

Volume 1648
Part 1

 **Conference collection**

Proceedings of the International Conference on Numerical Analysis and Applied Mathematics 2014 (ICNAAM-2014)



Rhodes, Greece

22-28 September 2014

Editor

Theodore E. Simos

Co-Editor

Charalambos Tsitouras

AIP | Proceedings

proceedings.aip.org

AIP Proceedings: A name your community will know and respect

40 years' experience • 100,000+ papers • 1,500+ volumes

A world-class proceedings service for all events: From workshops to the largest international conference

- Online-only proceedings
- Optional printed copies or CDs for participants
- Rapid online and print publication

Our wealth of experience and expertise will ensure an outstanding publication experience.

Publication fees which work with your budget

- **Simple online publication fees:** Completely independent of page counts, publish substantial papers at no extra cost.
- **Options for online access:** 1-year conference access or select perpetual open access for the entire community.

Flexibility in the printed medium

Choose from these options to print all papers or just a selection of articles from the conference:

Conference collection

- Printed copies containing all papers published in the online proceedings.
- For editors who want to reproduce all online papers for their participants.

Selected papers

- Printed copies containing a selection of papers chosen by the editors.
- Choose to print just the best work, avoid the cost of printing everything.

Workshops and summer schools

- Printed copies designed especially for summer schools and workshops.
- Visibility and identity for events publishing tutorials and reviews.

Get a proposal for your proceedings in 3 simple steps

Step 1.

Obtain a proceedings questionnaire by writing to us at confproc@aip.org or download from proceedings.aip.org

Step 2.

Fill in the questionnaire with details of your conference and return it to confproc@aip.org

Step 3.

We'll review the questionnaire and your requirements and write to confirm if we can offer a proposal.



ISBN 978-0-7354-1288-0 (Part 1)
ISBN 978-0-7354-1287-3 (Set)
ISSN 0094-243X



Proceedings of the International Conference on Numerical Analysis and Applied Mathematics 2014 (ICNAAM-2014) Vol. 1648 Part 1

Volume 1648
Part 2

 **Conference collection**

Proceedings of the International Conference on Numerical Analysis and Applied Mathematics 2014 (ICNAAM-2014)



Rhodes, Greece

22-28 September 2014

Editor

Theodore E. Simos

Co-Editor

Charalambos Tsitouras

AIP | Proceedings

proceedings.aip.org

AIP Proceedings: A name your community will know and respect

40 years' experience • 100,000+ papers • 1,500+ volumes

A world-class proceedings service for all events: From workshops to the largest international conference

- Online-only proceedings
- Optional printed copies or CDs for participants
- Rapid online and print publication

Our wealth of experience and expertise will ensure an outstanding publication experience.

Publication fees which work with your budget

- **Simple online publication fees:** Completely independent of page counts, publish substantial papers at no extra cost.
- **Options for online access:** 1-year conference access or select perpetual open access for the entire community.

Flexibility in the printed medium

Choose from these options to print all papers or just a selection of articles from the conference:

Conference collection

- Printed copies containing all papers published in the online proceedings.
- For editors who want to reproduce all online papers for their participants.

Selected papers

- Printed copies containing a selection of papers chosen by the editors.
- Choose to print just the best work, avoid the cost of printing everything.

Workshops and summer schools

- Printed copies designed especially for summer schools and workshops.
- Visibility and identity for events publishing tutorials and reviews.

Get a proposal for your proceedings in 3 simple steps

Step 1.

Obtain a proceedings questionnaire by writing to us at confproc@aip.org or download from proceedings.aip.org

Step 2.

Fill in the questionnaire with details of your conference and return it to confproc@aip.org

Step 3.

We'll review the questionnaire and your requirements and write to confirm if we can offer a proposal.



