is pleased to announce the availability of

The Second Announcement of
THE INTERNATIONAL CONGRESS OF MATHEMATICIANS
BERLIN, August 18-27, 1998

It can be retrieved from the homepage of the Congress with URL:

http://elib.zib.de/ICM98

ICM'98 is one of the quadrennial congresses held under the auspices of the International Mathematical Union (IMU). Mathematicians from all countries gather to discuss recent developments in mathematics that are presented by leading scientists from all mathematical fields. Responsibility for the scientific program lies with the Program Committee appointed by IMU. There will be 21 one-hour Plenary Lectures covering the major areas of mathematics and about 160 forty-five-minute Invited Lectures in nineteen sections.

The Fields Medals and the Nevanlinna Prize will be awarded during the Opening Ceremony on the first day of the Congress. This will take place in the International Congress Center Berlin (ICC). All other scientific events will be held at Technische Universitaet Berlin. No scientific activities are scheduled for Sunday, August 23.

The Second Announcement of ICM'98 describes the scientific program and the social events of the Congress and gives instructions on how to complete the registration process and obtain accommodation. It contains a call for contributed short presentations, and provides guidelines regarding the submission of abstracts.

The Second Announcement also includes advice on how to proceed upon arrival at airports and railway stations, and it will be accompanied by a brochure describing the day trips and tours organized by a professional tour and congress organizer.

Postscript and LaTeX versions of the Second Announcement can be obtained from the WWW with URL:

http://elib.zib.de/ICM98/Second_Announcement

or by anonymous ftp from elib.zib.de in the subdirectory pub/IMU/HTML/ICM98/Second_Announcement. The files of interest are

scndannc.ps	Announcement	Postscript	DIN A4
us_scnda.ps		Postscript	US-paper
scndannc.tex		LaTeX	(no maps)
reg-form.ps	Registration Form	Postscript	DIN A4
us_regf.ps		Postscript	US-paper
wordregf.doc		MS-Word 6.0	

We look forward to welcoming you at ICM'98 in Berlin.

Christoph Helmberg (for the ICM'98 Organizing Committee)

From: apartsyn@ISEM.SEI.IRK.RU
Subject: 11-th Baikal School-Seminar
Date: Thu, 8 Jan 1998

First Announcement 11-th Baikal School-Seminar

OPTIMIZATION METHODS AND THEIR APPLICATIONS

July, 5-10, 1998
Irkutsk, Baikal

RUSSIA 1998

Sponsored and organized by:
Russian Academy of Sciences
Siberian Branch
Siberian Energy Institute
Russian Academy of Natural Sciences
Section of Cybernetics and Informatics
Russian Association on Mathematical Programming
Russian Committee of Higher Education
Irkutsk State University
Irkutsk State Economical Academy
Irkutsk State Agricultural Academy
Irkutsk Regional Administration

Irkutsk scientific center, Section of Cybernetics and Informatics of the Russian Academy of Natural Sciences and Russian Association on Mathematical Programming organize the 11-th Baikal School-Seminar "Optimization Methods and Their Applications" devoted to the memory of the third director of the Siberian Energy Institute, Professor A.P.Merenkov in July, 5-10, 1998.

Topics

The purpose of the School-Seminar is to present and discuss recent results obtained in:

- Linear and Convex Programming, Local Methods in Nonlinear Programming;
- Theory and Practice of Global Optimization;
- Stochastic Programming, Discrete Programming;
- Game and Optimal Control Theories, Numerical Methods of Optimal Control, Multicriteria Optimization ;
- Applications of the Operations Research and Optimization Methods in economy, energy, agriculture etc.;
- Theory and Methods of Numerical Mathematics.

Sections

Within the School-seminar the following sections will be organized:

1. Mathematical programming (V.P.Bulatov, A.A. Strecalovskii, A.I. Tyatushkin).
2. Optimal control (O.V.Vasiliev, S.N.Vasiliev, V.A.Srochko).

3. Mathematical economy (V.P.Bulatov, V.A.Dyhta, V.I.Zorkaltsev).
4. NUMERICAL ANALYSIS, METHODS FOR SOLVING OF THE ILL-POSED PROBLEM (A.S.Apartsyn, B.A.Bel'tukov, Yu.E.Boyarintsev).
5. Applications of optimization methods (A.Z.Gamm, V.I.Tarasov, V.A.Baturin).

Important Dates

March 1, 1998 - deadline for submission of Registration Forms.
April 1, 1998 - deadline for abstract submission.

[Note: This news item has been edited for length. You may obtain the full text (including inquiry form, international program committee, local committee, etc.) by visiting the "IPNet Digest Appendices" link off the main IPNet home page
http://www.mth.msu.edu/ipnet/
or else by sending an e-mail message to ipnet-request@math.msu.edu with the words
send 11th_Baikal_School-Seminar
in the BODY (not subject) of the message. -Ed.]

From: "Roger Haagmans" <haagmans@bluebox.geo.tudelft.nl>
Subject: School on Wavelets in the Geosciences
Date: Wed, 7 Jan 1998

International Association of Geodesy
SCHOOL ON WAVELETS IN THE GEOSCIENCES

Announcement and registration
October, 4 - 9, 1998
At the Delft Institute for Earth-Oriented Space Research
Faculty of Civil Engineering and Geosciences
Delft University of Technology
Delft, The Netherlands

Objectives of the school

The basic objective of the School is provide the necessary information to understand the potential and limitations of the application of wavelets in
the geosciences. This includes:
* the mathematical representation in one and more dimensions like on the sphere
* the properties as compared to Fourier techniques
* the signal representation and analysis ability
* the use of operators in terms of wavelets
* gaining experiences with wavelets using examples from geosciences in computer exercises

Program

The course will last for six days and contains three major subjects. Every subject will be covered in two days time. All topics will be supported by practical exercises on the computer with examples from geodynamics, topography representation, gravity field modelling etc. The lectures and subjects are:
1. Prof. Dr. Peter Maass, Institute of Mathematics, Faculty of Mathematics and Natural Sciences, University of Potsdam, Germany; One dimensional wavelets. The link with Fourier theory is a starting

point to introduce continuous wavelets, discrete wavelets on intervals, multiresolution, analysis and synthesis using wavelets, operators, compression and filtering with wavelets.

2. Dr. Wim Sweldens, Mathematical Sciences Research Centre, Lucent Technologies Bell Laboratories, Murray Hill, NJ, USA;
   Tensor product wavelets, 2nd generation wavelets. Special emphasis will be put on the choice of wavelets in multidimensions. Multiresolution analysis for arbitrary surfaces, efficient data representation as well as efficient procedures for evaluation of integrals or solving integral equations will be elaborated in more detail.
3. Prof. Dr. Willi Freeden, Geomathematics Group. Department of Mathematics, University of Kaiserslautern, Germany;
   Wavelets on closed surfaces. The link with Fourier theory on the sphere (spherical harmonics) is a starting point to introduce continuous wavelets, discrete wavelets, multiresolution, analysis and synthesis using wavelets, operators, compression and regularisation with wavelets. This will be generalised to closed surfaces. Lecture notes will be provided at the start of the school.

Who could attend

The school aims to provide Ph.D. students, researchers and staff members with an overview on wavelet methods and its applications in geosciences at a post graduate level (master). The participants should have a University level education with an adequate mathematical foundation. Basic knowledge on potential theory, functional analysis, numerical analysis or systems and signals is recommended. The minimal number of attendants is 20 the maximum 40. The registration deadline is July 1st 1998; the fee Dfl. 450,-

Organisation

Scientific Committee

* Prof. Dr. Willi Freeden, Geomathematics Group, Department of Mathematics, University of Kaiserslautern, Germany.
* Prof. Dr. Roland Klees, Delft Institute for Earth-Oriented Space Research (DEOS), Faculty of Civil Engineering and Geosciences, Delft University of Technology, The Netherlands.

Local organising committee and school secretariat address:
Dipl.-Math. Michael Bayer (Geomathematics Group), Dr. Ir.Martin van Gelderen,
Ir. Roger Haagmans and ms. Wil Coops-Luijten (DEOS)

Secretariat IAG School on Wavelets in the Geosciences
c/o Wil Coops-Luijten
DEOS, Faculty of Civil Engineering and Geosciences,
Delft University of Technology
Thijsseweg 11, NL-2629 JA Delft, The Netherlands
Telephone: +31 15 2783289
Fax: +31 15 2783711
E-mail: wavelet.school@geo.tudelft.nl

More detailed information can be obtained from:
WWW: http://www.geo.tudelft.nl/fmr/waveletschool.html
At the end of the information just before a registration form you can save a gzipped postscript file of the circular and the poster, by pressing SHIFT and clicking "circular" or "poster". Can you please inform other interested colleagues or Ph.D. students either by putting

up the poster or by forwarding this message?

In case you need more information or you are unable to look at the specified URL, you can contact the secretariat of the school by e-mail (wavelet.school@geo.tudelft.nl). We can sent a printed circular and poster
to you by mail.

From: Conference on Finite-Difference Methods <cfdm98@im.bas-net.by>
Subject: Second International Conference Finite-Difference Methods
Date: Wed, 21 Jan 1998

SECOND ANNOUNCEMENT
Second International Conference
Finite-difference Methods: Theory and Applications
July 6-9, 1998, Minsk, Belarus

Conference organizers
 * Institute of Mathematical Modelling, Russian Academy of Sciences.
 * Institute of Mathematics, National Academy of Sciences of Belarus.
 * Belarussian State University.
 * University of Rousse (Bulgaria).

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

Working language of the Conference is English.

Basic topics
 * Validation of finite difference methods for solving problems of mathematical physics
 * Iterative methods and parallel algorithms for solving grid equations
 * Finite difference method for nonlinear problems
 * Projective-difference methods
 * Finite-difference and related methods
 * Inverse problems and problems of control
 * Finite difference methods in continuum mechanics
 * Application of difference methods to engineering problems

International programme committee
A.Samarskii (Russia - Chairman), P.Vabishchevich (Russia - Vice-chairman), V.Abrashin (Belarus), G.Akrivis (Greece), V.Bobkov(Belarus), P.Hemker (Netherlands), B.Jovanovich (Jugoslavia), A.Konovalov (Russia), R.Lazarov (USA), V.Makarov (Ukraine), G.Meladze (Georgia), M.Sapagovas (Lithuania), Shi Zhong-ci (China), V.Thomee (Sweden), L.Vulkov (Bulgaria).

Organizing committee
I.Gaishun (Chairman), V.Korzjuk (Vice-chairman), P.Matus (Vice-chairman), M.Chuiko, A.Egorov, S.Lemeshevsky, I.Mikhiliouk, V.Rychagov, A.Sen'ko, V.Scheglik, V.Tzurko.

Correspondence address
Institute of Mathematics NASB, 11, Surganov Str.,
220072, Minsk, Belarus
e-mail: cfdm98@im.bas-net.by,
fax: (017) 239-31-92
tel.: (017) 268-49-63, 268-47-84

Also you can register via Internet at
http://im.bas-net.by/cfdm98/register.html

[Note: This news item has been edited for length. You may obtain the full text (including inquiry form, costs, etc.) by visiting the "IPNet Digest Appendices" link off the main IPNet home page
http://www.mth.msu.edu/ipnet/
or else by sending an e-mail message to ipnet-request@math.msu.edu with the words
send Finite_Difference_Methods_Conference
in the BODY (not subject) of the message. -Ed.]

From: poulson@siam.org
Subject: SIREV 40-1 Table of Contents
Date: Mon, 26 Jan 98

SIAM Review MARCH 1998 Vol. 40, No. 1
Table of Contents

Linear Programming 1: Introduction (George B. Dantzig and Mukund N. Thapa) Saul I. Gass

Global Methods in Optimal Control Theory (Vadim F. Krotov) Mostafa Ghandehari

Rigorous Global Search: Continuous Problems (R. Baker Kearfott) Eldon Hansen

Geometric Control Theory (Velimir Jurdevic) Robert Hermann

Elements of Pattern Theory (U. Grenander) Daniel Keenan

Introduction to Stochastic Processes (Gregory F. Lawler) Eric S. Key

Numerical Approximation of Hyperbolic Systems of Conservation Laws (Edwige Godlewski and Pierre-Arnaud Raviart) Randall J. LeVeque

Oscillations in Planar Dynamic Systems (Ronald E. Mickens) Mark Levi

Thinking About Ordinary Differential Equations (Robert E. O'Malley, Jr.) J. David Logan

Global Aspects of Classical Integrable Systems (Richard H. Cushman and Larry M. Bates) Richard Montgomery

The Exponential Distribution: Theory, Methods and Applications (N. Balakrishnan and A. P. Basu, Eds.) H. N. Nagaraja

The Theory of Singular Perturbations (E. M. de Jager and Jiang Furu) Robert E. O'Malley, Jr.

Domain Decomposition: Parallel Multilevel Methods for Elliptic Partial Differential Equations (Barry F. Smith, Petter E. Bjorstad, and William D. Gropp) Joseph E. Pasciak

Numerical Algorithms with C and Numerical Algorithms with Fortran (Gisela Engeln-Mullges and Frank Uhlig) John D. Pryce

Limit Analysis of Solids and Structures (Jacov A. Kamenjarzh) B. Daya Reddy

Complete Second Order Linear Differential Equations in Hilbert Spaces (Alexander Ya Shklyar) Michael Renardy

Ordinary Differential Equations in Theory and Practice (R. M. M. Mattheij and J. Molenaar) Lawrence F. Shampine

Optimization in Solving Elliptic Problems (Eugene G. D'yakonov) Jinchao Xu

Selected Collections

Later Editions

Chronicle

Submitted by: Deborah Poulson, Production Editor

From: tschoban@siam.org
Subject: Contents, SIAM Journal on Numerical Analysis
Date: Tue, 20 Jan 98

SIAM Journal on Numerical Analysis February 1998 Vol. 35, No. 1

Table of Contents

Finite Element Analysis of the Landau-de Gennes Minimization Problem for Liquid Crystals Timothy A. Davis and Eugene C. Gartland, Jr.

Uniformly Superconvergent Approximations for Linear Two-Point Boundary Value Problems Hongsung Jin and Steven Puress

Finite Element Analysis of Microstructure for the Cubic to Tetragonal Transformation Bo Li and Mitchell Luskin

Least-Squares Finite Element Approximations to Solutions of Interface Problems Yanzhao Cao and Max D. Gunzburger

The Petrov-Galerkin and Iterated Petrov-Galerkin Methods for Second-Kind Integral Equations Zhongying Chen and Yuesheng Xu

Submitted by: Beth Schad, Production Editor

From: smiley@siam.org
Subject: Contents, SIAM Journal on Applied Mathematics
Date: Tue, 20 Jan 98

SIAM Journal on Applied Mathematics February 1998 Vol. 58, No. 1
Table of Contents

Convergence Criteria for Attracting Cycles of Newton's Method
Stanley Ocken

Moment Lyapunov Exponent and Stability Index for Linear Conservative System with Small Random Perturbation R. Khasminskii and N. Moshchuk

Heavy Traffic Analysis of a Markov-Modulated Queue with Finite Capacity and General Service Times Charles Knessl and Charles Tier

Application of the Pade Method to Solving the Noisy Trigonometric Moment Problem: Some Initial Results Riccardo March and Piero Barone

Submitted by: Ira D. Smiley, Production Editor

From: smiley@siam.org
Subject: Contents, SIAM Journal on Control and Optimization
Date: Mon, 26 Jan 98

SIAM Journal on Control and Optimization March 1998 Vol. 36, No 2
Table of Contents

Local Exact Boundary Controllability of the Boussinesq Equation
A. V. Fursikov and O. Yu. Imanuvilov

Discretized Maximum Likelihood and Almost Optimal Adaptive Control of Ergodic Markov Models T. E. Duncan, B. Pasik-Duncan, and L. Stettner

Dynamics of Time-Varying Discrete-Time Linear Systems: Spectral Theory and the Projected System Fabian Wirth

An Optimal Control Theory for Discrete Event Systems
Raja Sengupta and St=E9phane Lafortune

Classes of Nonlinear Partially Observable Stochastic Optimal Control Problems with Explicit Optimal Control Laws
Charalambos D. Charalambous and Robert J. Elliott

A Free Boundary Problem in Rd with Both Smooth and Nonsmooth Fit
J. R. Dorroh and Guillermo Ferreyra

Positive Linear Observers for Linear Compartmental Systems
J. M. van den Hof

Existence of Markov Controls and Characterization of Optimal Markov Controls Thomas G. Kurtz and Richard H. Stockbridge

A Construction of Rational Wavelets and Frames in Hardy--Sobolev Spaces with Applications to System Modeling
Nicholas F. Dudley Ward and Jonathan R. Partington

Sliding Modes in Solving Convex Programming Problems
Michael P. Glazos, Stefen Hui, and Stanislaw H. Zak

Lipschitzian Stability for State Constrained Nonlinear Optimal Control
A. L. Dontchev and W. W. Hager

Rates of Convergence for Approximation Schemes in Optimal Control
Paul Dupuis and Matthew R. James

A New Value Iteration Method for the Average Cost Dynamic Programming Problem Dimitri P. Bertsekas

Multidimensional Systems with Finite Support Behaviors: Signal Structure, Generation, and Detection
Ettore Fornasini and Maria Elena Valcher

Stability and Euler Approximation of One-Sided Lipschitz Differential Inclusions Tzanko Donchev and Elza Farkhi

Submitted by: Ira D. Smiley, Production Editor,

From: wunderlich@siam.org
Subject: Contents, SIAM Journal on Optimization
Date: Thu, 29 Jan 98

SIAM Journal on Optimization February 1998 Volume 8, Number 1
Table of Contents

On Effectively Computing the Analytic Center of the Solution Set by Primal-Dual Interior-Point Methods
Maria D. Gonzalez-Lima, Richard A. Tapia, and Florian A. Potra

Global Convergence of the Affine Scaling Algorithm for Convex Quadratic Programming Renato D. C. Monteiro and Takashi Tsuchiya

Superlinear Convergence of a Symmetric Primal-Dual Path Following Algorithm for Semidefinite Programming
Zhi-Quan Luo, Jos F. Sturm, and Shuzhong Zhang

Reconstruction with Noisy Data: An Approach via Eigenvalue Optimization Dominikus Noll

On Some Properties of Quadratic Programs with a Convex Quadratic Constraint Stefano Lucidi, Laura Palagi, and Massimo Roma

Global Linear and Local Quadratic Convergence of a Long-Step Adaptive-Mode Interior Point Method for Some Monotone Variational Inequality Problems Jie Sun and Gongyun Zhao

A Trust Region Method for Solving Generalized Complementarity Problems
Houyuan Jiang, Masao Fukushima, Liqun Qi, and Defeng Sun

An Active Set Newton Algorithm for Large-Scale Nonlinear Programs with Box Constraints Francisco Facchinei, Joaquim Judice, and Joao Soares

On the Convergence of Constrained Parallel Variable Distribution Algorithms Michael V. Solodov

A Generalized Proximal Point Algorithm for the Variational Inequality Problem in a Hilbert Space Regina S. Burachik and Alfredo N. Iusem

Budget-Dependent Convergence Rate of Stochastic Approximation
Pierre L'Ecuyer and George Yin

The Sequential Knapsack Polytope Y. Pochet and R. Weismantel

An Algorithm for the Inequality-Constrained Discrete Min-Max Problem

Berc Rustem and Quoc Nguyen

Erratum: An SQP Algorithm for Finely Discretized Continuous Minimax Problems and Other Minimax Problems with Many Objective Functions
Jian L. Zhou and Andre Tits