ISBN 978-0-7354-1289-7 (Part 2)
ISBN 978-0-7354-1287-3 (Set)
ISSN 0094-243X



Proceedings of the International Conference on Numerical Analysis and Applied Mathematics 2014 (ICNAAM-2014) Vol. 1648 Part 2

Volume 1648
Part 3

 **Conference collection**

Proceedings of the International Conference on Numerical Analysis and Applied Mathematics 2014 (ICNAAM-2014)



Rhodes, Greece

22-28 September 2014

Editor

Theodore E. Simos

Co-Editor

Charalambos Tsitouras

AIP | Proceedings

proceedings.aip.org

AIP Proceedings: A name your community will know and respect

40 years' experience • 100,000+ papers • 1,500+ volumes

A world-class proceedings service for all events: From workshops to the largest international conference

- Online-only proceedings
- Optional printed copies or CDs for participants
- Rapid online and print publication

Our wealth of experience and expertise will ensure an outstanding publication experience.

Publication fees which work with your budget

- **Simple online publication fees:** Completely independent of page counts, publish substantial papers at no extra cost.
- **Options for online access:** 1-year conference access or select perpetual open access for the entire community.

Flexibility in the printed medium

Choose from these options to print all papers or just a selection of articles from the conference:

Conference collection

- Printed copies containing all papers published in the online proceedings.
- For editors who want to reproduce all online papers for their participants.

Selected papers

- Printed copies containing a selection of papers chosen by the editors.
- Choose to print just the best work, avoid the cost of printing everything.

Workshops and summer schools

- Printed copies designed especially for summer schools and workshops.
- Visibility and identity for events publishing tutorials and reviews.

Get a proposal for your proceedings in 3 simple steps

Step 1.

Obtain a proceedings questionnaire by writing to us at confproc@aip.org or download from proceedings.aip.org

Step 2.

Fill in the questionnaire with details of your conference and return it to confproc@aip.org

Step 3.

We'll review the questionnaire and your requirements and write to confirm if we can offer a proposal.



ISBN 978-0-7354-1290-3 (Part 3)
 ISBN 978-0-7354-1287-3 (Set)
 ISSN 0094-243X

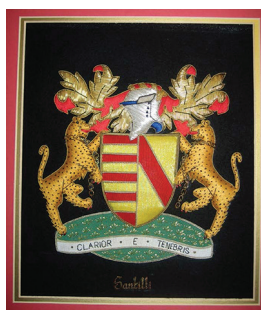
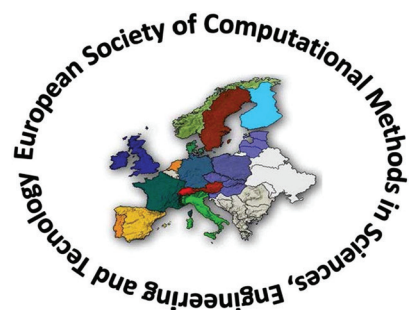


Proceedings of the International Conference on Numerical Analysis and Applied Mathematics 2014 (ICNAAM-2014) Vol. 1648 Part 3

Proceedings of the International Conference on Numerical Analysis and Applied Mathematics 2014 (ICNAAM-2014)

Rhodes, Greece

22-28 September 2014



Editor

Theodore E. Simos

King Saud University, Riyadh, Saudi Arabia and University of Peloponnese, Tripolis, Greece

Co-Editor

Charalambos Tsitouras

TEI of Sterea Hellas, Psahna, Greece

Sponsoring Organizations

European Society of Computational Methods in Sciences, Engineering and Technology
Santilli Foundation

All papers have been peer reviewed.



Melville, New York, 2015
AIP Proceedings

Volume 1648
Part 1

To learn more about AIP Proceedings visit <http://proceedings.aip.org>

Editor

Theodore E. Simos

Department of Mathematics
King Saud University
College of Sciences
P.O. Box 2455
Riyadh 11451
Saudi Arabia

Laboratory of Computational Sciences
Department of Informatics and Telecommunications
Faculty of Economy, Management, and Informatics
University of Peloponnese
GR-221 00 Tripolis
Greece