Submitted by: Deidre Wunderlich, Production Editor

From: tschoban@siam.org
Subject: Contents, SIAM Journal on Computing
Date: Mon, 05 Jan 98

SIAM Journal on Computing February 1998 Volume 27, Number 1
Table of Contents

Bruhat Decomposition and Numerical Stability
O. H. Odeh, D. D. Olesky, and P. van den Driessche

Generalizations of Ky Fan's Dominance Theorem
Chi-Kwong Li and Roy Mathias

A Fast Stable Solver for Nonsymmetric Toeplitz and Quasi-Toeplitz Systems of Linear Equations S. Chandrasekaran and Ali H. Sayed

Generalized Reflexive Matrices: Special Properties and Applications
Hsin-Chu Chen

Efficient Solution of Constrained Least Squares Problems with Kronecker Product Structure Anders Barrlund

Computing a Factor of a Polynomial by Means of Multishift LR Algorithms Luca Gemignani

Eigenvector Slicing of the Nonnegative Matrices D. J. Hartfiel

Euclidean Norm Minimization of the SOR Operators
Apostolos Hadjidimos and Michael Neumann

Using the Matrix Sign Function to Compute Invariant Subspaces
Zhaojun Bai and James Demmel

The M-Matrix Group Generalized Inverse Problem for Weighted Trees
Stephen J. Kirkland and Michael Neumann

Parameter Estimation in the Presence of Bounded Data Uncertainties
S. Chandrasekaran, G. H. Golub, M. Gu, and A. H. Sayed

A Generalized Hilbert Matrix Problem and Confluent Chebyshev-Vandermonde Systems Hao Lu

Note On "Further Study and Generalization of Kahan's Matrix Extension Theorem" Dao-Sheng Zheng

Submitted by: Deidre Wunderlich, Production Editor

From: poulson@siam.org
Subject: SISC 19-2 Table of Contents
Date: Wed, 14 Jan 98

SIAM Journal on Scientific Computing March 1998 Volume 19, Number 2
Table of Contents

Solution of Two-Dimensional Riemann Problem of Gas Dynamics by Positive Schemes Peter D. Lax and Xu-Dong Liu

ADI Methods for Cubic Spline Collocation Discretizations of Elliptic PDEs P. Tsompanopoulou and E. Vavalis

Geometric Separators for Finite-Element Meshes
Gary L. Miller, Shang-Hua Teng, William Thurston, and Stephen A. Vavasis

A 3D Rectangular Mixed Finite Element Method to Solve the Stationary Semiconductor Equations Guido E. Sartoris

Marlis Hochbruck and Christian Lubich

Submitted by: Deborah Poulson, Production Editor

From: "PROF.HEINZ W. ENGL" <engl@indmath.uni-linz.ac.at>
Subject: Surveys on Mathematics for Industry
Date: Wed, 21 Jan 1998

Surveys on Mathematics for Industry Volume 7/3
Table of Contents

Submitted by: Heinz W. Engl, Editor-in-Chief

Prof.Dr.Heinz W. Engl E-Mail: engl@indmath.uni-linz.ac.at
Institut fuer Industriemathematik secretary:nikolaus@indmath.uni-linz.ac.at
Johannes-Kepler-Universitaet Phone:+43-(0)732-2468...,ext.9219 or 693,
Altenbergerstrasse 69 secretary: ext.9220; as Dean: ext.3220
A-4040 Linz Fax:ext. 855, in Dean's affairs:ext.3225
Oesterreich / Austria home phone: +43-(0)732-245518
World Wide Web: http://www.indmath.uni-linz.ac.at/

From: Secretary Support - Magrijn <magrijn.secsup@tip.nl>
Subject: Journal MCSS
Date: Fri, 9 Jan 1998

Mathematics of Control, Signals, and Systems 1997 Volume 10, Number 3
Table of Contents

Stability radii of infinite-dimensional positive systems
A. Fischer

Characterization of a subclass of finite-dimensional estimation algebras with maximal rank. Application to filtering
M. Cohen de Lara

The linear quadratic optimal control problem for linear descriptor systems with variable coefficients P. Kunkel and V. Mehrmann

Convex invertible cones of state space systems
N. Cohen and I. Lewkowicz

Mathematics of Control, Signals, and Systems 1997 Volume 10, Number 3
Table of Contents

Optimal control of stable weakly regular linear systems
M. Weiss and G. Weiss

Online learning via congregational gradient descent
K.L. Blackmore, R.C. Williamson, I.M.Y. Mareels, and W.A. Sethares

Polyhedral reachable set with positive controls
L. Farina and L. Benvenuti

Lyapunov exponents of pairs of matrices, a correction
J.N. Tsitsiklis and V.D. Blondel

INFORMATION
Information on MCSS including tables of contents is available at its home pages:
http://www.cwi.nl/~schuppen/mcss/mcss.html
http://www.math.rutgers.edu/~sontag/mcss.html

Address for submissions:
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)

Submitted by: Corry Magrijn (Secretary) for Jan H. van Schuppen (Co-Editor)
------- end -------

IPNet Digest Volume 5, Number 02 February 27, 1998

Today's Editors: Patricia K. Lamm and Aaron C. Cinzori
Michigan State University

Today's Topics:

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: "Gustavo Montero Garcia" <gustavo@dma.ulpgc.es>
Subject: Information about inverse problems in air pollution modelling
Date: Sat, 7 Nov 1998

I would like to know if there is someone or some researching group working in the inverse problems that arise from the modelling of air pollution. I am interested on some recent results about the existence and uniqueness of solution in the inverse convection-diffusion problem where the unknown is the source term (any similar case may be interesting too). Also numerical algorithms for solving this type of problems are welcomed.

G. Montero
Department of Mathematics
University of Las Palmas de Gran Canaria
Campus Universitario de Tafira
35017 Las Palmas de Gran Canaria
SPAIN

E-mail: gustavo@dma.ulpgc.es

From: dtanaka@gipwc.shinshu-u.ac.jp (Masa. Tanaka)
Subject: ISIP'98
Date: Fri, 30 Jan 1998

ISIP'98
International Symposium on Inverse Problems in Engineering Mechanics
24-27 March 1998, Nagano City/Japan

With my great pleasure I wish to inform you that a provisional program of the above ISIP'98 is now available. You can see it through the Web Page of ISIP'98 with the following URL:

http://homer.shinshu-u.ac.jp/ISIP98/

All necessary information on ISIP'98 is announced through the Internet.

Those who are interested in this Symposium are kindly asked to visit the above Web Page which was very recently updated.

I would thank you very much if you announce this fact through the IPNet Digest.

With best wishes and kindest regards,

Yours sincerely,
Masa. Tanaka
Chair of ISIP'98
Naganao: January 30, 1998

Prof. Masataka TANAKA
Department of Mechanical Systems Engineering
Faculty of Engineering
SHINSHU UNIVERSITY
500 Wakasato, Nagano 380-8553, Japan
Fax: +81-26-224-6515; Tel: +81-26-226-4101, Ext.2313
Email: dtanaka@gipwc.shinshu-u.ac.jp

From: Lijia Guo <lguo@bsu-cs.bsu.edu>
Subject: Second Call for Papers - Ninth Inverse Prob. in Eng. Seminar
Date: Wed, 4 Feb 1998

Announcement and Call For Papers

The Ninth Inverse Problems in Engineering Seminar
Monday, June 8 -- Tuesday, June 9, 1998

Workshop on Selected Topics in Inverse Problem Solving
Sunday, June 7, 1998

Ball State University
Muncie, IN 47306

The Ninth Inverse Problems in Engineering Seminar is the continuation of the informal seminars which were initiated at Michigan State University in 1987. This seminar will be sponsored by the Department of Mathematical Science, Department of Computer Science, College of Science Humanities, and Center for Energy Research and Education at the Ball State University.

Papers are solicited from all areas involving inverse methods and their applications. Four broad categories are being used to organize sessions. These categories, with some subtopics delineated, are:

1. Inverse Problems in Heat Transfer (Inverse Heat Conduction, Thermal Property Estimation)
2. Mathematical Aspects of and Techniques for Inverse Problems (Inverse Theory and Methods, Stability Considerations)
3. Design of Experiments and Applications of Inverse Methods (Optimal Experiment Design, Analysis of Actual Experimental Data)
4. Inverse Problems Exclusive of Heat Transfer (Bio-Engineering Inverse Problems, Shape Optimization, Inversion of Inferometric Data, Inverse Scattering and Tomography)
5. Inverse Problems and techniques - its application in Finance and Insurance

Presentations will be informal twenty minute talks, followed by discussion. If the number of submissions warrants additional program time, a poster session will be included.

About the Workshop: A workshop on selected topics in inverse problem solving is being planned in conjunction with this year's seminar. Tentative topics of coverage include mathematical aspects and relationships between different types of inverse problems, inverse problems in financial engineering, mollification techniques applied to inverse problems. Everyone registered for the seminar are welcome to attend the workshop. The workshop will provide general overviews in a tutorial format. The workshop will be on Sunday, June 7th, in the afternoon.

How to Register or Submit a Paper: The seminar fee is $65. If you are interested in registering for this conference, please contact the chair to receive registration material. If you would like to submit a paper, please submit a tentative title and an abstract by March 15, 1998. Send titles and abstracts or other inquiries to:

Chair: Prof. Lijia Guo
Department of Mathematical Science
Ball State University
Muncie, IN 47306
Phone: (765) 285-8681
fax: (765) 285-1721
e-mail: lguo@bsu.edu

From: Janet Thomas <janet.thomas@ioppublishing.co.uk>
Subject: Inverse Problems contents
Date: Wed, 04 Feb 1998

Inverse Problems February 1998 Volume 14, Issue 1

Table of Contents

The determination of a discontinuity in a conductivity from a single boundary measurement F Hettlich and W Rundell

Numerical identification of parameters in parabolic systems
Y L Keung and J Zou

Smooth detectors of linear phase S Kim and W W Symes

Direct and inverse scattering for transient electromagnetic waves in nonlinear media G Kristensson and D J N Wall

Boundary shape and electrical impedance tomography
W R B Lionheart

Asymptotic behaviour of the minimum bound method for choosing the regularization parameter M A Lukas

Comparisons of parameter choice methods for regularization with discrete noisy data M A Lukas

3D vector tomography on bounded domains N F Osman and J L Prince

Stability estimate for an inverse acoustic backscattering problem
J-N Wang

ERRATUM

Frechet derivatives in inverse obstacle scattering F Hettlich

Why not visit the Inverse Problems home page at
http://www.iop.org/Journals/ip?

Submitted by:

Janet Thomas
Production Editor
Institute of Physics Publishing
Dirac House, Temple Back,
Bristol BS1 6BE, UK
Tel: +44 (0)117 930 1081
Fax: +44 (0)117 929 4318
E-mail: janet.thomas@ioppublishing.co.uk
WWW: http://www.iop.org

From: smiley@siam.org
Subject: Contents, SIAM Journal on Applied Mathematics
Date: Mon, 23 Feb 98

SIAM Journal on Applied Mathematics April 1998 Vol. 58, No. 2
Table of Contents

George Fennemore and Jack X. Xin

Crack Tip Interpolation, Revisited L. J. Gray and Glaucio H. Paulino

The Dynamics of Thin Films I: General Theory
M. P. Ida and M. J. Miksis

The Dynamics of Thin Films II: Applications
M. P. Ida and M. J. Miksis

Network Approximation for Transport Properties of High Contrast Materials Liliana Borcea and George C. Papanicolaou

Large-Scale Instability of Generalized Oscillating Kolmogorov Flows
Xiaojing Zhang and Alexander L. Frenkel

Computable Elastic Distances Between Shapes Laurent Younes

Motion and Homogenization of Vortices in Anisotropic Type II Superconductors S. J. Chapman and G. Richardson

Analysis of a Class of Models of Bursting Electrical Activity in Pancreatic B-Cells Gerda de Vries and Robert M. Miura

Riemann Problems for the Two-Dimensional Unsteady Transonic Small Disturbance Equation Suncica Canic and Barbara Lee Keyfitz

On a Concept of Uniqueness in Inverse Scattering for a Finite Number of Incident Waves Roland Potthast

Spectral Properties of Classical Waves in High-Contrast Periodic Media
A. Figotin and P. Kuchment

The Global Behavior of Elastoplastic and Viscoelastic Materials with Hysteresis-Type State Equations
Robert S. Anderssen, Ivan G. Goetz, and Karl-Heinz Hoffmann

Submitted by: Ira D. Smiley, Production Editor

From: tschoban@siam.org
Subject: Contents, SIAM Journal on Numerical Analysis
Date: Thu, 26 Feb 98

SIAM Journal on Numerical Analysis April 1998 Vol. 35, No. 2
Table of Contents

A Two-Grid Finite Difference Scheme for Nonlinear Parabolic Equations
Clint N. Dawson, Mary F. Wheeler, and Carol S. Woodward

Discrete-Time Orthogonal Spline Collocation Methods for Schrodinger Equations in Two Space Variables
Bingkun Li, Graeme Fairweather, and Bernard Bialecki

Stable Difference Schemes for Parabolic Systems---A Numerical Radius Approach Moshe Goldberg

A Covolume Method Based on Rotated Bilinears for the Generalized Stokes Problem S. H. Chou and D. Y. Kwak

Convergence Analysis of Pseudo-transient Continuation
C. T. Kelley and David E. Keyes

Enclosing Solutions of Linear Equations Jiri Rohn and Georg Rex

Wavelet-Based Numerical Homogenization
Mihai Dorobantu and Bjorn Engquist

A New Mixed Finite Element Formulation and the MAC Method for the Stokes Equations Houde Han and Xiaonan Wu

Convergence Analysis of the Solution of Retarded and Neutral Delay Differential Equations by Continuous Numerical Methods
W. H. Enright and H. Hayashi

Numerical Integrators that Preserve Symmetries and Reversing Symmetries Robert I. McLachlan, G. R. W. Quispel, and G. S. Turner

On Monotone and Geometric Convergence of Schwarz Methods for Two-Side Obstacle Problems Jinping Zeng and Shuzi Zhou

Convergence Analysis of Orthogonal Spline Collocation for Elliptic Boundary Value Problems Bernard Bialecki

An Additive Schwarz Method for the h-p Version of the Finite Element Method in Three Dimensions Benqi Guo and Weiming Cao

>From Electrostatics to Almost Optimal Nodal Sets for Polynomial Interpolation in a Simplex J. S. Hesthaven

Relaxed Notions of Curvature and a Lumped Strain Method for Elastic Plates Cesare Davini and Igino Pitacco

Finite Element Approximations to the System of Shallow Water Equations I: Continuous-Time A Priori Error Estimates
S. Chippada, C. N. Dawson, M. L. Martinez, and M. F. Wheeler

An H1-Galerkin Mixed Finite Element Method for Parabolic Partial Differential Equations Amiya K. Pani

Analysis of Algorithms Generalizing B-Spline Subdivision
Jorg Peters and Ulrich Reif

Discrete Shocks for Finite Difference Approximations to Scalar Conservation Laws Guang-Shan Jiang and Shih-Hsien Yu

Increasing the Order of the SMF Method for a Special Type of Problem
Pablo Martin and Jose M. Farto

A New Spectral Boundary Integral Collaction Method for Three-Dimensional Potential Problems
M. Ganesh, I.G. Graham, and J. Sivaloganathan

Least-Squares Finite-Element Solution of the Neutron Transport Equation in Diffusive Regimes
Thomas A. Manteuffel and Klaus J. Ressel

A Neumann--Neumann Domain Decomposition Algorithm for Solving Plate and Shell Problems
Patrick Le Tallec, Jan Mandel, and Marina Vidrascu

FROM: Beth Schad, Production Editor

From: demoura@pegasus.pgcc.uff.br (Carlos Antonio de Moura)
Subject: Comp Appl Math V.16 No.3(1997) Contents
Date: Wed, 11 Feb 1998

Computational and Applied Mathematics
(Matematica Aplicada e Computacional) 1997 Volume 16, Number 3
Table of Contents

Edited by Birkhauser-Boston and SBMAC
Brazilian Soc for Comp & Appl Math
------- end -------

IPNet Digest Volume 5, Number 03 March 30, 1998

Today's Editors: Patricia K. Lamm and Thomas L. Scofield
Michigan State University

Today's Topics:

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: Miguel Velez-Reyes <mvelez@exodo.upr.clu.edu>
Subject: Underdetermined Nonlinear Least Squares
Date: Mon, 02 Mar 1998

Saludos!

I am interested in information about methods and algorithms (theory and implementation) for solving underdetermined nonlinear least square problems.

I just started working with inverse problems in passive remote sensing using satellite imagery (optical and microwave).

I will post a summary of responses

Regards,
Miguel Velez

Dr. Miguel Velez-Reyes, PE
Associate Professor, Electrical and Computer Engineering Department
University of Puerto Rico Mayaguez Campus
P.O. Box 9042
Mayaguez, PR 00681-9042
Tel. (787) 832-4040 Ext. 3086, 3094, 2888 FAX (787) 831-7564
e-mail: mvelez@exodo.upr.clu.edu m.velez@ieee.org

From: "Marc C. Steinbach" <steinbach@zib.de>
Subject: Subsystem modeling/estimation
Date: Wed, 18 Mar 1998

Question: Literature on subsystem modeling/parameter estimation

Suppose you have a complex system consisting of interacting subsystems, each with an approximate model depending on unknown parameters. From measurements at the whole system in different states, you wish to obtain information to improve the component models qualitatively, that is, find out which of the subsystem models are "good" or "poor" and, if possible, get hints "how" the poor models should be modified.

The interactions are known accurately and the models are sufficiently smooth to perform gradient-based parameter estimation (Gauss-Newton). Reasonable "nominal" subsystem parameters are also known. Of course, estimating the whole parameter set, then fixing the nominal parameters of each subsystem and estimating the remaining ones, yields different residuals and thus information on "good" or "poor". Also, the Lagrange multipliers of the fixing conditions give local sensitivity information.

Does anybody know about theoretical or practical work on this issue, or alternative approaches? Every hint is greatly welcome.

Regards, Marc Steinbach (steinbach@na-net.ornl.gov)

From: Olga Klimenko <klimenko@math.nsc.ru>
Subject: Conference "Inverse Problems of Math. Physics"
Date: Fri, 13 Mar 1998

(WWW: http://www.math.nsc.ru/conference/ipmp98/main.html)

International Conference on

INVERSE PROBLEMS OF MATHEMATICAL PHYSICS

Novosibirsk, Russia
September 21-25, 1998

First Announcement

The Organizing Committee is pleased to announce that the International Conference "Inverse Problems of Mathematical Physics" will take place in Novosibirsk, Russia, from Monday, September 21, through Friday, September 25, 1998.

The Institute of Computational Mathematics and Mathematical Geophysics of Siberian Branch of Russian Academy of Science, Sobolev Institute of Mathematics and Novosibirsk State University convene the International Conference.

The main objective of the Conference is to provide a forum for presentation and discussions on recent developments in inverse problems of mathematical physics and applications in geophysics and tomography.

The Chairman of the Organizing Committee is Prof. A.S. Alekseev, Director of the Institute of Computational Mathematics and Mathematical Geophysics. The Vice-Chairman is Prof. M.M. Lavrent'ev, Director of the Sobolev Institute of Mathematics.

Mathematical Program

The sections are as follows:

1. Mathematical modelling of geophysical fields
   A.S. Alekseev, V.M. Babich
2. Inverse problems of mathematical physics
   V.G. Romanov, A.M. Denisov
3. Problems of data processing for geophysical survey observations, geophysical informatics
   S.V. Goldin, A.V. Nikolaev
4. Theory of ill-posed problems
   M.M. Lavrent'ev, V.N. Strahov

Organizing committee:

Alekseev A.S., Lavrent'ev M.M., Romanov V.G.
Klimenko O.A. (Scientific Secretary),
Anikonov D.S., Anikonov Yu.E., Atamanov E.R., Avdeev A.V., Babich V.M.,
Bidaibekov E.Y., Bukhgeim A.L., Denisov A.M., Fokin M.V., Goldin S.V.,
Iskenderov A.D., Kabanikhin S.I., Konovalov A.N., Mikhailov G.M.,
Nikolaev A.V., Priimenko V.I., Shokin Yu.,I., Smagin S.I., Strahov V.N.,
Tcheverda V.A., Vasin V.V., Yakhno V.G., Gottlieb J., Kasahara J.,
Lorenzi A.

English and Russian are the official languages of the Conference.
The deadline for submission of abstract and Registration Form is
May 15, 1998.

For more information contact
Dr. Olga Klimenko :
E-mail: klimenko@math.nsc.ru

Ed. note: This submission has been edited for length. For more information
about the conference, for a registration form and sample abstract, please consult the conference web page at:

http://www.math.nsc.ru/conference/ipmp98/main.html

From: flores@siam.org
Subject: Two SIAM Conferences
Date: Thu, 26 Mar 98

Ninth SIAM Conference on DISCRETE MATHEMATICS
July 12-15, 1998
University of Toronto
Toronto, Ontario, Canada

The conference program and registration, hotel, dormitory, and transportation information are now available. Visit the DISCRETE MATHEMATICS conference Web page at www.siam.org/meetings/dm98/

==========

Ninth SIAM Conference on PARALLEL PROCESSING for SCIENTIFIC COMPUTING
March 22-24, 1999
Adam's Mark San Antonio-Riverwalk Hotel
San Antonio, Texas

Submissions for a minisymposium proposal, a lecture or poster presentation are invited. For more information about the conference, when and how to submit a minisymposium proposal or a contributed

abstract, visit the SIAM PARALLEL PROCESSING for SCIENTIFIC COMPUTING Conference Web page at www.siam.org/meetings/pp99/

From: "PROF.HEINZ W. ENGL" <engl@indmath.uni-linz.ac.at>
Subject: Position in Linz
Date: Thu, 05 Mar 1998

Position in Linz

We will soon have an industry-funded 3-year position (renewable after each year) at the Johannes Kepler Universitaet Linz for a project with a large car company involving collision problems with tolerances; this is art of a long term cooperation, where we will be dealing with inverse problems of the type "How do certain tolerances in a CAD-construction have to be chosen in order to guarantee that the final part meets certain criteria (under all admissible tolerance situations) like, in a given motion, hitting or not hitting another part (again with tolerances)." I am looking for a mathematician with high computer-literacy, experience in object oriented programming, good geometric intuition and knowledge of optimization methods. Diploma or equivalent and EU citizenship required. Possibility of using the work to be done for a doctoral thesis. Salary around 380.000 Austrian Schilling before tax.

Enquiries: Prof.Heinz Engl, engl@indmath.uni-linz.ac.at

Prof.Dr.Heinz W. Engl E-Mail: engl@indmath.uni-linz.ac.at
Institut fuer Industriemathematik secretary:nikolaus@indmath.uni-linz.ac.at
Johannes-Kepler-Universitaet Phone:+43-(0)732-2468...,ext.9219 or 693,
Altenbergerstrasse 69 secretary: ext.9220; as Dean: ext.3220
A-4040 Linz Fax:ext. 855, in Dean's affairs:ext.3225
Oesterreich / Austria WWW: http://www.indmath.uni-linz.ac.at/

From: Emanuele Salerno <salerno@iei.pi.cnr.it>
Subject: CFP, Special Issue, Real-Time Imaging
Date: Mon, 2 Mar 1998

I hereby submit the following Call for Papers for a special issue of the journal Real-Time Imaging.

Best regards,
Emanuele Salerno

Call for Papers
Real-Time Imaging
Special Issue on "Fast Energy-Minimization-Based Imaging and Vision Techniques"

Guest Editor: Emanuele Salerno, Istituto di Elaborazione della Informazione
- CNR, Pisa, Italy

Background Energy-minimization methods are powerful tools in all domains of imaging and computer vision. Many of them descend from Bayesian or

variational approaches to solve the related inverse problems. Many numerical algorithms implementing these methods have been developed in last years for several applications, but, because of their exceedingly high computational complexity, their practical interest has been limited to those cases where real-time performance is not required. However, there are many applications for which the high quality of the solutions achievable with these methods is strongly desirable, and true real-time is not a strict constraint. Indeed, the term 'real-time' often has a relative meaning, depending on the application considered, the actual requirement being to have a 'reasonable' elapsed time. Notwithstanding these considerations, the speed performance of many energy-minimization algorithms is at present not sufficient for most applications. On the other hand, the development of computing power both in dedicated and general-purpose hardware is about to enable us to take some of these techniques to practical usefulness. This justifies from a practical point of view the continued research interest in energy-minimization methods. Two main strategies can be identified in order to face these problems. From an architectural point of view, an effort should be made to fully exploit existing architectures for the implementation of the algorithms, or to design special hardware, best suited for particular tasks. From an algorithmic point of view, the search for new mathematical models and/or computational schemes should be directed towards a better tractability of the problems. Moreover, the generality of some approaches can be reduced to obtain algorithms that are either intrinsically less expensive or more suitable for particular high-performance machines.

Scope
All the contributions to solve (or approaching a solution of) one of the problems raised above are welcome to this special issue. A (not exhaustive) list of suggested sub-topics is the following:

1. Algorithmic aspects
   - 1.1 Mathematical models
   - 1.2 Fast numerical procedures
   - 1.3 Specialized algorithms
   - 1.4 Parallel implementations

2. Architectural aspects
   - 2.1 Hardware development methodologies
   - 2.2 Distributed computing approaches
   - 2.3 Innovative architectures
   - 2.4 VLSI implementations

3. Applications
   - 3.1 Pattern recognition
   - 3.2 Image segmentation
   - 3.3 Autonomous vehicle guidance
   - 3.4 Robot motion control
   - 3.5 Remote sensing
   - 3.6 Medical imaging
   - 3.7 Industrial inspection
   - 3.8 Visual data bases

All enquiries can be addressed to the guest editor, at the following email
address: e.salerno@iei.pi.cnr.it

Submission of papers

Authors should send five copies of their manuscripts to Dr. E. Salerno, at
the following address:

Emanuele Salerno (Real-Time Imaging)
IEI-CNR
Via Santa Maria, 46
I-56126 Pisa, Italy

Each manuscript should contain a cover page with the title and an abstract,
and the indication of the two sub-topics that best match the subject
treated in the paper (as said, the above list is not exhaustive).

Submission deadline
All the contributions should be received by 31 October 1998.

From: Janet Thomas <janet.thomas@ioppublishing.co.uk>
Subject: Inverse Problems Contents list
Date: Fri, 20 Mar 1998

Inverse Problems April 1998 Volume 14, Issue 2
Table of Contents

PAPERS

INVERSE PROBLEMS NEWSLETTER

Why not visit the Inverse Problems home page at
http://www.iop.org/Journals/ip?

Submitted by: Janet Thomas, Production Editor
Institute of Physics Publishing

Dirac House, Temple Back,
Bristol BS1 6BE, UK
Tel: +44 (0)117 930 1081 Fax: +44 (0)117 929 4318
E-mail: janet.thomas@ioppublishing.co.uk
WWW: http://www.iop.org

From: thomas@siam.org
Subject: Contents, SIAM Journal on Mathematical Analysis
Date: Wed, 11 Mar 98

SIAM Journal on Mathematical Analysis March 1998 Volume 29, No. 2
Table of Contents

SIAM Journal on Mathematical Analysis May 1998 Vol. 29, No. 3
Table of Contents

Nonlinear Instability of a Precessing Body with a Cavity Filled by an Ideal Fluid Andrei A. Lyashenko and Susan J. Friedlander

On the Chapman-Jouguet Limit for a Combustion Model
Bernard Hanouzet, Roberto Natalini, and Alberto Tesei

On Maxwell's Equations in an Electromagnetic Field with the Temperature Effect Hong-Ming Yin

All-Time Existence of Classical Solutions for Slightly Compressible Flows Thomas Hagstrom and Jens Lorenz

The Second Stekloff Eigenvalue and Energy Dissipation Inequalities for Functionals with Surface Energy Robert Lipton

Global Stability in Chemostat-Type Equations with Distributed Delays
Xue-Zhong He, Shigui Ruan, and Huaxing Xia

Recovery of Singularities of a Multidimensional Scattering Potential
Lassi Paivarinta and Valeri Serov

Radial Symmetry and Decay of Variational Ground States in the Zero Mass Case M. Flucher and S. Muller

L-infinity Estimates on the Solutions of Nonselfadjoint Elliptic and Parabolic Equations in Bounded Domains Adrian T. Hill

Analysis of Concentration and Oscillation Effects Generated by Gradients
Irene Fonseca, Stefan Muller, and Pablo Pedregal

Solutions of Finitely Smooth Nonlinear Singular Differential Equations and Problems of Diagonalization and Triangularization
Harry Gingold and Alexander Tovbis

Orthogonal Polynomials and Cubature Formulae on Spheres and On Balls
Yuan Xu

Convolutions for Orthogonal Polynomials from Lie and Quantum Algebra Presentations
H. T. Koelink and J. Van der Jeugt

Submitted by: Kelly Thomas, Managing Editor

From: smiley@siam.org
Subject: Contents, SIAM Journal on Control and Optimization
Date: Wed, 18 Mar 98

SIAM Journal on Control and Optimization May 1998 Volume 36, No. 3
Table of Contents

Navier-Stokes System: The Two-Dimensional Case
A. V. Fursikov, M. D. Gunzburger, and L. S. Hou

Existence of an Optimal Solution of a Shape Control Problem for the Stationary Navier-Stokes Equations
Max D. Gunzburger and Hongchul Kim

Central Limit Theorem and Law of Iterated Logarithm for Least Squares Algorithms in Adaptive Tracking Bernard Bercu

Stochastic Near-Optimal Controls: Necessary and Sufficient Conditions for Near-Optimality Xun Yu Zhou

The Symmetric Rendezvous-Evasion Game Steve Alpern and Wei Shi Lim

An Integral Invariance Principle for Differential Inclusions with Applications in Adaptive Control E. P. Ryan

Optimal Boundary Control of the Stokes Fluids with Point Velocity Observations Puhong You, Zhonghai Ding, and Jianxin Zhou

Globally and Superlinearly Convergent Algorithm for Minimizing a Normal Merit Function Elijah Polak and Liqun Qi

Ergodic Boundary/Point Control of Stochastic Semilinear Systems
T. E. Duncan, B. Maslowski, and B. Pasik-Duncan

Proximal Analysis and the Minimal Time Function
Peter R. Wolenski and Yu Zhuang

A Classical Approach to Uniform Null Controllability for Elastic Beams
Miguel Angel Moreles

Exponential Decay of Energy of the Euler-Bernoulli Beam with Locally Distributed Kelvin-Voigt Damping Kangsheng Liu and Zhuangyi Liu

Optimal Control of Inflation: A Central Bank Problem
Maria B. Chiarolla and Ulrich G. Haussmann

From:Ira D. Smiley, Production Editor

From: odonnell@siam.org
Subject: Contents, SIAM Journal on Scientific Computing
Date: Fri, 27 Mar 98

SIAM Journal on Scientific Computing May 1998 Vol. 19, No 3
Table of Contents

Three-Dimensional Front Tracking
James Glimm, John W. Grove, Xiao Lin Li, Keh-Ming Shyue, Yanni Zeng, and Qiang Zhang

Design and Application of a Gradient-Weighted Moving Finite Element Code I: In One Dimension Neil N. Carlson and Keith Miller

Design and Application of a Gradient-Weighted Moving Finite Element Code II: In Two Dimensions Neil N. Carlson and Keith Miller

A Study of Some Finite Difference Schemes for a Unidirectional

Stochastic Transport Equation Harald Osnes and Hans Petter Langtangen

Computational Considerations for the Simulation of Shock-Induced Sound
Jay Casper and Mark H. Carpenter

Numerical Solution of a Flow-Control Problem: Vorticity Reduction by Dynamic Boundary Action Martin Berggren

Hamilton-Based Numerical Methods for a Fluid-Membrane Interaction in Two and Three Dimensions Maria Cristina Recchioni and Giovanni Russo

An Iterative Perturbation Method for the Pressure Equation in the Simulation of Miscible Displacement in Porous Media
Ping Lin and Daoqi Yang

Domain Decomposition Operator Splittings for the Solution of Parabolic Equations T. P. Mathew, P. L. Polyakov, G. Russo, and J. Wang

A Fast Poisson Solver of Arbitrary Order Accuracy in Rectangular Regions
A. Averbuch, M. Israeli, and L. Vozovoi

A Generalized SOR Method for Dense Linear Systems of Boundary Element Equations K. Davey and S. Bounds

A Sparse Approximate Inverse Preconditioner for Nonsymmetric Linear Systems
Michele Benzi and Miroslav Tuma

Approximate Inverse Preconditioners via Sparse-Sparse Iterations
Edmond Chow and Yousef Saad

Generalized Capacitance Matrix Theorems and Algorithm for Solving Linear Systems Shang-Hong Lai and Baba C. Vemuri

Computing Limit Loads by Minimizing a Sum of Norms
Knud D. Andersen, Edmund Christiansen, and Michael L. Overton

Submitted by: Keely O'Donnell, Editorial Associate

From: wunderlich@siam.org
Subject: Contents, SIAM Journal on Matrix Analysis and Applications
Date: Wed, 04 Mar 98

SIAM J. on Matrix Analysis and Applications April 1998 Vol. 19, No. 2
Table of Contents

Stable and Efficient Algorithms for Structured Systems of Linear Equations Ming Gu

H-Selfadjoint and H-Unitary Matrix Pencils
Ilya Krupnik and Peter Lancaster

Applications of the Dulmage-Mendelsohn Decomposition and Network Flow to Graph Bisection Improvement Cleve Ashcraft and Joseph W. H. Liu

Sign Controllability: Sign Patterns that Require Complete Controllability
Michael J. Tsatsomeros

More on Concavity of a Matrix Function Jurgen Gross

On the Relationship Between Graphs and Totally Positive Matrices
J. M. Pena

The QR Decomposition and the Singular Value Decomposition in the Symmetrized Max-Plus Algebra Bart De Schutter and Bart De Moor

On the Block Independence in Reflexive Inner Inverse and M-P Inverse of Block Matrix Yiju Wang

On the Sandwich Semigroups of Group Boolean Matrices Cen Jianmiao

Perturbation Analysis for the Cholesky Downdating Problem
Xiao-Wen Chang and Christopher C. Paige

Single-Input Eigenvalue Assignment Algorithms: A Close Look
Mark Arnold and Biswa Nath Datta

A Cubically Convergent Parallelizable Method for the Hermitian Eigenvalue Problem Hongyuan Zha and Zhenyue Zhang

Simultaneous Contractibility Tsuyoshi Ando and Mau-hsiang Shih

Determinant Maximization with Linear Matrix Inequality Constraints
Lieven Vandenberghe, Stephen Boyd, and Shao-Po Wu

Overcoming Instability in Computing the Fundamental Matrix for a Markov Chain Daniel P. Heyman and Dianne P. O'Leary

Quadratic Residual Bounds for the Hermitian Eigenvalue Problem
Roy Mathias

The Relation Between the QR and LR Algorithms Hongguo Xu

Complementation in Stochastic Matrices and the GTH Algorithm
E. Seneta

Condition Numbers of Random Triangular Matrices
D. Viswanath and L. N. Trefethen

Submitted by: Deidre Wunderlich, Production Editor

From: Baltzer Science <mailer@ns.baltzer.nl>
Subject: Numerical Algorithms contents
Date: Tue, 3 Mar 1998

Numerical Algorithms 1997 Volume 16, Number 1

Table of Contents

Numerical Algorithms 1997 Volume 16, Number 2
Table of Contents

Numerical Algorithms 1997 Volume 16, Numbers 3,4
Table of Contents

A delay differential equation solver based on a continuous Runge--Kutta method with defect control W.H. Enright and H. Hayashi

A discrete divergence-free basis for finite element methods Xiu Ye and Charles A. Hall

Claude Brezinski
Book reviews

More information about contents, submission and preparation of papers can be found on http://www.baltzer.nl/numa/

Please direct enquiries about subscription and other issues to subscribe@baltzer.nl

Baltzer Science Publishers

From: Hans Schneider <hans@math.wisc.edu>
Subject: Linear Algebra and Its Applications, 7738, Vol 274, Iss 1-3
Date: Wed, 4 Mar 1998

Linear Algebra and Its Applications March 1998 Volume 274/01-03
Table of Contents

Inequalities For The Q-Permanent II A. K. Lal

The number of regular semisimple classes of special linear and unitary groups P. Fleischmann

An inequality for the Spectral Radius of an interval matrix Mauhsiang Shih

Similarity classes for nilpotent operators over dedekind domains G. D. Appleby

On an estimate of the eigenvalues for an infinite-dimensional matrix and its application to the problem of the completeness of an eigenvector system of a completely continuous operator V. Strauss

Sur l'image et la noyau d'une derivation generalisie A. Seddick

Generalized inversion of block Toeplitz matrices V.M. Adukov

Classification of hereditary matrices Agler, J.W. Helton

Generalized Algebraic Structures for the Representation of Discrete Systems Thomas Moeller

The inertia of certain Hermitian block matrices C.M. Da Fonseca

Parallelizable approximate solvers for recursions arising in preconditioning Y. Shapira

On a class of multi-parameter perturbations of positive-definite operators with fixed bounds of spectrum S.M. Malamud

Canonical form of symplectic matrix pencils A. Ferrante

Multiplicity of solutions of second order linear differential equations on networks J.A. Lubary

The discrete algebraic Riccati equation and linear matrix inequality
A. A. Stoorvogel

Recursive properties of Toeplitz and Hurwitz matrices
Marilena Barnabei

On geometric properties of the numerical range M.T. Chien

On a problem of Lewin J. Shen

Please note that only one author is given for each paper.

Submitted by:
Hans Schneider hans@math.wisc.edu.
Department of Mathematics 608-262-1402 (Work)
Van Vleck Hall 608-263-8891 (Work FAX)
480 Lincoln Drive http://math.wisc.edu/~hans (URL)
University of Wisconsin-Madison
Madison WI 53706 USA
------- end -------

IPNet Digest Volume 5, Number 04 April 30, 1998

Today's Editors: Patricia K. Lamm and Thomas L. Scofield
Michigan State University

Today's Topics:
International Workshop: Nonlinear and Improperly Posed Problems
Last Call: Ninth Inverse Problems in Engineering Seminar
Conference: The International Congress of Mathematicians
International Symposium: Natural Sciences, Inverse Problems
Monograph: Nonlinear Ill-Posed Problems
Book Series: Classics in Applied Mathematics
Table of Contents: SIAM J. Optimization
Table of Contents: J. Math. Systems, Estimation, and Control

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: "Jennifer Mueller" <muellj2@rpi.edu>
Subject: Conference announcement
Date: Mon, 20 Apr 1998

International Workshop on Nonlinear and Improperly Posed Problems
August 15-13, 1998
International Hotel Sapanaca
Kocaeli - Turkey

Main Topics:
Nonlinear equations of mathematical physics, nonclassical boundary conditions and new inverse and improperly posed problems.
Special emphasis will be placed on:
1. Theory and analysis of nonlinear and improperly posed problems.
2. Numerical solutions and applications.