E-mail: tsimos.conf@gmail.com

Co-Editor

Charalambos Tsitouras

Department of Automation Engineering
TEL of Sterea Hellas
GR34400 Psahna
Greece

E-mail: tsitouras@gmail.com

Authorization to photocopy items for internal or personal use, beyond the free copying permitted under the 1978 U.S. Copyright Law (see statement below), is granted by the AIP Publishing LLC for users registered with the Copyright Clearance Center (CCC) Transactional Reporting Service, provided that the base fee of \$30.00 per copy is paid directly to CCC, 222 Rosewood Drive, Danvers, MA 01923, USA: <http://www.copyright.com>. For those organizations that have been granted a photocopy license by CCC, a separate system of payment has been arranged. The fee code for users of the Transactional Reporting Services is: 978-0-7354-1287-3/15/\$30.00



© 2015 AIP Publishing LLC

No claim is made to original U.S. Government works.

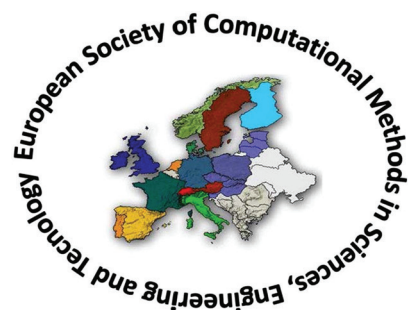
Permission is granted to quote from the AIP Conference Proceedings with the customary acknowledgment of the source. Republication of an article or portions thereof (e.g., extensive excerpts, figures, tables, etc.) in original form or in translation, as well as other types of reuse (e.g., in course packs) require formal permission from AIP Publishing and may be subject to fees. As a courtesy, the author of the original proceedings article should be informed of any request for republication/reuse. Permission may be obtained online using RightsLink. Locate the article online at <http://proceedings.aip.org>, then simply click on the RightsLink icon/"Permissions/Reprints" link found in the article abstract. You may also address requests to: AIP Publishing Office of Rights and Permissions, 1305 Walt Whitman Road, Suite 300, Melville, NY 11747-4300, USA; Fax: 516-576-2450; Tel.: 516-576-2268; E-mail: rights@aip.org.

ISBN 978-0-7354-1288-0 (Part 1)
ISBN 978-0-7354-1287-3 (Set)
ISSN 0094-243X
Printed in the United States of America

Proceedings of the International Conference on Numerical Analysis and Applied Mathematics 2014 (ICNAAM-2014)

Rhodes, Greece

22-28 September 2014



Editor

Theodore E. Simos

King Saud University, Riyadh, Saudi Arabia and University of Peloponnese, Tripolis, Greece

Co-Editor

Charalambos Tsitouras

TEI of Sterea Hellas, Psahna, Greece

Sponsoring Organizations

European Society of Computational Methods in Sciences, Engineering and Technology
Santilli Foundation

All papers have been peer reviewed.



Melville, New York, 2015
AIP Proceedings

Volume 1648
Part 2

To learn more about AIP Proceedings visit <http://proceedings.aip.org>

Editor

Theodore E. Simos

Department of Mathematics
King Saud University
College of Sciences
P.O. Box 2455
Riyadh 11451
Saudi Arabia

Laboratory of Computational Sciences
Department of Informatics and Telecommunications
Faculty of Economy, Management, and Informatics
University of Peloponnese
GR-221 00 Tripolis
Greece

E-mail: tsimos.conf@gmail.com

Co-Editor

Charalambos Tsitouras

Department of Automation Engineering
TEL of Sterea Hellas
GR34400 Psahna
Greece

E-mail: tsitouras@gmail.com

Authorization to photocopy items for internal or personal use, beyond the free copying permitted under the 1978 U.S. Copyright Law (see statement below), is granted by the AIP Publishing LLC for users registered with the Copyright Clearance Center (CCC) Transactional Reporting Service, provided that the base fee of \$30.00 per copy is paid directly to CCC, 222 Rosewood Drive, Danvers, MA 01923, USA: <http://www.copyright.com>. For those organizations that have been granted a photocopy license by CCC, a separate system of payment has been arranged. The fee code for users of the Transactional Reporting Services is: 978-0-7354-1287-3/15/\$30.00



© 2015 AIP Publishing LLC

No claim is made to original U.S. Government works.