Submissions:
Presentations will be a maximum of 30 minutes with discussions taking place at the end of each session.
Authors should e-mail LATEX files (with spacing 1.5) of their proposed papers by no later than 31 May, 1998 to Prof. A. Hasanov, kcluniv2@turnet.net.tr
Notification of acceptance will be forwarded within one month of the above date to the author's e-mail address. The proceedings will be available at the time of the workshop.

Location:
The workshop will be held in the International Hotel ``Sapanca'' (around the lake Sapanca), which is 25 minutes from Izmit (Kocaeli State Center) by car or bus. The Hotel has lecture rooms, symposium and reception halls, as well as a swimming pool and various social subunits. Hotel price for lectures is about $60 (US) including breakfast.

Registration Fee:
An amount of $400 (US) per participant will cover the proceedings, social events and tours. The fee is due May 31, 1998.

Honorary Chairman of the conference:
Academician of Russian Academy of Sciences, Prof. A.A. Samarskii

International Programme Committee:
S. Cohn (USA), P. DuChateau (USA), A. Hasanov (Turkey),
M.Idemen (Turkey), W. Rundell (USA), T.Shores (USA)

Organizing Institutions:
Russian Academy of Sciences, Moscow
Institute of Mathematical Modelling, Moscow
Colorado State University
University of Nebraska-Lincoln
University of Kocaeli, Turkey
Isik University, Turkey

Sponsors:
Kocaeli State Adminstration,
Kocaeli University Association,
Izmit Municipality , International Black Sea Club,
Arcelik A.S.,
Kocaeli Fair

Turkish Organizing Committee:
M. Oguz (Governer of Kocaeli State) - Honorary Chairman
S. Sirmen (Mayor of Izmit Municipality) - Honorary Chairman
A. Ural (President of Kocaeli University)- Chairman
A. Gunel (Vice President of Kocaeli University)
A. Hasanov (Chair of Appl. Math. Sciences Research Center,
University of Kocaeli)
M. Idemen (Trustee Member of Isik University, Istanbul)
S. Ozbay (Director of Kocaeli Fair)

For more information, please see the web page
http://web.turnet.net.tr/~kcluniv2/workshop

From: kwoodbur@me.ua.edu (Keith A Woodbury)
Subject: ** LAST CALL**
Date: Mon, 20 Apr 1998

Dear Colleague-

It is not too late to participate in the Ninth Inverse Problems in Engineering Seminar which will be held at Ball State (in Muncie, Indiana) on June 8th and 9th, 1998. A workshop is also being planned for Sunday afternoon (June 7th).

*** LAST CALL*** *** LAST CALL*** *** LAST CALL***

Please send a title and/or abstract to the seminar chair (lguo@bsu.edu) immediately. Only a presentation is required (no formal paper). This is an excellent opportunity to share ideas on works-in-progress or to get feedback on a planned future publication. Participation by graduate students is welcome and encouraged.

The original call for papers appears below with additional information.

****

Announcement and Call For Papers
The Ninth Inverse Problems in Engineering Seminar
Monday, June 8 -- Tuesday, June 9, 1998
Workshop on Selected Topics in Inverse Problem Solving
Sunday, June 7, 1998

Ball State University
Muncie, IN 47306

The Ninth Inverse Problems in Engineering Seminar is the continuation of the informal seminars which were initiated at Michigan State University in 1987. This seminar will be sponsored by the Department of Mathematical Science, Department of Computer Science, College of Science Humanities, and Center for Energy Research and Education at the Ball State University.

Papers are solicited from all areas involving inverse methods and their applications. Four broad categories are being used to organize sessions. These categories, with some subtopics delineated, are:

1. Inverse Problems in Heat Transfer (Inverse Heat Conduction, Thermal Property Estimation)
2. Mathematical Aspects of and Techniques for Inverse Problems (Inverse Theory and Methods, Stability Considerations)
3. Design of Experiments and Applications of Inverse Methods (Optimal Experiment Design, Analysis of Actual Experimental Data)
4. Inverse Problems Exclusive of Heat Transfer (Bio-Engineering Inverse Problems, Shape Optimization, Inversion of Inferometric Data, Inverse Scattering and Tomography)

Presentations will be informal twenty minute talks, followed by discussion. If the number of submissions warrants additional program time, a poster session will be included.

About the Workshop: A workshop on selected topics in inverse problem solving is being planned in conjunction with this year's seminar. Tentative topics of coverage include mathematical aspects and relationships between different types of inverse problems, inverse problems in financial engineering, mollification techniques applied to inverse problems. Everyone registered for the seminar are welcome to attend the workshop. The workshop will provide general overviews in a tutorial format. The workshop will be on Sunday, June 7th, in the afternoon.

How to Register or Submit a Paper: The seminar fee is $65. If you are interested in registering for this conference, please contact the chair to receive registration material. If you would like to submit a paper, please submit a tentative title and an abstract by March 1, 1998. Send titles and abstracts or other inquiries to:

Chair: Prof. Lijia Guo
Department of Mathematical Science
Ball State University
Muncie, IN 47306
Phone: (765) 285-8681
fax: (765) 285-1721
e-mail: lguo@bsu.edu

From: helmberg@zib.de (Christoph Helmberg)
Subject: Reminder: ICM'98 early registration deadline is May 1!
Date: Fri, 17 Apr 1998

Reminder: ICM'98 early registration deadline is May 1!

Dear Colleague:

Please note that

May 1 : deadline for early registration and submission of abstracts

for ICM'98 is quickly approaching. We are looking forward to receiving your
registration (by WWW, fax, or surface mail) for

THE INTERNATIONAL CONGRESS OF MATHEMATICIANS
BERLIN, August 18-27, 1998
http://elib.zib.de/ICM98

The International Congress of Mathematicians, taking place about every four years since 1897, belongs to the most important mathematical events in the world. One distinguished feature, among others, is the awarding of the Fields Medals (the "mathematical Nobel Prize") and the Nevanlinna Prize during the Opening Ceremony.

The Congress is held under the auspices of the International Mathematical Union (IMU). Mathematicians from all countries gather to discuss recent developments in mathematics that are presented by leading scientists from all mathematical fields. Responsibility for the scientific program lies with the Program Committee appointed by IMU. There will be 21 one-hour Plenary Lectures covering the major areas of mathematics and about 160 forty-five-minute Invited Lectures in nineteen sections (see http://elib.zib.de/ICM98/B for the full invited program).

In addition to the distinct scientific program we have made strong efforts to set up a rich and rewarding by-program for you and your company. There will be:

- exhibitions, concerts, talks, and discussions:
  http://elib.zib.de/ICM98/C/1/urania
- the VideoMath Festival:
  http://www-sfb288.math.tu-berlin.de/VideoMath/
- Footloose Tours:
  http://elib.zib.de:88/pub/IMU/ICM98-TEST/E/5/
- Sessions on Special Activities
  http://elib.zib.de/ICM98/B/7
- Many important conferences have been arranged around ICM'98:
  http://www.exp-math.uni-essen.de:80/Events/around_icm.html

We are looking forward to seeing you in Berlin.

Christoph Helmberg (for the ICM'98 Organizing Committee)

From: hvg@i04ktha.desy.de (H.V. von Geramb)
Date: Wed, 29 Apr 1998

With this mail I'm forwarding the 1. Circular of a Summer School to be

organized in Ulaan Baatar this summer. The topic is concerned with natural sciences with a strong emphasize on inverse and ill posed problems.

Sincerely yours,
Prof Dr Heinz von Geramb
(University of Hamburg, Physics)

****

1. Circular Summer School and School Seminars on
Natural Sciences Methods and Applications
August 10 - 17, 1998
Ulaanbaatar, Mongolia

Organized by:
Mongolian Academy of Natural Sciences
Mongolian National University
Institute of Physics and Technology
Geophysical Center
Astronomical Observatory

An International Symposium is organized by Mongolian Institutions which concentrate their effort in the fields of Natural Scienes. In particular, the institutions are: the Mongolian Acedemy of Natural Sciences, the Mongolian National University, the Institute of Physics & Technology, the Geophysical Center, and the Astronomical Observatory. All institutions are located in the capital city of Mongolia, in Ulaanbaatar (Ulan Bator).

The purpose of the symposium is to combine efforts for discussions and to expose problems of the Mongolian physical, astrophysical and mathematical sciences together with the agricultural and biological sciences. The topics concern the leading subjects of their present research as well as projects for the immediate and near future. The list of these topics contains: Solar voltaic, solar cells and the associated technology, developments and engineering for practical applications in Mongolia, spectral analyses, Moessbauer spectroscopy, micro analytical methods, beams from excellerators as microprobe and their applications, nuclear microsprobes, laser beams, new microsanalytical techniques, scanning of microstructures with MeV proton beams, surface structure and implementations, photosynthesis and biological systems, insulating materials and related heat transfer problems, dendrochronology with related topics, solar energy and wind energy assessments of Mongolia, selected topics in seismology, geophysical- and astrometrical measurements. The mathematical disciplines are concentrating upon the mentioned scientific projects and their developments of appropriate models and solutions. Of central importance are ill-posed problems, inverse problems, optimisations, mathematical modelling of physical problems and finally all these subjects treated with up to date computer analayses.

The summer school aims towards a high standard in these research fields with the purpose to see overlaps. It addresses to graduate and post graduate students, active specialists and researchers from the mentioned sciences as well as staff members.

With this circular we appeal to the international scientific community for their active participation and contributions in form of lectures and reports. It is anticipated that this symposium will be instrumental for

the initiation of collaborations and interdisciplinary exchanges of ideas, methods and applications of natural sciences.

The Conference Schedule:
The symposium will be arranged with main lectures and representative reviews, talks concentrating on particular research results or instrumentations, shorter contributions for work in progress, and round-table discussions. The daily schedule, from Monday, 10th, until Friday, 14th, of August distinguishes the Morning Sessions 9:00 - 13:00 hrs with coffee breaks and the Afternoon Sessions 14:00 - 16:00 hrs.

Additional interesting and exciting events are scheduled.
For Saturday, August 15th, a tour through Ulaanbaatar with specially arranged
visits to historical and memorable places is planned.

Conference Language:
The conference language is English. All written material will be available in English. Only some material, the program and information during the conference, will also be available in Mongolian.

Submission of Registration and Abstract:
The local organizing committee requires the submission of a registration form - can be submitted by: regular mail, fax or E-mail - before the end of May. The questionnaire is attached at the end of this circular.

In addition to the questionnaire we request the submission of an Abstract. The Abstract must reach us before the end of June, and can be submitted by: regular mail, fax or E-mail. The abstract must contain: title of talk (in capital letters), author(s), institution(s) and a text not exceeding one page (with LaTeX use 12 pt).

You can forward the registration and abstract directly to the following address in Mongolia:
Acad. Dr. Ch. Tseren
210664, Ulaanbaatar-44, P.O. Box 44-397, Mongolia
Fax: ..976-1-358397
E-mail: instphys@magicnet.mn

Alternatively you can send the material also to the German address:
University of Hamburg, Luruper Chaussee 149, D-22761 Hamburg
Fax: ..49-40-89982130
E-mail: hvg@i04ktha.desy.de

Proceedings:
All submitted abstracts, together with the conference program and other information concerning the symposium are distributed at the registration desk.

The speakers are requested to submit their talks in written form -- prefered as a Word- or LaTeX file on a diskette including pictures in postscript format. The deadline for post symposium submission of the manuscript for publications is the end of September. The manuscript will be edited and published as proceedings.

Travel, Housing and Conference Fee:
The capital city of Mongolia can be reached by plane, train or private transport. The national airline is MIAT. The train transportation refers to the |Transibirien Railway, line from Russia to China. More details

about travel are supplied on request.

A Hotel or Ger with a rate US$ 15, additionally meals US$ 6-9 daily are arranged. Alternative arrangements are offered.

The registration fee of US$ 150 is collected with the registration.

Scientific Committee:
Prof. Dr. Ts. Ganzog, Mongolian National University
Acad. Dr. Ch. Tseren, Mongolian Academy of Natural Science
Prof. Dr. H.V. von Geramb, University of Hamburg
Prof. Dr. D. Nyamaa, Inst. of Physics and Technology
Prof. Dr. Ts. Boldsuch, Mongolian National University
Dr. B. Bekhtur, Centre of Astromony and Seismology
Acad. Prof. Dr. Kh. Namsrai, Inst. of Physics and Technology

Organizing Committee:
Chairman Acad. Dr. Ch. Tseren
Dr. I. Ulemj
Mrs. J. Baigalmaa

Address:
Acad. Dr. Ch. Tseren, 210664, Ulaanbaatar-44, P.O. Box 44-397, Mongolia
Phone: ..976-1-358397, 454065
Fax: ..976-1-3358397
E-mail: instphys@magicnet.mn

****

Questionnaire for the Summer School and School Seminars on
Natural Sciences Methods and Applications
August 10 -- 17, 1998
Ulaanbaatar, Mongolia

Name and Surname:
Institution:
Title of your contribution and time requested:
Accomodation for you and your company:
Date of arrival and departure:
Others:
Return to one of the following addresses below.
Deadline: End of May

Acad. Dr. Ch. Tseren
210664 Ulaanbaatar--44
P.O. Box 44--397
Mongolia
Fax: .. 976--1--358397
E-mail: instphys@magicnet.mn

Prof. Dr. H.V. von Geramb
University of Hamburg
Luruper Chaussee 149
D-22761 Hamburg
Fax: .. 49--40--89982130
E-mail: hvg@i04ktha.desy.de

From: "Professor Yagola" <yagola@inverse.phys.msu.su>
Subject: monographs
Date: Sun, 05 Apr 1998 09:56:56

Dear colleagues,

I am very pleased to inform you about our new book: A.N. Tikhonov, A.S. Leonov, and A.G. Yagola "Nonlinear Ill-posed Problems". This two-volume book is the first to introduce the reader to theory of

nonlinear ill-posed problems, to discuss all aspects of the variational approach for constructing regularizing algorithms, and to show applications in the natural sciences.

This book was published by Chapman & Hall in 1998, ISBN 0-412-78660-5.
You could get an additional information on the Internet at
http://www.chaphall.com
Overseas orders: e-mail: response@itps.co.uk
If ordering in the USA/Canada: e-mail: order@chaphall.com

I would like also to notice that we published in 1995 the monograph: A.N. Tikhonov, A.V. Goncharsky, V.V. Stepanov, and A.G.Yagola "Numerical Methods for the Solution of Ill-Posed Problems", Kluwer, Dordrecht, ISBN 0-7923-3593-X. Besides the theoretical material, the book contains a FORTRAN program library.

With best regards. Sincerely yours,
Anatoly Yagola

Dr. Sc., Professor, Department of Mathematics, Faculty of Physics,
Moscow State University, Moscow 119899, Russia
Mailing address(home): 18-2-93 Matveevskaya Str., Moscow 119517, Russia
Tel.(home): (7)(095)442-3335
FAX: (7)(095)932-8820
E-mail: yagola@inverse.phys.msu.su

From: poulson@siam.org
Subject: Classics in Applied Mathematics
Date: Thu, 02 Apr 98

From: Deborah Poulson, SIAM Developmental Editor (poulson@siam.org)

Are you frustrated that one of your favorite texts is out of print? SIAM is looking for suggestions of books to publish in their Classics in Applied Mathematics series. Send me the title, publisher, and author(s) of books you'd like to see back on the shelf.

From: odonnell@siam.org
Subject: Contents, SIAM Journal on Optimization
Date: Wed, 08 Apr 98

SIAM Journal on Optimization May 1998 Vol. 8, No. 2
Table of Contents

Existence and Uniqueness of Search Directions in Interior-Point Algorithms for the SDP and the Monotone SDLCP
Masayuki Shida, Susumu Shindoh, and Masakazu Kojima

Interior Point Algorithms for Linear Complementarity Problems Based On Large Neighborhoods of the Central Path Gongyun Zhao

Existence of Solutions to Discrete Semicoercive Frictional Contact Problems Anders Klarbring and Jong-Shi Pang

An Unconstrained Convex Programming Approach to Linear Semi-Infinite Programming Chih-Jen Lin, Shu-Cherng Fang, and Soon-Yi Wu

The Linear l_1 Estimator and the Huber M-Estimator
W. Li and J. J. Swetits

A D.C. Optimization Algorithm for Solving the Trust-Region Subproblem
Pham Dinh Tao and Le Thi Hoai An

An Incremental Gradient(-Projection) Method with Momentum Term and Adaptive Stepsize Rule Paul Tseng

An Efficient Algorithm for Large-Scale Nonlinear Programming Problems with Simple Bounds on the Variables R. Pytlak

Cost Approximation: A Unified Framework of Descent Algorithms for Nonlinear Programs Michael Patriksson

Quasi-Newton Bundle-Type Methods for Nondifferentiable Convex Optimization Robert Mifflin, Defeng Sun, and Liqun Qi

Numerical Experience with Lower Bounds for MIQP Branch-and-Bound
Roger Fletcher and Sven Leyffer

Bicriterion Single Machine Scheduling with Resource Dependent Processing Times
T. C. Edwin Cheng, Adam Janiak, and Mikhail Y. Kovalyov

From: Keely O'Donnell, Editorial Associate

From: Elizabeth Loew <loew@birkhauser.com>
Subject: TOC submission
Date: Tue, 31 Mar 1998

J. Mathematical Systems, Estimation, and Control 1998 Vol. 8, No. 2
Table of Contents

Forward/Backward Periodic Realizations of Nonproper Rational Matrices
Vincente D. Estruch, Vincent Hernandez, Elena Sanchez, and Carmen Coll

Summary: Uniform Exponential Stability of Approximation in Linear Viscoelasticity Zhuangyi Liu and Songmu Zheng

Summary: On an inverse Dynamic Problem for the Goursat-Darboux System
A.I. Korotkii and I.A. Tsepelev

Summary: The Minimum Time Function with Unbounded Controls
F. Rampazzo and C. Sartori

Summary: A Note on the Mathematical Modelling of Damped Second Order Systems John A. Burns and Belinda B. King

Summary: Ergodic Properties of Quotients of Horocycle Flows on the Poincare Upper Half Plane Dorothy I. Wallace

Summary: Numerical Experiments on Approximated Acoustic-Structure Systems F. Fahroo and C. Wang

Summary: Harmonic Forcing for Linear Distributed Parameter Systems C.I. Byrnes, D.S. Gilliam, I.G. Lauko, and V.I. Shubov

Summary: A Partial Differential Equation Approach to Modeling Simple Extension in Elastomers H.T. Banks and Nancy Lybeck

Summary: A Universally Observable Flow on the Two-Dimensional Torus Alisa DeStefano and G.R. Hall

Summary: On Accurate Computation of a Class of Linear Functionals Sven-Ake Gustafson and Antonio R. da Silva

Summary: Sharp Trace Regularity for the Solutions of the Equations of Dynamic Elasticity Mary Ann Horn

Summary: Weak Attractor for Damped Abstract Nonlinear Hyperbolic Systems Gabriella A. Pinter

Summary: A Computational Study of the Representation Problem for Flow Control Diana Rubio

Summary: Local Controllability of a Nonlinear Shallow Spherical Shell M.E. Bradley

Summary: Muscle Mechanics and Dynamics of Ocular Motion Clyde F. Martin and Lawrence Schovanec

Summary: Spectral Element Approximations and Infinite Domains Kelly Black

Summary: Observability on Noncompact Symmetric Spaces Joseph A. Wolf

Summary: A Control Theoretic Model of the Muscular Actions in Human Head-Eye Coordination Magnus Egerstedt and Clyde Martin

Summary: Hysteresis Modeling in Magnetostrictive Materials via Preisach Operators R.C. Smith

Summary: Numerical Stationary Solutions for a Viscous Burgers' Equation J. Burns, A. Balogh, D.S. Gilliam, and V.I. Shubov

Summary: A Time Domain Formulation for Identification in Electromagnetic Dispersion H.T. Banks, M.W. Buksas, and Yun Wang

Submitted by Wayne Yuhasz
------- end -------

IPNet Digest Volume 5, Number 05 May 23, 1998

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

Today's Topics:
International Meeting: Three-dimensional Image Reconstruction
IEEE Workshop: Detection, Estimation, Classification, & Imaging
International Conference: Science and Technology for Development
Postdoctoral Position: Signal/Image Processing, Imaging Science
Table of Contents: SIAM J. Numerical Analysis
Table of Contents: SIAM Review
Table of Contents: Mathematics of Control, Signals, and Systems
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: Freek Beekman <Freek.Beekman@cv.ruu.nl>
Subject: Meeting on 3-D Image Reconstruction
Date: Mon, 18 May 1998

A N N O U N C E M E N T A N D C A L L F O R P A P E R S

1999 INTERNATIONAL MEETING ON
FULLY THREE-DIMENSIONAL IMAGE RECONSTRUCTION
IN RADIOLOGY AND NUCLEAR MEDICINE

June 23-26, 1999, The Netherlands
Zuiderduin Hotel, Egmond aan Zee

Conference Organizers: Freek Beekman, University Hospital Utrecht
Michel Defrise, Free University of Brussels
Max Viergever, Utrecht University

The fifth in this series of successful bi-annual meetings, will be held at the Zuiderduin Hotel in Egmond aan Zee, about 30 miles from Amsterdam, on the sandy North Sea Beach.

TOPICS

The conference comprises, but is not limited to, the following themes:

- 3D reconstruction techniques for PET, SPECT, CT, and MRI.
- Optimization of geometry and sampling strategies for three-dimensional acquisition.
- Improvement of system performance, by scatter and detector response modelling, on 3D reconstruction.
- Mathematical and numerical aspects of fully three-dimensional image reconstruction.
- Assessment of image quality on 3D reconstructed images

If you are interested in presenting an oral or a poster, you should send

5 copies of a 4 page (maximum) extended abstract of original work. Care should be taken with the content of the abstracts, as copies of all accepted abstracts will be given to participants at the meeting to facilitate discussion.
Refereed proceedings papers will be published in a special issue of IEEE Transactions on Medical Imaging tentatively scheduled for March 2000.

Please send 5 copies of an extended abstract by December 1, 1998 to the meeting secretariat:

3D99 conference secretariat
University Hospital Utrecht
Department of Nuclear Medicine, E02.222
Heidelberglaan 100
3584 CX Utrecht, Netherlands

Tel: +31-30.2507779, Fax: +31-30.2542531
email: fully3d@isi.uu.nl

CONFERENCE CALENDER

Receipt of extended abstracts:	December 1, 1998
Notification of Acceptance:	March 1, 1999
Registration for Meeting:	May 1, 1999
Meeting:	June 23-26, 1999
Submission of full papers:	July 31, 1999
Publication in IEEE Trans. Med. Im.:	March 2000

SCIENTIFIC COMMITTEE

Dale Bailey	Hammersmith Hospital, London, England
Harrison Barrett	University of Arizona, USA
Per-Erik Danielson	Linkoping University, Sweden
Pierre Grangeat	LETI/CEA, Grenoble, France
Grant Gullberg	University of Utah, USA
Brian Hutton	Westmead Hospital, Australia
Ronald Jaszczak	Duke University, USA
Willi Kalender	University of Erlangen, Neurnberg, Germany
Paul Kinahan	University of Pittsburgh, USA
Frank Natterer	Westfalische Wilhelmus Universitaet, Munster
Eiichi Tanaka	Hamamatsu Photonics, Japan
David Townsend	University of Pittsburgh, USA
Ben Tsui	University of North Carolina, USA

PROVISIONAL SPONSORSHIP

The meeting is supported by:

ADAC Laboratories
CTI Positron Emission Tomography
Hamamatsu Photonics
Van Mullekom Nuclear Fields
Philips Medical Systems

ACTIVITIES

An informal get together on the beach will take place on Tuesday evening, June 22. Other social activities will be organized according to interests of the participants, possibly including a

group visit to Amsterdam.

FURTHER INFORMATION

To put yourself on our mailing list, or to get further information,
visit our Web site at http://www.isi.uu.nl/fully3D/ or send email
to fully3d@isi.uu.nl . We will keep you informed by email and by mail
if you include your mailing address.

From: Pierre Moulin <moulin@ifp.uiuc.edu>
Subject: Workshop on Detection, Estimation, Classification, and Imaging
Date: Wed, 20 May 1998

1999 IEEE Information Theory Workshop on Detection, Estimation, Classification and Imaging (DECI)

February 24---26, 1999, Santa Fe, New Mexico (USA)

FIRST CALL FOR PAPERS

Detection and estimation theory have historically been closely linked to Information Theory. Analysis of communication systems relies heavily on and contributes to advances in detection and estimation theory. Considerable theoretical and practical advances in this area have been made possible by the fostering of ideas from Statistics and Information Theory. This workshop will complement those activities by seeking contributions from researchers in signal processing, image processing, image understanding, pattern recognition, and communication theory, whose work is heavily influenced by information theoretic considerations. While novel applications will play important roles, new theoretical results are expected to dominate.

The workshop will feature three plenary speakers: Andrew Barron (Yale), H. Vincent Poor (Princeton), and Michael I. Miller (Washington University). Invited talks and contributed talks will be presented in the following areas:

Detection Theory
Estimation Theory
Classification
Statistical Imaging
Regularization for inverse problems
Random Processes
Inference based on compressed data
Signal Processing Applications of IT

Of particular interest are papers dealing with nonparametric and robust methods, methods for non-euclidean spaces, alternating maximization methods, high-dimensional inverse problems, and dimensionality reduction. Authors interested in submitting a contribution should mail four copies of a 2-3 page summary to Prof. J. O'Sullivan (address below) by October 9, 1998. Papers will be presented either as 20-minute talks or as posters. One-page abstracts of all papers will appear in the proceedings of the workshop and will be posted to the workshop web site prior to the workshop.

The workshop will be held in historic Hotel Loretto, in the heart of Santa Fe. Santa Fe possesses a rich Spanish and Native American culture and is located in the vicinity of excellent ski resorts. It is expected that a small number of student travel grants to the workshop will be available. Detailed information will be included in the final call for papers and will be posted to the workshop web site:

http://www.ifp.uiuc.edu/itw-deci

Inquiries about the workshop should be directed to one of the three co-chairs:

Prof. Alfred O. Hero III
EECS Department
U. of Michigan
1301 Beal Avenue
Ann Arbor, MI 48109
hero@eecs.umich.edu

Prof. Pierre Moulin
ECE Department
U. of Illinois
Beckman Institute
405 N. Mathews Ave.
Urbana, IL 61801
moulin@ifp.uiuc.edu

Prof. J. A. O'Sullivan
EE Department
Washington University
Campus Box 1127
St. Louis, MO 63130
jao@ee.wustl.edu

From: Valia Guerra <valia@escher.fciencias.unam.mx>
Subject: CIMAF'99 Conference in Cuba
Date: Thu, 23 Apr 1998

INTERNATIONAL CONFERENCE SCIENCE AND TECHNOLOGY FOR DEVELOPMENT

CIMAF'99

March 22 - 26, 1999, C. Habana, CUBA

Dear Colleague,

The Institute of Cybernetics, Mathematics, and Physics (ICIMAF) is pleased to announce the International Conference CIMAF'99 under the theme 'Science and Technology for Development". The Conference is aimed at fostering a fruitful, long-lasting exchange of ideas and knowledge on current problems of crucial importance for the development of our countries. We will be grateful if you let us know as soon as possible your interest in participating, by completing and returning the enclosed registration form. We kindly request you to resend this event among your colleagues. CIMAF '99 will focus both on the promotion of scientific discussion, research work and applications of great interest to the countries of the area, and the strengthening of cooperation ties among participants.

The conference will feature the following events :

5th Mathematics Symposium.
1st Workshop on Combinatory, Geometry, Coding Theory and Related Areas.
1st Workshop on Numerical Analysis.
9th Cuba -Mexico Statistic Meeting.
4th Ibero - American Pattern Recognition Workshop.
2nd Workshop on Quantum Mechanics, Fields and Particles.
3rd Ultrasonic Symposium.
2nd Artificial Intelligence Symposium.
2nd Automatic Control Symposium.
2nd Telematics Symposium.
2nd Meeting on current trends in research and development management.

We look forward to counting on your participation, as it will certainly enhance discussions at the conference. We cordially invite you to visit our capital city and experience the warm hospitality of the Cuban people.

Sincerely yours,

Dr. Raimundo Franco Parellada

CALL FOR PAPERS
Papers and abstracts may be submitted as printed material or on 3.5" diskettes. Abstracts, not exceeding 300 words. Abstracts and papers received after January 15, 1999 will not be taken into account for the selection.

The abstracts should be written on a 8.5x 11.5" page format, in English or Spanish, and edited on Word or Scientifc Word. Some of the events will publish extended abstracts in specialized journals. Posters (0,82m wide and up to 1.20 high) may also be presented.

WORKING LANGUAGES
English and Spanish

REGISTRATION FEES
Delegates
US $250.00

With a view to facilitating the participation of specialists, the Organizing Committee will provide promotional registration fees through the International Conference Center's representative travel agencies listed in this brochure. Their services include visa granting procedures, accommodation, air and ground transportation, reception and submission of scientific documentation, and provision of further information on the event.

The promotional registration fees provided by the International Conference Center's representative travel agencies are the following :

Delegates
US $200.00

Delegate's fee includes name badge, admission to scientific and social activities of the event, abstracts book and scientific program, and attendance and/or author certificate.

SOCIAL PROGRAM
The organizing committee is preparing and interesting social program for delegates and accompanying persons.

For Further information, please Contact :

Organizer Committee
Mrs. Carmen Seara Alvarez
Calle 15 No. 551 e/ C y D Codigo Postal 10400. La Habana Cuba
Tlx.512230 icimaf cu
Fax(537) 33 33 73
Tel.(537) 33 33 73, 32 77 64 and 32 26 88
E-mail cimaf@cidet.icmf.inf.cu

From: Pierre Moulin <moulin@ifp.uiuc.edu>
Subject: postdoc position at U. of Illinois
Date: Sat, 9 May 1998

POSTDOCTORAL POSITION
IN STATISTICAL SIGNAL AND IMAGE PROCESSING AND IMAGING SCIENCE

A postdoctoral position in statistical signal and image processing and imaging science is available at the Coordinated Science Laboratory of the University of Illinois at Urbana-Champaign. The project aims at developing novel concepts in imaging with emphasis on modeling of image sources and imaging systems. It will involve a synthesis of nonlinear inverse problem theory with statistical inference techniques. A strong background in detection/estimation and random processes is a must. Desirable background includes statistical pattern recognition, information theory, optimization, imaging systems, image processing, inverse problem theory, wavelets, and computational algorithms. A background in electromagnetic waves, scattering, and propagation is an advantage.

Prospective candidates should send CV and names and emails of three references to Ms. Nancy Carr, n-carr@uiuc.edu

Yoram Bresler
http://what.csl.uiuc.edu/~yoram

Pierre Moulin
http://www.ifp.uiuc.edu/~moulin

Coordinated Science Laboratory
University of Illinois at Urbana-Champaign

From: tschoban@siam.org
Subject: Contents, SIAM Journal on Numerical Analysis
Date: Mon, 04 May 98

SIAM Journal on Numerical Analysis June 1998 Volume 35, Number 3
Table of Contents

Submitted by: Beth Schad, Production Editor

From: wunderlich@siam.org
Subject: Contents, SIAM Review
Date: Wed, 06 May 98

SIAM Review June 1998 Volume 40, Number 2,

Table of Contents

Samuel R. Buss

Modern Spectrum Analysis of Time Series (Prabhakar S. Naidu), Collin C. Carbno

Theory of Integro-differential Equations (V. Lakshmikantham and M. Rama Mohana Rao), J. M. Cushing

Mathematical Topics in Fluid Mechanics. Vol. 1. Incompressible Models (Pierre-Louis Lions), Reinhard Farwig

Geometric Applicatiaons of Fourier Series and Spherical Harmonics (H. Groemer), William J. Firey

A First Course on Wavelets (Eugenio Hernandez and Guido Weiss), Richard F. Gundy

Primal-Dual Interior-Point Methods (Stephen J. Wright), Anthony J. Kearsley

Partial Differential Equations I: Basic Theory (Michael E. Taylor), Partial Differential Equations II: Qualitative Studies of Linear Equations (Michael E. Taylor), Partial Differential Equations III: Nonlinear Equations (Michael E. Taylor), Peter D. Lax

Matrix Analysis (Rajendra Bathia), Charles R. Johnson

An Introduction to High-Performance Scientific Computing (Lloyd D. Fosdick, Elizabeth R. Jessup, Carolyn J. C. Schauble, and Gitta Domik), Robert Manning

Mathematical Methods in Electromagnetism (Michel Cessenat), Peter Monk

Mathematical Algorithms in Visual Basic for Scientists and Engineers (Namir C. Shammas), John C. Nash

Aspects of Statistical Inference (A. H. Welsh), Guohua Pan

Elliptic Boundary Value Problems in the Spaces of Distributions (Yakov Roitberg), Martin Schechter

Handbook of Analysis and Its Foundations (Eric Schechter), Jet Wimp

Elliptic Marching Methods and Domain Decomposition (Patrick J. Roache), Zhimin Zhang

Selected Collections
Later Editions
Chronicle

Submitted by: Deidre Wunderlich, Production Editor SIAM Review

---

From: Secretary Support - Magrijn <magrijn.secsup@tip.nl>
Subject: Journal MCSS
Date: Wed, 13 May 1998

Mathematics of Control, Signals, and Systems 1998 Volume 11, No. 1
Table of Contents

Asymptotic stability for time-variant systems and observability: uniform and nonuniform criteria D. Aeyels, R. Sepulchre and J. Peuteman

Weighted H^2 approximation of transfer functions
J. Leblond and M. Olivi

A formal theory of matrix primeness J. Wood, E. Rogers and D.H. Owens

New converse Lyapunov theorems and related results on exponential stability M. Corless and L. Glielmo

INFORMATION
Information on MCSS including tables of contents is
available at its home pages:
http://www.cwi.nl/~schuppen/mcss/mcss.html
http://www.math.rutgers.edu/~sontag/mcss.html

Address for submissions:
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)

Submitted by:
Corry Magrijn (Secretary) for Jan H. van Schuppen (Co-Editor)

From: demoura@pegasus.pgcc.uff.br (Carlos A. de Moura)
Subject: Comp. Appl. Math. Vol. 17, No. 1 ('98) contents
Date: Mon, 18 May 1998

Computational & Applied Mathematics 1998 Vol. 17, No. 1
Table of Contents

Foreword
J. Douglas, Jr. and C. A. de Moura

Existence of resonances in metric scattering
Antonio Sa Barreto and Siu-Hung Tang

A multiple-porosity model for a single-phase flow through naturally-fractured porous media
J. Douglas, Jr., M. Kischinhevsky, P. J. Paes Leme, and A. M. Spagnuolo

Bounds on profiles of inhomogeneous fluids
H. L. Frisch, B. J. Laurenzi, and J. K. Percus

A stochastic analysis of the scale up problem for flow in porous media
J. Glimm, H. Kim, D. Sharp, and T. Wallstrom

Hysteresis in two-phase flow: a simple mathematical model
H. B. Medeiros, D. Marchesin, and P. J. Paes Leme

Different models of parallel asynchronous iterations with overlapping blocks Daniel B. Szyld

Ed. by Birkhauser-Boston and SBMAC

------- end -------

IPNet Digest Volume 5, Number 06 June 29, 1998

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

Today's Topics:

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: BERTERO@ge.infn.it
Subject: International Conference on Inverse Problems
Date: Thu, 11 Jun 1998

CONFERENCE ANNOUNCEMENT

Convegno Internazionale sui Problemi Inversi
International Conference on Inverse Problems
28 September- 2 October 1998
Vietri sul Mare (Sa) , Italy

Sponsored by Comitato Nazionale Scienze Matematiche and Gruppo Nazionale Informatica Matematica, Consiglio Nazionale delle Ricerche (CNR).

Site of the conference: IASS (International Institute for Advanced Studies), Vietri sul mare, Salerno, Italy.

The aim of the conference is to bring together mathematicians, physicists and engineers with interest in various fields of the theory and applications of Inverse Problems; to promote an exchange of ideas and methods and provide an overview of the state of the art as well as of the most recent results.

Topics will include inverse scattering, tomography and medical imaging, image restoration, regularization theory of linear and nonlinear ill-posed problems, numerical analysis of inverse problems and inversion algorithms, including software and implementation aspects, applications to physics and engineering.

The conference is structured in a number of invited lectures and in a poster session devoted to contributions from young mathematicians and researchers.

Conference Chair:

* M. Bertero, Universita' di Genova, Italy

Organizing committee:

* M.Bertero, Universita' di Genova , Italy (bertero@disi.unige.it)
* I. De Feis, Istituto per le Applicazioni della Matematica, CNR, Napoli, Italy
* A. Murli, Universita' di Napoli "Federico II", Italy
* R. Pierri, Universita' di Napoli II, Italy
* S. Seatzu, Universita' di Cagliari, Italy
* G. Talenti , Universita' di Firenze, Italy

Scientific committe:

* M.Bertero , Universita' di Genova , Italy
* D. Colton, University of Delaware, Newark, USA
* C. De Mol, Universite' Libre de Bruxelles, Belgium
* H.W. Engl, Universitaet Linz, Austria
* F.A. Grunbaum, University of California, Berkeley, USA
* A.K. Louis, Universitaet des Saarlandes, Saarbrucken, Germany
* F. Natterer, Universitaet Muenster, Germany
* E.R. Pike, King's College , London, UK
* P.C. Sabatier, Universite' de Montpellier II, France
* S. Seatzu , Universita' di Cagliari, Italy
* G. Talenti, Universita' di Firenze, Italy

Invited speakers

* G. Alessandrini, Universita' di Trieste, Italy
* F. Bardati, Universita' di Roma 2, Italy
* J.C. Brown, University of Glasgow, UK
* S. Caorsi, Universita' di Genova, Italy
* K. Chadan, Universite' d'Orsay, France
* G. Chavent, Universite' Paris-Dauphine, France
* J. Christou, Arizona University, USA
* D. Colton, University of Delaware, Newark, USA
* C. De Mol, Universite' Libre de Bruxelles, Belgium
* H. Engl, Johannes-Kepler Universitaet ,Linz, Austria
* A. R. Formiconi, Universita' di Firenze, Italy
* M. Grasselli, Politecnico di Milano ,Italy
* A. Grunbaum, University of California,Berkeley , USA
* A. Kirsch, Universitaet Karlsruhe, Germany
* R. Kress, Universitaet Goettingen, Germany
* K. Langenberg, Universitaet Kassel, Germany
* D. Lesselier, SUPELEC Gif-sur Yvette, France
* A. Lorenzi, Universita' di Milano, Italy
* A.K. Louis, Universitaet des Saarlandes , Saarbrucken, Germany
* P. Maass, Universitaet Potsdam, Germany
* A. Nachman, University of Rocherster, USA
* Z. Nashed , University of Delaware, Newark, USA
* F. Natterer, Universitaet Muenster, Germany
* L. Paivarinta, University of Oulu, Finland
* M.K. Pidcock, Oxford Brookes University , Oxford, UK
* R. Pierri, Universita' di Napoli 2, Italy
* E.R. Pike, King's College, London, UK
* R. J. Plemmons, Wake Forest University , Wiston-Salem, USA
* W. Rundell , Texas A&M University, College Station, USA
* P.C. Sabatier, Universite' de Montpellier II, France
* C. van der Mee, Universita' di Cagliari, Italy
* J. Zou, The Chinese University of Hong Kong, Hong Kong

Prof. R.E. Kleinman was invited to contribute to this conference and he enthousiastically accepted. His sudden death on February 23, 1998 is a heavy loss for the scintific community.