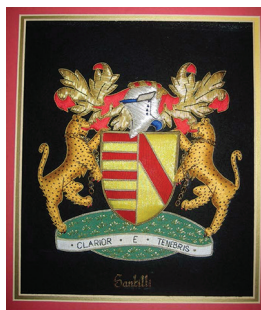
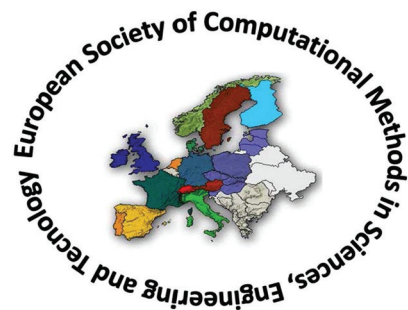
Permission is granted to quote from the AIP Conference Proceedings with the customary acknowledgment of the source. Republication of an article or portions thereof (e.g., extensive excerpts, figures, tables, etc.) in original form or in translation, as well as other types of reuse (e.g., in course packs) require formal permission from AIP Publishing and may be subject to fees. As a courtesy, the author of the original proceedings article should be informed of any request for republication/reuse. Permission may be obtained online using RightsLink. Locate the article online at <http://proceedings.aip.org>, then simply click on the RightsLink icon/"Permissions/Reprints" link found in the article abstract. You may also address requests to: AIP Publishing Office of Rights and Permissions, 1305 Walt Whitman Road, Suite 300, Melville, NY 11747-4300, USA; Fax: 516-576-2450; Tel.: 516-576-2268; E-mail: rights@aip.org.

ISBN 978-0-7354-1289-7 (Part 2)
ISBN 978-0-7354-1287-3 (Set)
ISSN 0094-243X
Printed in the United States of America

Proceedings of the International Conference on Numerical Analysis and Applied Mathematics 2014 (ICNAAM-2014)

Rhodes, Greece

22-28 September 2014



Editor

Theodore E. Simos

King Saud University, Riyadh, Saudi Arabia and University of Peloponnese, Tripolis, Greece

Co-Editor

Charalambos Tsitouras

TEI of Sterea Hellas, Psahna, Greece

Sponsoring Organizations

European Society of Computational Methods in Sciences, Engineering and Technology
Santilli Foundation

All papers have been peer reviewed.



Melville, New York, 2015
AIP Proceedings

Volume 1648
Part 3

To learn more about AIP Proceedings visit <http://proceedings.aip.org>

Editor

Theodore E. Simos

Department of Mathematics
King Saud University
College of Sciences
P.O. Box 2455
Riyadh 11451
Saudi Arabia

Laboratory of Computational Sciences
Department of Informatics and Telecommunications
Faculty of Economy, Management, and Informatics
University of Peloponnese
GR-221 00 Tripolis
Greece

E-mail: tsimos.conf@gmail.com

Co-Editor

Charalambos Tsitouras

Department of Automation Engineering
TEL of Sterea Hellas
GR34400 Psahna
Greece

E-mail: tsitouras@gmail.com

Authorization to photocopy items for internal or personal use, beyond the free copying permitted under the 1978 U.S. Copyright Law (see statement below), is granted by the AIP Publishing LLC for users registered with the Copyright Clearance Center (CCC) Transactional Reporting Service, provided that the base fee of \$30.00 per copy is paid directly to CCC, 222 Rosewood Drive, Danvers, MA 01923, USA: <http://www.copyright.com>. For those organizations that have been granted a photocopy license by CCC, a separate system of payment has been arranged. The fee code for users of the Transactional Reporting Services is: 978-0-7354-1287-3/15/\$30.00



© 2015 AIP Publishing LLC

No claim is made to original U.S. Government works.