More information about conference:

http://www.disi.unige.it/person/BerteroM

Mario Bertero
Dipartimento di Informatica e
Scienze dell' Informazione
Universita' di Genova
Via Dodecaneso 35
I-16146 Genova, Italy

phone : +39-10-3536733
fax : +39-10-313358
fax : +39-10-311066
E-mail: bertero@disi.unige.it
bertero@ge.infn.it
URL : http://www.disi.unige.it

From: "Jennifer Mueller" <muellj2@rpi.edu>
Subject: Int'l. Workshop on Nonlinear & Improperly Posed Problems
Date: Thu, 11 Jun 1998

The deadline has been extended to June 30, 1998 for abstracts and registration for the

International Workshop on Nonlinear and Improperly Posed Problems
August 15-13, 1998
International Hotel Sapanaca
Kocaeli - Turkey

For details please see the website
http://web.turnet.net.tr/~kcluniv2/workshop

From: flores@siam.org
Subject: Sixth SIAM Conference on Optimization
Date: Fri, 05 Jun 98

Announcing...
Sixth SIAM Conference on Optimization
May 10-12, 1999
Radisson Atlanta Hotel
Atlanta, Georgia

Sponsored by SIAM Activity Group on Optimization

Submissions for minisymposium proposals and contributed abstracts are
welcome. For additional information about the conference, visit
www.siam.org/meetings/op99/.

From: flores@siam.org
Subject: Fifth SIAM Conference on Applications of Dynamical Systems
Date: Mon, 22 Jun 98

Fifth SIAM Conference on Applications of Dynamical Systems
May 24-28, 1999
Snowbird Ski and Summer Resort
Snowbird, Utah

SIAM and the Organizing Committee for the Fifth SIAM Conference on Applications of Dynamical Systems are pleased to announce that the conference Call for Papers is now available on the Web. To know more about the meeting themes, invited plenary speakers, minisymposia, deadlines for submission of minisymposium proposals and contributed abstracts, please visit

www.siam.org/meetings/ds99/

Thank you.

Trini Flores
flores@siam.org
meetings@siam.org

From: "Roger Haagmans" <haagmans@geo.tudelft.nl>
Subject: School on Wavelets in the Geosciences
Date: Mon, 8 Jun 1998

SCHOOL ON WAVELETS
IN THE GEOSCIENCES

Supported by:
International Association of Geodesy
Netherlands Geodetic Commission
Sub-Faculty of Geodetic Engineering DUT
Delft Institute for Earth-Oriented Space Research

FINAL ANNOUNCEMENT and REGISTRATION
October, 4 - 9, 1998
At the Delft Institute for Earth-Oriented Space Research
Faculty of Civil Engineering and Geosciences
Delft University of Technology
Thijsseweg 11
Delft, The Netherlands

Latest information This text contain the latest information on the School on Wavelets in the Geosciences. The final team of lecturers consists of Willi Freeden, Matthias Holschneider and Wim Sweldens. More detailed information on the contents of the lectures as provided by the lecturers is available and registration information is extended. The first registrations show an interesting diversity in scientific disciplines among the participants: so don't hesitate to register but beware of the registration deadlines and the limited number of places.

Objectives of the school

The basic objective of the School is provide the necessary information to understand the potential and limitations of the application of wavelets in the geosciences. This includes:

* the mathematical representation in one and more dimensions like on the sphere
* the properties as compared to Fourier techniques
* the signal representation and analysis ability
* the use of operators in terms of wavelets
* gaining experiences with wavelets using examples from geosciences in computer exercises

Program

The course will last for six days and contains three major subjects. Every subject will be covered in two days time. All topics will be supported by practical exercises on the computer with examples from geodynamics, topography representation, gravity field modelling etc. The lectures and subjects are:

1. Dr.Matthias Holschneider, Laboratoire de G=E9omagn=E9tisme, Institut de Physique du Globe de Paris, France;
   One dimensional wavelets. The link with Fourier theory is a starting point to introduce continuous wavelets, discrete wavelets on intervals, multiresolution, analysis and synthesis using wavelets, operators, compression and filtering with wavelets.
2. Dr. Wim Sweldens, Mathematical Sciences Research Centre, Lucent Technologies Bell Laboratories, Murray Hill, NJ, USA;
   Tensor product wavelets, 2nd generation wavelets. Special emphasis will be put on the choice of wavelets in multidimensions. Multiresolution analysis for arbitrary surfaces, efficient data representation as well as efficient procedures for evaluation of integrals or solving integral equations will be elaborated in more detail.
3. Prof. Dr. Willi Freeden, Geomathematics Group. Department of Mathematics, University of Kaiserslautern, Germany;
   Wavelets on closed surfaces. The link with Fourier theory on the sphere (spherical harmonics) is a starting point to introduce continuous wavelets, discrete wavelets, multiresolution, analysis and synthesis using wavelets, operators, compression and regularisation with wavelets. This will be generalised to closed surfaces.

Who could attend

The school aims to provide Ph.D. students, researchers and staff members with an overview on wavelet methods and its applications in geosciences at a post graduate level (master). The participants should have a University level education with an adequate mathematical foundation. Basic knowledge on potential theory, functional analysis, numerical analysis or systems and signals is recommended. The minimal number of attendants is 20 the maximum 40. The registration deadline is July 1st 1998; the fee Dfl. 450,-; After this deadline it is still possible to register and pay until August 15th, however, the registration fee will be increased to dfl. 650,- !

Organisation

Scientific Committee

* Prof. Dr. Willi Freeden, Geomathematics Group, Department of Mathematics, University of Kaiserslautern, Germany.
* Prof. Dr. Roland Klees, Delft Institute for Earth-Oriented Space Research (DEOS), Faculty of Civil Engineering and Geosciences, Delft University of Technology, The Netherlands.

More detailed information can be obtained from:

WWW: http://www.geo.tudelft.nl/fmr/waveletschool.html

or by e-mail:

wavelet.school@geo.tudelft.nl

or:

Secretariat IAG School on Wavelets in the Geosciences
c/o Wil Coops-Luijten
DEOS, Faculty of Civil Engineering and Geosciences,

Delft University of Technology
Thijsseweg 11, NL-2629 JA Delft, The Netherlands
Telephone: +31 15 2783289
Fax: +31 15 2783711

Roger Haagmans
Delft Institute for Earth-Oriented Space Research (DEOS)
Faculty of Civil Engineering and Geosciences
Delft University of Technology
E-mail: r.h.n.haagmans@geo.tudelft.nl
Phone: (31) 15 2785234 Fax: (31) 15 2783711
WWW: http://www.geo.tudelft.nl/~fmr

[This item has been edited for length. Please contact the above addresses for more information. -Ed.]

From: BERTERO@ge.infn.it
Subject: New book: Introduction to Inverse Problems in Imaging
Date: Wed, 10 Jun 1998

The following book has just appeared:

M Bertero, P Boccacci, University of Genova, Italy:
Introduction to Inverse Problems in Imaging
IOP Publishing, Bristol and Philadelphia.

ISBN: 0 7503 0439 1 (hardcover),0 7503 0435 9 (paperback)
Hardcover Price: 75.00 pounds/US$149.00
Paperback Price: 25.00 pounds/US$49.00
Pages: 351

This is a graduate textbook on the principles of linear inverse problems, methods of their approximate solution and practical application in imaging. The level of mathematical treatment is kept as low as possible to make the book suitable for a wide range of readers from different backgrounds in science and engineering. Mathematical prerequisites are first courses in analysis, geometry, linear algebra, probability theory and Fourier analysis. The authors concentrate on presenting easily implementable and fast solution algorithms. The book will provide the reader with the appropriate background for a clear understanding of the essence of inverse problems (ill-posedness and its cure) and, consequently, for an intelligent assessment of the rapidly growing literature on these problems.

More information:
http://www.iop.org/Books/Catalogue/050/__2/0750304391

Mario Bertero phone : +39-10-3536733
Dipartimento di Informatica e fax : +39-10-313358
Scienze dell' Informazione fax : +39-10-311066
Universita' di Genova E-mail: bertero@disi.unige.it
Via Dodecaneso 35 bertero@ge.infn.it
I-16146 Genova, Italy URL : http://www.disi.unige.it

From: "Prof. Alexander G.Ramm" <ramm@math.ksu.edu>
Subject: New books
Date: Tue, 26 May 1998

The following books edited by A.G.RAMM:

1. Spectral and scattering theory, Plenum Publishers, New York, 1998 (editor A.G.Ramm). isbn 0-306-45829-2

2. Inverse problems, tomography and image processing, Plenum Publishers, New York, 1998 (editor A.G.Ramm). isbn 0-306-45828-4

have appeared. They contain papers on inverse problems presented at the First ISAAC congress (June 1997). These papers treat a broad range of inverse problems.

Sincerely yours,
Alexander Ramm

From: Janet Thomas <janet.thomas@ioppublishing.co.uk>
Subject: Contents list for Inverse Problems vol 14, no 3
Date: Tue, 26 May 1998

Inverse Problems June 1998 Volume 14, Issue 3
Table of Contents

SPECIAL SECTION ON INVERSE PROBLEMS IN GEOPHYSICS: CLOSING THE GAP BETWEEN
THEORY AND PRACTICE

Guest Editors' introduction R Snieder, M Sambridge and F Sans\'o

Global seismic tomography: the inverse problem and beyond
J Trampert

The role of nonlinearity in inverse problems R Snieder

Resolution analysis of general inverse problems through inverse Monte Carlo sampling K Mosegaard

Exploring multidimensional landscapes without a map M Sambridge

The inverse problem for mantle viscosity W R Peltier

Inverse thermal history modelling as a hydrocarbon exploration tool
K Gallagher

The integrated inverse gravimetric--tomographic problem: a continuous approach R Barzaghi and F Sans\'o

PAPERS

Cross-borehole inverse scattering using a boundary finite-element method
S Bonnard, P Vincent and M Saillard

Structural identification of an unknown source term in a heat equation
J R Cannon and P DuChateau

Identification of conductivity imperfections of small diameter by boundary measurements. Continuous dependence and computational reconstruction D J Cedio-Fengya, S Moskow and M S Vogelius

The simple method for solving the electromagnetic inverse scattering problem: the case of TE polarized waves D Colton and M Piana

The general quadratic Radon transform
K Denecker, J Van Overloop and F Sommen

Tomographic reconstruction from arbitrary directions using ridge functions I G Kazantsev

On the Λ-operators associated with two Sturm--Liouville problems on the semi-axis E Kh Khristov

On the design of reflectors with prespecified distribution of virtual sources and intensities S A Kochengin, V I Oliker and O von Tempski

Uniqueness for a wave propagation inverse problem in a half-space
M Lassas, M Cheney and G Uhlmann

Reconstruction of a two-dimensional binary obstacle by controlled evolution of a level-set A Litman, D Lesselier and F Santosa

Three-dimensional inversion of eddy current data for non-destructive evaluation of steam generator tubes
V Monebhurrun, B Duch\^ene and D Lesselier

A uniqueness result for the recovery of the optical parameters of a dispersive and absorbing thin film K V Popov

On the relation between singularities of coefficients and singularities of reflected waves in the Lam\'e system J-N Wang

The fermionic approach to Darboux transformations
R Willox, T Tokihiro, I Loris and J Satsuma

Discrete Gel'fand--Levitan and Marchenko matrix equations and layer stripping algorithms for the discrete two-dimensional Schr\"odinger equation inverse scattering problem with a nonlocal potential
A E Yagle

ADDENDUM

Reconstructing the potential function and its derivatives using nodal data C K Law and C-F Yang

INVERSE PROBLEMS NEWSLETTER

Why not visit the Inverse Problems home page at
http://www.iop.org/Journals/ip?

Submitted by Janet Thomas, Production Editor
Institute of Physics Publishing
Dirac House, Temple Back,
Bristol BS1 6BE, UK
Tel: +44 (0)117 930 1081 Fax: +44 (0)117 929 4318
E-mail: janet.thomas@ioppublishing.co.uk
WWW: http://www.iop.org

From: Hans Schneider <hans@math.wisc.edu>

Subject: Contents of LAA Volume 277/1-3
Date: Sun, 7 Jun 1998

Linear Algebra and Its Applications June 1998 Volume 277/1-3

Table of Contents

On matrices satisfying a maximum principle with respect to a cone
MR Weber

Review of"Nonnegative Matrices and Applications" by R.B. Bapat and T.E.S. Raghavan S Kirkland

Submitted by Hans Schneider hans@math.wisc.edu.
------- end -------

IPNet Digest Volume 5, Number 07 July 31, 1998

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

Today's Topics:
SIAM Conference on Geometric Design, incl. Imaging Applications
Position: Industrial Mathematics Institute in Linz, Austria
Table of Contents: Inverse Problems
Table of Contents: Surveys on Mathematics for Industry
Table of Contents: SIAM Review
Table of Contents: Advances in Computational Mathematics
Table of Contents: Numerical Algorithms
Table of Contents: Linear Algebra and Its Applications

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: flores@siam.org
Subject: Sixth SIAM Conference on Geometric Design
Date: Thu, 09 Jul 98

Sixth SIAM Conference on Geometric Design
November 2-5, 1999
Sheraton Old Town Hotel
Albuquerque, New Mexico

The following is from the conference web page:
www.siam.org/meetings/gd99/

The application of geometry to current problems of design, manufacturing, and the representation of physical phenomena continues to grow.

The Sixth SIAM Conference on Geometric Design will address the most important recent advances in curve and surface design, geometrical algorithms, solid modelling, and applications in the traditional fields of automobile and aircraft manufacturing, and general product design. Contributions to more modern fields including scientific visualization, medical imaging, computer vision, robotics, and digital movie making will also be discussed.

The conference will bring together computer scientists, engineers, mathematicians, and researchers and scientists from academia, government, and industry, as well as anyone interested in applying computational and mathematical methods to problems of geometric design or in any of the many applications.

SIAM and the Organizing Committee for the Sixth SIAM Conference on Geometric Design are pleased to announce that the conference Call for Papers is now available on the Web. To know more about he conference themes, invited plenary speakers, minisymposia, and deadlines for submission of minisymposium proposals or contributed abstracts, please visit now --

www.siam.org/meetings/gd99/

Trini Flores
flores@siam.org
meetings@siam.org

From: "PROF.HEINZ W. ENGL" <engl@indmath.uni-linz.ac.at>
Subject: position announcement for digest
Date: Wed, 01 Jul 1998

Position Available at the Industrial Mathematics Institute at the University of Linz, Austria

There is open a position at the Industrial Mathematics Institute at the University of Linz, Austria. The position is funded by the EC as part of the TMR (Training and Mobility of Researchers) Project DEIC (Differential Equations in Industry and Commerce) for a duration of up to 3 years. This Research Fellowship is open to Nationals of a Member State or Associated State of the European Union (but not for Austrian Citizens) who have the equivalent degree in mathematical science and will be under the age of 35 at the time of appointment.

Salary is in local currency on the appropriate local scale.

The position in Linz is open to graduates (diploma or masters degree, doctorate preferred). The successful candidate is expected to spend much time collaborating directly with industry and with other centers, as well as pursuing his/her own research. In particular at our group in Linz we prefer a candidate who has basic knowledge on ``Inverse Problems'', and who is interested on research and interaction of inverse problems in industry and commerce.

For more information of the TMR-Network see
http://www.maths.ox.ac.uk/ociam/TMR/

For more information on the industrial mathematics institute see
http://www.indmath.uni-linz.ac.at/

Prof.Dr.Heinz W. Engl E-Mail: engl@indmath.uni-linz.ac.at
Institut fuer Industriemathematik secretary:nikolaus@indmath.uni-linz.ac.at
Johannes-Kepler-Universitaet Phone:+43-(0)732-2468...,ext.9219 or 693,
Altenbergerstrasse 69 secretary: ext.9220; as Dean: ext.3220
A-4040 Linz Fax:ext. 855, in Dean's affairs:ext.3225
Oesterreich / Austria home phone: +43-(0)732-245518
World Wide Web: http://www.indmath.uni-linz.ac.at/

From: "Janet Thomas" <janet.thomas@ioppublishing.co.uk>
Subject: Contents list for Inverse Problems
Date: Thu, 23 Jul 1998

Inverse Problems August 1998 Volume 14, Issue 4
Table of Contents

TOPICAL REVIEW

Synthetic aperture radar interferometry R Bamler and P Hartl

PAPERS

On the relation between the coefficients and solutions for a diffraction problem G Bao

Dynamical electric wire tomography: a time series approach
D Baroudi, J Kaipio and E Somersalo

A novel blind-deconvolution method with an application to seismology
M Bertero, D Bindi, P Boccacci, M Cattaneo, C Eva and V Lanza

An inverse problem from 2D ground-water modelling
G Bruckner, S Handrock-Meyer and H Langmach

On the numerical solution of an inverse boundary value problem for the heat equation R Chapko, R Kress and J-R Yoon

Unique continuation on a line for harmonic functions
J Cheng and M Yamamoto

Some remarks on the problem of source identification from boundary measurements A El Badia and T Ha Duong

An algorithm for quadratic optimization with one quadratic constraint and bounds on the variables G C Fehmers, L P J Kamp and F W Sluijter

Inverse obstacle transmission problem in acoustics
D N Ghosh Roy, J Warner, L S Couchman and J Shirron

The Landweber iteration applied to inverse conductive scattering problems F Hettlich

Reconstruction of obstacle from the scattering amplitude at a fixed frequency M Ikehata

Robust nonlinear inversion of wave-tilt data
E P Lopes, E P Lopes, J M Barreto and L M Barreto

A variational method for the resolution of a data assimilation problem in oceanography B Luong, J Blum and J Verron

Inversion of spherically symmetric potentials from boundary data for the wave equation Rakesh

EEG-distributed inverse solutions for a spherical head model
J J Riera, M E Fuentes, P A Vald\'es and Y Oh\'arriz

Signal restoration for a mass transport problem involving shear dispersion P R Shorten and D J N Wall

Regularization and trade-off associated with nonlinear geophysical inverse problems: penalty homotopies D W Vasco

Application of global optimization to particle identification using light scattering S Zakovic, Z Ulanowski and M C Bartholomew-Biggs

INVERSE PROBLEMS NEWSLETTER

Why not visit the Inverse Problems home page at

http://www.iop.org/Journals/ip?

Submitted by: Janet Thomas, Production Editor
Institute of Physics Publishing
Dirac House, Temple Back,
Bristol BS1 6BE, UK
Tel: +44 (0)117 930 1081 Fax: +44 (0)117 929 4318
E-mail: janet.thomas@ioppublishing.co.uk
WWW: http://www.iop.org

From: "PROF.HEINZ W. ENGL" <engl@indmath.uni-linz.ac.at>
Subject: submission for digest
Date: Wed, 01 Jul 1998

Surveys on Mathematics for Industry Volume 7, Number 4
Table of Contents

Heinz W. Engl, Linz, Austria
Editor-in-Chief

Prof.Dr.Heinz W. Engl E-Mail: engl@indmath.uni-linz.ac.at
Institut fuer Industriemathematik secretary:nikolaus@indmath.uni-linz.ac.at
Johannes-Kepler-Universitaet Phone:+43-(0)732-2468...,ext.9219 or 693,
Altenbergerstrasse 69 secretary: ext.9220; as Dean: ext.3220
A-4040 Linz Fax:ext. 855, in Dean's affairs:ext.3225
Oesterreich / Austria home phone: +43-(0)732-245518
World Wide Web: http://www.indmath.uni-linz.ac.at/

From: wunderlich@siam.org
Subject: Contents, SIAM Review
Date: Thu, 30 Jul 98

SIAM Review September 1998 Volume 40, Number 3
Table of Contents

(V. A. Kozlov, V. G. Maz'ya, and J. Rossmann), R. Bruce Kellogg

Information and Randomness: An Algorithmic Perspective (Christian Calude), Vladik Kreinovich

Mathematical Models in the Applied Sciences (A. C. Fowler), J. David Logan

Theory and Applications of Partial Functional Differential Equations (Jianhong Wu), C. V. Pao

Computational Differential Equations (Kenneth Eriksson, Don Estep, Peter Hansbo, and Claes Johnson), Todd E. Peterson

Discrete Hamiltonian Systems: Difference Equations, Continued Fractions, and Riccati Equations (Calvin D. Ahlbrandt and Allan C. Peterson), Leiba Rodman

Nonlinear Dynamics: A Two Way Trip from Physics to Math (Hernan G. Solari, Mario A. Natiello, and Gabriel B. Mindlin), Timothy Sauer

Handbook of Numerical Analysis. Volume V. Techniques of Scientific Computing. (Part 2) (P. G. Ciarlet and J. L. Lions), Zhimin Zhang

Selected Collections
Later Editions
Chronicle

Submitted by: Deidre Wunderlich, Production Editor SIAM Review

---

From: Baltzer Science <mailer@ns.baltzer.nl>
Subject: Advances in Computational Mathematics contents
Date: Thu, 2 Jul 1998

Advances in Computational Mathematics 1998 Volume 8, Number 4
Table of Contents

More information about contents, submission and preparation of papers can be found on

    http://www.baltzer.nl/adcom/

Please direct enquiries about subscription and other issues to

    subscribe@baltzer.nl

Sincerely,
Baltzer Science Publishers

From: Baltzer Science <mailer@ns.baltzer.nl>
Subject: Numerical Algorithms contents
Date: Thu, 2 Jul 1998

Numerical Algorithms 1998 Volume 17, Numbers 1,2
Table of Contents

Numerical Algorithms 1998 Volume 17, Numbers 3,4
Table of Contents

A Rayleigh--Ritz preconditioner for the iterative solution to large scale nonlinear problems Christian Rey and Franck Risler

Safe convergence of simultaneous methods for polynomial zeros
Miodrag S. Petkovic, Dorde Herceg and Snezana Ilic

Estimation of parameters in nonlinear problems
N. Mansouri and J.P Kernévez

A P-stable singly diagonally implicit Runge--Kutta--Nystrom method
G. Papageorgiou, I.Th. Famelis and Ch. Tsitouras

Erratum
Book reviews

More information about contents, submission and preparation of papers can be found on

http://www.baltzer.nl/numa/

Please direct enquiries about subscription and other issues to

subscribe@baltzer.nl

Sincerely,
Baltzer Science Publishers

From: Hans Schneider <hans@math.wisc.edu>
Subject: LAA vols 278 & 279 Contents
Date: Tue, 21 Jul 1998

Linear Algebra and Its Applications July 1998 Vol. 278, Nos. 1-3
Table of Contents

Convergence of certain bounded sequences B Lavric

Transformation techniques for Toeplitz and Toeplitz-plus-Hankel matrices II. Algorithms G Heinig

Unitary and euclidean representations of a quiver VV Sergeichuk

Schur complements obey Lambek's categorial grammar: another view of Gaussian elimination and LU decomposition DS Parker

Multiplicative semigroup automorphisms of upper triangular matrices over rings Chongguang Cao

Locally Toeplitz sequences: spectral properties and applications
P Tilli

Structured perturbations and symmetric matrices SM Rump

Extremal majorizing and anti-majorizing matrices J Kastner

What is a vector Hankel determinant A Salam

On Phi-convexity of convex functions JE Martinez-Legaz, I Singer

Linear Algebra and Its Applications August 1998 Vol. 279, Nos. 1-3

Table of Contents

Perturbation analysis of the canonical subspaces MUSHENG Wei

Null space structure of tree-patterned matrices P Nylen

Computation of pseudospectra via spectral projectors
SK Godunov, M Sadkane

The sign-real spectral radius and cycle products SM Rump

Invariant manifolds and projective combinations of solutions of the riccati differential equation D D'Alessandro

On linear subspaces of nilpotent elements in a Lie algebra R Meshulam

An interlacing property of eigenvalues of strictly totally positive matrices A Pinkus

Generalized exponents of non-primitive graphs JY Shao

Differential topology of numerical range EA Jonckheere

The algebraic structure of pencils and block Toeplitz matrices
DL Boley

A note on nonnegative normal matrices W Li

On the condition numbers of large semi-definite toeplitz matrices^1
A Bottcher

Properties of positive definite solutions of the equation
X + A^ X^-^2A = I^1 I Gantchev

Exponentials of symmetric matrices through tridiagonal reductions
YY Lu

NOTE: These contents are produced by Elsevier using a procedure which sometimes does not list all authors of a paper. We apologize to co-authors whose names are omitted from the contents.

Submitted by:
Hans Schneider hans@math.wisc.edu.
Department of Mathematics 608-262-1402 (Work)
Van Vleck Hall 608-271-7252 (Home)
480 Lincoln Drive 608-263-8891 (Work FAX)
University of Wisconsin-Madison 608-271-8477 (Home FAX)
Madison WI 53706 USA http://math.wisc.edu/~hans (URL)
------- end -------

IPNet Digest Volume 5, Number 08 August 31, 1998

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

Today's Topics:
One-Day Workshop on Inverse Problems at Loughborough University
New Book on Numerical Analysis
Table of Contents: Linear Algebra and Its Applications

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: Dr Bill Lionheart <wrblionheart@brookes.ac.uk>
Subject: British 1-day workshop on inverse problems
Date: Thu, 13 Aug 1998

British 1-day workshop on inverse problems

Loughborough University October 1998

Our next Inverse Problems wokshop will take place on October 26 (Monday) in Loughborough.

The tentative programme of the workshop:

1. 11:40-12:30 R.W. Smith (Loughborough) "Adjusting discharge rates to achieve environmental standarts"

12:30 -14:00 Lunch (and informal discussions)

14:00-14:50 S. Chanler-Wilde (Brunel) "Inverse scattering by rough surfaces"

14:50-15:10. Coffee breal interrupted by further discussions.

15:10-16:00. Y.Kurylev (Loughborough) "Inverse boundary problem for a non self-adjoint elliptic operator"

Starting from this meeting (thanks to a grant from the LMS) we are able to cover (modest) travel expenses for the research students who are particularly welcome.

Please contach Dr. Keath Peat (K.S.Peat@lboro.ac.uk) or me (Y.V.Kurylev@lboro.ac.uk) in case you need a map to get to Loughborough (by car) or to meet you at the railway station.
Yaroslav Kurylev

Dr W.R.B. Lionheart, School of Computing and Mathematical Sciences, Oxford Brookes University, Gipsy Lane Campus, Oxford OX3 0BP, UK

British Workshops on Inverse Problems:
http://www.brookes.ac.uk/~p0054865/ukipws/ukipws.html
Electrical Impedance Tomography

http://www.brookes.ac.uk/~p0054865/research/intro.html

From: kress@math.uni-goettingen.de
Subject: New Book: Numerical Analysis
Date: Wed, 19 Aug 98

The following book has appeared a couple of months ago:

R. Kress, Numerical Analysis
Graduate Texts in Mathematics Vol. 181
Springer-Verlag, New York, 1998
ISBN 0-387-98408-9
Hardcover $39.95

Contents: Introduction.- Linear Systems.- Basic Functional Analysis.
- Iterative Methods for Linear Systems.-Ill-Conditioned Linear Systems.
- Iterative Methods for Nonlinear Systems.- Matrix Eigenvalue Problems.
- Interpolation.- Numerical Integration.- Initial Value Problems.
- Boundary Value Problems.- Integral Equations.

This volume is intended as an introduction into numerical analysis for students in mathematics, physics, and engineering. Instead of attempting to exhaustively cover all parts of numerical analysis, the goal is to guide the reader towards the basic ideas and general principles by way of considering main and important numerical algorithms. Given the rapid development of numerical methods, a reasonable introduction to numerical analysis has to confine itself to presenting a solid foundation by restricting the presentation to the basic principles and procedures.

The book includes the necessary functional analytic framework for the solid mathematical foundation of numerical analysis, in particular for the understanding of approximation methods for differential equations and integral equations. Particular emphasis will be given to the question of stability--especially to well-posedness and ill-posedness. The text is presented in a concise and easily understandable fashion and can be successfully mastered in a one year course.

From: Hans Schneider <hans@math.wisc.edu>
Subject: LAA Contents
Date: Fri, 21 Aug 1998

Linear Algebra and Its Applications August 1998 Volume 280
Table of Contents

Linear Algebra and Its Applications September 1998 Volume 281

Table of Contents

When to call a linear system nonnegative JW Nieuwenhuis

Numerical ranges and Poncelet curves B Mirman

On Nekrasov matrices W Li

Approximating the inverse of a symmetric positive definite matrix
G Simons

Simultaneous reduction to triangular forms after extension within zeroes
H Bart

On several types of resolvent matrices of non-degenerative marcial caratheodory problems B Fritzsche, B Kirstein

Overlapping block-balanced canonical forms for various classes of linear systems B Hanzon

Real hamiltonian logarithm of a symplectic matrix L Dieci

On the solution of the extended linear complementarity problem
R Andreani, JM Martinez

An upper bound for the permanent of a nonnegative matrix
SG Hwang, TS Michael

Optimal trigonometric preconditioners for(nonsymmetric toeplitz systems)
D Potts, G Steidl

Solving interval linear systems with linear programming techniques.
O Beaumont

Bounds for determinants of matrices associated with classes of arithmetical functions HONG Shaofang

Submitted by:
Hans Schneider hans@math.wisc.edu.
Department of Mathematics 608-262-1402 (Work)
Van Vleck Hall 608-271-7252 (Home)
480 Lincoln Drive 608-263-8891 (Work FAX)
University of Wisconsin-Madison 608-271-8477 (Home FAX)
Madison WI 53706 USA http://math.wisc.edu/~hans (URL)
------- end -------

IPNet Digest Volume 5, Number 09 September 30, 1998

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

Today's Topics:
New Edition: Regularization of Inverse Problems
Conference: 3rd International Conference on Inverse Problems
Session: Computational Math. Driven by Industrial Applications
Conference: 8th International Linear Algebra Society Conference
Position: University of Maryland Baltimore County
Table of Contents: Advances in Computational Mathematics
Table of Contents: Linear Algebra and Its Applications
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: "PROF.HEINZ W. ENGL" <engl@indmath.uni-linz.ac.at>
Subject: New edition of Regularization of Inverse Problems
Date: Tue, 15 Sep 1998

A new edition (essentially unchanged, some typos corrected) of the book

H.W.Engl, M.Hanke, A.Neubauer
Regularization of Inverse Problems
Kluwer, Dordrecht 1996,

which had been sold out, has appeared, so that the book is now
available again.

Heinz Engl, Linz, Austria

Prof.Dr.Heinz W. Engl E-Mail: engl@indmath.uni-linz.ac.at
Institut fuer Industriemathematik secretary:nikolaus@indmath.uni-linz.ac.at
Johannes-Kepler-Universitaet Phone:+43-(0)732-2468...,ext.9219 or 693,
Altenbergerstrasse 69 secretary: ext.9220; as Dean: ext.3220
A-4040 Linz Fax:ext. 855, in Dean's affairs:ext.3225
Oesterreich / Austria home phone: +43-(0)732-245518
World Wide Web: http://www.indmath.uni-linz.ac.at/

From: kwoodbur@me.ua.edu (Keith A Woodbury)
Subject: 3icipe reminder
Date: Fri, 25 Sep 1998

Reminder:

3rd International Conference on Inverse Problems
in Engineering (3icipe). This conference will
be held June 13-18, 1999 at Port Ludlow, WA (near

Seattle).

The abstracts are still coming in and the Organizing Committee has agreed to accept them until October 1. We have received about 60 abstracts already, and I urge you to submit an abstract if you have an interest in participating in this conference.

Information about the conference in general can be found at the Engineering Foundation web site http://www.engfnd.org/9am.html

You can also see some information, including the abstract titles submitted to date, at my web site for the conference http://www.me.ua.edu/3icipe

If you have any questions, please let me know.

Keith Woodbury
Chairman, 3icipe
woodbury@me.ua.edu

From: "PROF.HEINZ W. ENGL" <engl@indmath.uni-linz.ac.at>
Subject: Preliminary Announcement of a CIME Session
Date: Mon, 14 Sep 1998

Preliminary Announcement of a CIME Session

"Computational Mathematics Driven by Industrial Applications"

Scientific Directors:

V.Capasso, Milano
H.W.Engl, Linz
J.Periaux, Paris

Location: Martina Franca, Apulia, Italy
Dates: June 21-27, 1999

There will be 5-hour lectures by the following eminent speakers:

R.Burkard, Graz: Path, trees and flows: graph optimization problems with industrial applications

P.Deuflhard, Berlin: New computational concepts, adaptive differential equation solvers, and virtual labs

J.L.Lions, Paris: Mathematical problems in industry

G.Strang, MIT: Wavelet transforms and cosine transforms in signal and image processing

There will probably be one more 5-hour-speaker still to be confirmed.

In addition, there will be 2-hour lectures by the scientific directors and by

R.Mattheij, Eindhoven: Mathematics of glass.

The abstracts should soon be available on the CIME web page

http://www.math.unifi.it/CIME/

where also an e-mail address for enquiries about conditions of attendance can be found.

Heinz W.Engl,
Linz,Austria

From: Richard Brualdi <brualdi@math.wisc.edu>
Subject: 8th ILAS CONFERENCE
Date: Mon, 21 Sep 1998

8th ILAS CONFERENCE

FIRST ANNOUNCEMENT

The International Linear Algebra Society (ILAS) is pleased to invite you to attend the 8th Conference which will be held in Barcelona from July 19 to 22, 1999. The subject of the Conference is Linear Algebra in a broad sense, including applications.

The Organizing Committee consists of:
R. Bru, R. Brualdi, L. de Alba, M.\,I. Garc=A1a-Planas (co-chair), J.\,M. Gracia, V. Hernandez, N. Higham, R. Horn, T. Laffey (co-chair), G. de Oliveira, F. Puerta (chair), P. van Dooren.

At present, the following speakers have agreed to participate:

Z. Bai	J. Ferrer	D. Hinrichsen
V. Kaashoek	S. Kirkland	Chi-Kwong Li
N. Mackey	E. Marques de S	K. Murota
V. Ptak	F. Silva Leite	A. Urbano
I. Zaballa		

The program will include 50 and 30 minutes invited talks and several minisymposia about different topics, as well as opportunities for contributed talks and posters.

Conference Proceedings will be published in a special issue of Linear Algebra and its Applications. The editors are: Nick Higham, Roger Horn, Tom Laffey, and Ferran Puerta.

A second announcement will contain further information about the program, registration procedures and instructions for submissions.

From: "THOMAS I. SEIDMAN" <SEIDMAN@UMBC2.UMBC.EDU>
Subject: Faculty Position Available at UMBC
Date: Sat, 26 Sep 1998

Faculty Position at University of Maryland Baltimore County

The Department of Mathematics and Statistics at the University of Maryland Baltimore County (UMBC) has a faculty position in applied mathematics beginning Fall 1999. The position is anticipated to be at

the tenure-track assistant professor level. The candidate should have an earned doctorate in mathematics or a related field and be able to interact with one or more of the department's existing groups in optimization, numerical analysis, PDEs and systems theory. The applicant should have an active, independent research program and strong potential for obtaining external funding.

The department offers BS, MS and PhD degrees in applied mathematics and statistics. Please refer to the web page http://www.math.umbc.edu for more information. A vita, three letters of reference and a summary of the candidate's current research program should be sent to: Applied Mathematics Recruiting Committee, Department of Mathematics and Statistics, University of Maryland Baltimore County, Baltimore, MD 21250. Screening of applications will commence December 15, 1998 and will continue until the position is filled. UMBC is an Affirmative Action/Equal Opportunity Employer.

Contributed by Thomas I. Seidman

From: Baltzer Science <mailer@ns.baltzer.nl>
Subject: Advances in Computational Mathematics contents
Date: Sun, 13 Sep 1998

Advances in Computational Mathematics 1998 Vol. 9-1,2

Table of Contents

Second-kind integral formulations of the capacitance problem
Johannes Tausch and Jacob White

Wavelet-based preconditioners for boundary integral equations
Thanh Tran, Ernst P. Stephan and Stefan Zaprianov

From: Hans Schneider <hans@math.wisc.edu>
Subject: Contents LAA vol 282
Date: Fri, 11 Sep 1998

Linear Algebra and Its Applications September 1998 Volume 282
Table of Contents

A fast hankel solver based on an inversion formula for leowner matrices
P Kravanja, M Van Barel

On the sensitivity of the SR decomposition XW Chang

Generalized optimal lattice covering of finite-dimensional euclidean space D Bryant, P Diamond

Author index to Volume 282
Submitted by:

Hans Schneider hans@math.wisc.edu.
Department of Mathematics 608-262-1402 (Work)
Van Vleck Hall 608-271-7252 (Home)
480 Lincoln Drive 608-263-8891 (Work FAX)
University of Wisconsin-Madison 608-271-8477 (Home FAX)
Madison WI 53706 USA http://www.math.wisc.edu/~hans (URL)

From: Secretary Support - Magrijn <magrijn.secsup@tip.nl>
Subject: Journal MCSS
Date: Wed, 23 Sep 1998

Mathematics of Control, Signals, and Systems 1997 Vol. 10, No. 2
Table of Contents

INFORMATION
Information on MCSS including tables of contents is available at its home pages:
http://www.cwi.nl/~schuppen/mcss/mcss.html
http://www.math.rutgers.edu/~sontag/mcss.html

Address for submissions:
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)

Submitted by:
Jan H. van Schuppen (Co-Editor)
(J.H.van.Schuppen@cwi.nl)
------- end -------

IPNet Digest Volume 5, Number 10 November 1, 1998

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

Today's Topics:
E-mail Request for "Inverse Problems" Authors
Position: New Mexico Tech
Table of Contents: Numerical Algorithms
Table of Contents: Computational and Applied Mathematics
Table of Contents: Linear Algebra and Its Applications
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: Ivan Kazantsev <Ivan.Kazantsev@elis.rug.ac.be>
Subject: Author's e-mails inquiry
Date: Thu, 15 Oct 1998

Dear Colleagues,

I shall be most grateful to receive e-mail addresses of one of the authors of the following publications in Inverse Problems:

Inverse Problems, Volume 14, Number 4, August 1998,
"Inverse obstacle transmissiion problem in acoustics"
D N Ghosh Roy, J Warner, L S Couchman, J Shirron (903-929)

Inverse Problems, Volume 14, Number 4, August 1998,
"Reconstruction of an obstacle from the scattering amplitude at a fixed frequency"
Masaru Ikehata (949-954)

Thank you very much for your prompt attention.

Best regards,
Ivan Kazantsev

ELIS Department, Sint-Pietersnieuwstraat 41
The University of Gent, B-9000 Gent Belgium

From: Brian Borchers <borchers@nmt.edu>
Subject: Position at New Mexico Tech
Date: Tue, 13 Oct 1998

ASSISTANT PROFESSOR OF MATHEMATICS

New Mexico Institute of Mining and Technology invites applications for a tenure-track position as assistant professor beginning Fall of 1999. New Mexico Tech offers bachelor's and master's degrees in mathematics and a master's degree in operations research and statistics.

Minimum qualifications are a Ph.D. (Ph.D. received no later than 1/1/99) in mathematics or equivalent, strong record of teaching excellence and excellent English and communication skills. Preference will be given to those with specialties in applied computational mathematics, interest and/or experience in interdisciplinary research and research interests that complement those of the department.

The successful applicant will have the opportunity for research with existing research projects at New Mexico Tech. Research organizations at New Mexico Tech include the Langmuir Laboratory for Atmospheric Research, the Geophysical Research Center, the Energetic Materials Research and Testing Center, the National Radio Astronomy Observatory, Aerojet, PRRC, and other Socorro based companies. Other interdisciplinary research includes astrophysics, atmospheric physics, geology, geophysics, hydrology, and petroleum engineering. Current faculty interest areas are applied mathematics, differential equations, functional analysis, numerical analysis, optimization, graph theory, statistics and stochastic processes.

The starting date is August 15, 1999. Applications must be received prior to February 1, 1999. Send vita, teaching evaluations (if available), transcripts, reprints, a letter describing your teaching philosophy and research interests, and have 3 letters of recommendation sent to the address below. Please include the names, daytime telephone numbers, and e-mail addresses of three (3) references. Send materials to New Mexico Institute of Mining and Technology, 801 Leroy Pl., Human Resources,
Wells Hall Box 90A, Socorro, NM 87801. Information about the department can be found at http://www.nmt.edu/~math/. For information about New Mexico Tech, see web (http://www.nmt.edu/). E-mail applications NOT accepted. AA/EOE

From: Baltzer Science <mailer@ns.baltzer.nl>
Subject: Numerical Algorithms contents
Date: Mon, 12 Oct 1998

Numerical Algorithms 1998 Volume 18, No. 1
Table of Contents

More information about contents, submission and preparation of papers can be found on http://www.baltzer.nl/numa/

Please direct enquiries about subscription and other issues to
subscribe@baltzer.nl

Submitted by: Baltzer Science Publishers

From: demoura@pegasus.pgcc.uff.br (Carlos A. de Moura)
Subject: Comp & Appl Math, Volumes 17-18 (1998-9)
Date: Fri, 16 Oct 1998

Computational and Applied Mathematics 1998 Vol.17 Issue 2
Table of Contents

(Matematica Aplicada e Computacional)
Edited by Birkhauser-Boston and SBMAC
Brazilian Soc for Comp & Appl Math

Computational and Applied Mathematics 1998 Vol.17 Issue 3
Table of Contents

Spectral Methods for Stokes Flows
Jair Koiller, M. A. Raupp, Joaquin Delgado, Kurt M. Ehlers

A Mixed Finite Element Method for a Third Order Partial Differential Equation G. Li & F. A. Milner

Computational and Applied Mathematics 1999 Vol.18 Issue 1
Table of Contents

Damping Performance of Strain Actuated Beams A. V. Balakrishnan

Spectral Transformation Algorithms for Computing Unstable Modes of Large Scale Power Systems L. H. Bezerra, C. Tomei

On the Existence and Regularity of Ground States for a Nonlinear System of Coupled Schroedinger Equations in R^n
R. Cipolatti, W. Zumpichatti

Relativistic Unstable Periodic BGK Waves Yan Guo, W. A. Strauss

Computational and Applied Mathematics 1999 Vol.18 Issue 2
Table of Contents

Wavelet-Galerkin Method for Plane Elastostatics S. Dumont, F. Lebon

Matrix of Rotation for Stochastic Dynamical P. R. C. Rufino

Transitivity of Linear Control Systems on Lie Groups
V. Ayala, A. K. Hacibekiroglu, L. R. Zegarra

On Global Solvability to the Cauchy Problem for the Dusty Gas Equations
G. G. Doronin

Simultaneous Exact Controllability for a Class of Evolution Systems
B.Kapitonov

Primal-Dual Formulations for Parameter Estimation Problems
G.Chavent, K.Kunisch, J.E.Roberts

From: Hans Schneider <hans@math.wisc.edu>
Subject: LAA volume 283-285 contents
Date: Fri, 16 Oct 1998

Linear Algebra and Its Applications Volume 283, Issues 1-3

On the convergence of asynchronous iteration methods for nonlinear paracontractions and consistent linear systems M Pott

The moore-penrose inverses of m x n block matrices and their applications Y Tian

Ergodic decomposition of markov chains* CE Villarreal

On graphs with multiple eigenvalues P Rowlinson

Chain rules for functions of matrices AD Ziebur

Linear Algebra and Its Applications Volume 284, Issues 1-3

Table of Contents

Special issue on the International Linear Algebra Society Symposium "Linear Algebra in Control Theory, Signals and Image Processing," held at the University of Manitoba, Canada, 6-8 June 1997.

Linear Algebra and Its Applications Volume 285, Issues 1-3
Table of Contents

circulant graphs B Codenotti, S Vigna

Completions of M-matrix patterns L Hogben

Nonstationary two-stage multisplitting methods with overlapping blocks
ZH Cao

Preserving Diagonalisability M Omladic, P Semrl

The undirected graph and estimates of matrix singular values
LI Luoluo

Compatible lattice orders and linear operators on R^n B Lavric

Limit cycles for successive projections onto hyperplanes in R^n
J Angelos, GW Grossman

Solution of Troeplitz normal equations by sine transform based
preconditioning F Di Benedetto

A numerical algorithm for computing a basis for the root subspace at a
nonderogatory eigenvalue of a multiparameter system B Plestenjak

A conjecture concerning the Hadamard product of inverses of M-matrices
M Neumann

Normal matrices: an update L Elsner

On the Laplacian eigenvalues of a graph L Jiong-Sheng

Symmetric multisplitting of a symmetric positive definite matrix
ZH Cao

Submitted by:

Hans Schneider hans@math.wisc.edu.
Department of Mathematics 608-262-1402 (Work)
Van Vleck Hall 608-271-7252 (Home)
480 Lincoln Drive 608-263-8891 (Work FAX)
University of Wisconsin-Madison 608-271-8477 (Home FAX)
Madison WI 53706 USA http://www.math.wisc.edu/~hans (URL)

From: Secretary Support - Magrijn <magrijn.secsup@tip.nl>
Subject: Re: Journal MCSS
Date: Mon, 19 Oct 1998

Mathematics of Control, Signals, and Systems 1998 Volume 11, No. 3
Table of Contents

INFORMATION
Information on MCSS including tables of contents is
available at its home pages:
www.cwi.nl/~schuppen/mcss/mcss.html
www.math.rutgers.edu/~sontag/mcss.html

Address for submissions:
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)
Contributed by Jan H. van Schuppen (J.H.van.Schuppen@cwi.nl)
------- end -------

IPNet Digest Volume 5, Number 11 November 30, 1998

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

Today's Topics:
Call for Papers: Conference on Problems in Mathematical Imaging
Call for Papers: Special Issue, Linear Algebra & Applications
Position: Montana State University
Table of Contents: Inverse Problems
Table of Contents: Advances in Computational 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: Joachim Weickert <joachim@diku.dk>
Subject: Call-for-papers on mathematical imaging
Date: Wed, 25 Nov 1998

We are currently organizing the Second International Conference on Scale-Space Theories in Computer Vision (Corfu, Sept. 26-27, 1999). It is devoted to a broad range of regularization and restoration methods in mathematical imaging. Below is the call-for-papers. Thank you very much in advance.

On behalf of the programme board of Scale-Space '99,
Joachim Weickert

****

Second International Conference on
Scale-Space Theories in Computer Vision:
Geometric Image Flows, Nonlinear Diffusion, Functional Minimisation, and Linear Scale-Space

Corfu, Greece
September 26-27, 1999
In conjunction with ICCV '99

Scale-Space '99, Call For Papers

Scale-space theory has developed into an important branch of multiscale techniques. The foundations are mathematically well established, and its applications cover all areas of digital imaging. Scale-Space '99 is a forum for presentation of advances in scale-space theories in computer vision. It is the successor of Scale-Space '97, held in Utrecht. The emphasis is on partial differential equations and variational techniques for image analysis, and their applications in industry and medicine.

SCOPE:
Methods:
Geometric image flows, level set methods, continuous-scale morphology, nonlinear diffusion, functional minimisation, total variation methods, regularisation, linear scale-space, multi-channel evolutions.

Special Topics of Interest:
Axiomatic foundations, invariances, well-posedness, generalised solutions, approximation and convergence, discrete theories, fast algorithms, deep structure, singularity theory, evolution properties, unification of theories, interrelations of methods.

Applications:
Shape analysis, segmentation, reconstruction, motion, stereo, matching and registration, colour image analysis, feature detection, scale selection, medical applications, industrial applications.

SUBMISSION PROCEDURES
Authors are invited to submit four (4) copies of original so far unpublished papers for oral or poster presentation. Papers must be no longer than 12 pages in the Springer Lecture Notes in Computer Science format plus a cover sheet stating: (1) paper title, (2) key words, (3) name, address, fax, and e-mail address of the contact author. Due to the tight publishing schedule, papers must be at the conference secretariat no later than April 8th, 1999:

Scale-Space '99
Department of Computer Science
University of Copenhagen
Universitetsparken 1
DK-2100 Copenhagen, Denmark
E-Mail: scalespace99@diku.dk

All submissions will be reviewed by three members of the programme committee.

PROCEEDINGS
Proceedings will be published in the series Lecture Notes in Computer Science, Springer Verlag. LaTeX style files may be obtained at http://www.springer.de/comp/lncs/.

It is planned to publish a selection of the best papers in a special issue of an international journal.

IMPORTANT DATES
Paper proposals due April 8, 1999
Notification of Acceptance May 31, 1999
Camera-ready papers due July 1, 1999
Conference September 26-27, 1999

ADDITIONAL INFORMATION
Additional information on Scale-Space '99 may be obtained at http://www.diku.dk/scalespace99/.

GENERAL BOARD
Mads Nielsen
Olivier Faugeras
Pietro Perona
Bart ter Haar Romeny
Guillermo Sapiro

PROGRAMME BOARD
Mads Nielsen
Joachim Weickert

Peter Johansen
Ole Fogh Olsen

PROGRAMME COMMITTEE
Luis Alvarez
Rein van den Boomgaard
Alfred Bruckstein
Vicent Caselles
Tony Chan
James Damon
Rachid Deriche
Luc Florack
Lewis Griffin
Frederic Guichard
Ben Kimia
Ron Kimmel
Jan Koenderink
Tony Lindeberg
Ravi Malladi
Farzin Mokhtarian
Wiro Niessen
Eric Pauwels
Steve Pizer
Joachim Rieger
Christoph Schnoerr
Jayant Shah
Jon Sporring
Luc Van Gool

From: Hans Schneider <hans@math.wisc.edu>
Subject: Special issue of LAA
Date: Thu, 5 Nov 1998

Linear Algebra and its Applications (LAA)

Special issue on

LINEAR ALGEBRA IN SELF-VALIDATING METHODS

The goal of self-validating methods is to compute correct results on digital computers - correct in a mathematical sense, covering all errors like representation, discretization, rounding errors or others.

These methods have a connection to linear algebra since problems are frequently transformed into linearized problems with uncertain data. Then the linearization and discretization errors are estimated, possibly together with an infinite dimensional part of the problem.

It has turned out that computation of an inclusion of the solution complex of even a linear system of equations with uncertain data is NP-hard. This has given rise to interesting connections between self-validating methods and complexity theory. Despite this, in many cases a reasonably sharp inclusion can be calculated. The class of problems being solvable in this sense has been extended in recent years.

The possibility to estimate the range of a function is a main ingredient of self-validating methods. Beside the naive way to get error bounds by replacing every operation by the corresponding interval operation, much more elaborate methods have come up using gradients, slopes, lp- and

qp-approaches and more.

In the past few decades the area of self-validating methods has been evolving, with rapidly growing number of researchers. We want to take this opportunity to publish a special issue on self-validating methods. A preliminary list of topics would include:

- systems of linear equations and inequalities
- range of functions
- complexity theory for problems with uncertain data
- componentwise distance to singularity and/or stability
- sparse systems of equations
- algebraic eigenvalue problems
- iterative methods
- matrix methods in validation methods for differential equations
- use of M-matrices and H-matrices in validation methods
- analysis of zeros and connection to controllability
- combination of computer algebra with floating point methods.

This is a sample, but not an exclusive list of topics. If there is doubt about suitability of a particular paper, contact one of the editors of the special issue.

Please submit three (3) hard copies to one of the special issue editors listed below. The deadline for submission is SEPTEMBER 30, 1999.

Jiri Rohn
Faculty of Mathematics and Physics
Charles University
Malostranske nam. 25
118 00 Prague
Czech Republic
e-mail: rohn@uivt.cas.cz

Siegfried M. Rump
Inst. f. Computer Science III
Technical University Hamburg-Harburg
Eissendorfer Str. 38
21071 Hamburg, Germany
e-mail: rump@tu-harburg.de

Tetsuro Yamamoto
Department of Mathematics
Faculty of Science
Ehime University
Matsuyama 790, Japan
e-mail: yamamoto@dpc.ehime-u.ac.jp

Submitted by:
Hans Schneider hans@math.wisc.edu.
Department of Mathematics 608-262-1402 (Work)
Van Vleck Hall 608-271-7252 (Home)
480 Lincoln Drive 608-263-8891 (Work FAX)
University of Wisconsin-Madison 608-271-8477 (Home FAX)
Madison WI 53706 USA http://www.math.wisc.edu/~hans (URL)

From: Isaac Klapper <klapper@alfven.math.montana.edu>
Subject: Position at Montana State University
Date: Wed, 11 Nov 1998

DEPARTMENT OF MATHEMATICAL SCIENCES
MONTANA STATE UNIVERSITY

The Department of Mathematical Sciences at Montana State University invites applications for a tenure-track position at the Assistant Professor level to begin in August 1999 contingent on funding. The Department is research oriented with an active graduate program and ties to the Center for Biofilm Engineering, the Center for Computational Biology, and other departments on campus. Research funding within the department is currently approximately $1,000,000 per year. The teaching load is two courses per semester.

The Department is seeking a candidate whose research interests mesh well with current faculty. The Department has active research groups in the areas of computational mathematics, applied mathematics, mathematical biology, and dynamical systems. Preference will be given to applicants with computational interests.

Montana State University is located in Bozeman, Montana, between the Bridger and Gallatin mountains. Yellowstone National Park is approximately 90 miles away.

Requirements: PhD in the mathematical sciences, evidence of strong research potential and excellent teaching skills. Screening of applications commences January 1, 1999 and will continue until the position is filled.

Send a letter of application together with a statement of current and planned research, a statement of teaching philosophy and qualifications, a vita, and three letters of recommendation to:

Mathematics Hiring Committee
Department of Mathematical Sciences
Montana State University
Bozeman, MT 59717-2400
Tel. (406)-994-3603

For additional information see

http://www.math.montana.edu/temp/new_position.html

or write to Professor John Lund, or send e-mail to: hire@math.montana.edu

ADA/AA/EEO. Veterans preference. Claim veteran's preference or request accommodation from HR/AA, MSU, Bozeman, MT 59717 [(406)-994-2042 or TDD (406)-994-4191]

From: "Janet Thomas" <janet.thomas@ioppublishing.co.uk>
Subject: Contents list for Inverse Problems vol 14, no 6
Date: Wed, 25 Nov 1998

Inverse Problems December 1998 Volume 14, Issue 6
Table of Contents

Non-abelian integrable systems of the derivative nonlinear Schrodinger type P J Olver and V V Sokolov

PAPERS

Equations of the reaction-diffusion type with a loop algebra structure
E Alfinito, V Grassi, R A Leo, G Profilo and G Soliani

The Cauchy problem for the sinh-Gordon equation and regular solitons
A Boutet de Monvel, E Ya Khruslov and V P Kotlyarov

Stability and reconstruction for an inverse problem for the heat equation
K Bryan and L F Caudill Jr

Iterative algorithms for deblurring and deconvolution with constraints
C Byrne

Tomography of objects with a priori known internal geometry
T E Gureyev and R Evans

Spectral difference equations satisfied by KP soliton wavefunctions
A Kasman

Characterization of the shape of the scattering obstacle using the spectral data of the far field operator A Kirsch

A variational algorithm for electrical impedance tomography I Knowles

Best L^2 Tikhonov analogue for Landweber iteration G A Latham

Special regularizing methods for ill-posed problems with sourcewise represented solutions A S Leonov and A G Yagola

A quasilinearization approach for parameter identification in a nonlinear model of shape memory alloys P Morin and R D Spies

On uniqueness for anisotropic inhomogeneous inverse scattering problems
M Piana

Can Markov chain Monte Carlo be usefully applied to stochastic processes with hidden birth times? E Renshaw and G J Gibson

On a general regularization scheme for nonlinear ill-posed problems: II. Regularization in Hilbert scales U Tautenhahn

AUTHOR INDEX (with titles), volume 14

Why not visit the Inverse Problems home page at
http://www.iop.org/Journals/ip?

Submitted by:
Janet Thomas
Production Editor
Institute of Physics Publishing
Dirac House, Temple Back,
Bristol BS1 6BE, UK
Tel: +44 (0)117 930 1081
Fax: +44 (0)117 929 4318
E-mail: janet.thomas@ioppublishing.co.uk
WWW: http://www.iop.org

From: Baltzer Science <mailer@ns.baltzer.nl>
Subject: Advances in Computational Mathematics contents
Date: Wed, 25 Nov 1998

Advances in Computational Mathematics 1998 Volume 9-3,4
Table of Contents

More information about contents, submission and preparation of papers can be found on

http://www.baltzer.nl/adcom/

Please direct enquiries about subscription and other issues to=20

subscribe@baltzer.nl

Sincerely,
Baltzer Science Publishers
------- end -------