Permission is granted to quote from the AIP Conference Proceedings with the customary acknowledgment of the source. Republication of an article or portions thereof (e.g., extensive excerpts, figures, tables, etc.) in original form or in translation, as well as other types of reuse (e.g., in course packs) require formal permission from AIP Publishing and may be subject to fees. As a courtesy, the author of the original proceedings article should be informed of any request for republication/reuse. Permission may be obtained online using RightsLink. Locate the article online at <http://proceedings.aip.org>, then simply click on the RightsLink icon/"Permissions/Reprints" link found in the article abstract. You may also address requests to: AIP Publishing Office of Rights and Permissions, 1305 Walt Whitman Road, Suite 300, Melville, NY 11747-4300, USA; Fax: 516-576-2450; Tel.: 516-576-2268; E-mail: rights@aip.org.

ISBN 978-0-7354-1290-3 (Part 3)
ISBN 978-0-7354-1287-3 (Set)
ISSN 0094-243X
Printed in the United States of America

AIP Conference Proceedings, Volume 1648
**Proceedings of the International Conference on Numerical Analysis and
Applied Mathematics 2014 (ICNAAM-2014)**

Table of Contents

Preface: Proceedings of the International Conference on Numerical Analysis and Applied Mathematics 2014 (ICNAAM-2014)	010001
Conference Details	010002
European Society of Computational Methods in Sciences, Engineering and Technology (ESCMSET)	010003
INVITED SPEAKERS	
Short-term recursions for fractional differential equations	
Lidia Aceto, Cecilia Magherini and Paolo Novati	020001
Energy conservation issues in the numerical solution of Hamiltonian PDEs	
Luigi Brugnano, Gianluca Frasca Caccia and Felice Iavernaro	020002
Algebraic analysis of structure-preserving general linear methods	
J.C. Butcher	020003
Bohr-like black holes	
Christian Corda	020004
A multilevel stochastic collocation method for SPDEs	
Max Gunzburger, Peter Jantsch, Aretha Teckentrup and Clayton Webster	020005
Long-time numerical energy preservation for oscillatory differential equations	
Ernst Hairer	020006
Numerical solution of a two-asset option valuation PDE by ADI finite difference discretization	
Karel in 't Hout and Radoslav Valkov	020007
Computation of eigenvalue problems with anisotropic diffusion operators	
Weizhang Huang	020008
A Fortran test set for boundary value problem solvers	
Francesca Mazzia and Jeff R. Cash	020009
Exponential fitting techniques for the solution of stiff problems with explicit methods	
J.I. Montijano, L. Rández, M. Van Daele and M. Calvo	020010
Homotopy analysis method - A new analytic approach for highly nonlinear problems	
Shijun Liao	020011

Discrete hypercomplex function theory and its applications	
Uwe Kähler	020012
Collocation – A powerful tool for solving singular ODEs and DAEs	
E.B. Weinmüller	020013
SYMPOSIUM #1	
Preface to the 9th international symposium on numerical analysis of fluid flow and heat transfer - Numerical fluids 2014	
Dia Zeidan	030001
Eddy resolving simulations in aerospace	
P.G. Tucker	030002
The lattice Boltzmann method and the problem of turbulence	
L. Djenidi	030003
Multiphase flow modeling based on the hyperbolic thermodynamically compatible systems theory	
E. Romenski	030004
Large-eddy simulation of heavy particle dispersion in wall-bounded turbulent flows	
M.V. Salvetti	030005
Numerical simulation of turbulent heat transfer close to the critical point	
B.J. Boersma, R. Pecnik, H. Nematì and J. Peeters	030006
Drag force simulation in explosive volcanic flows	
D. Zeidan	030007
Gas dynamics in strong centrifugal fields	
S.V. Bogovalov, V.A. Kislov and I.V. Tronin	030008
Meshless local Petrov-Galerkin method with moving least squares approximation for transient thermal conduction applications with variable conductivity	
N.P. Karagiannakis, G.C. Bourantas, A.N. Kalarakis, E.D. Skouras and V.N. Burganos	030009
Three different models for non-equilibrium condensation of steam in a nozzle	
J. Halama	030010
The effects of variable thermal conductivity on boundary layer flow embedded in a porous Cu-nanofluid medium	
B. Li, Y. Jiang, L. Zhu and L. Zheng	030011

A five dimensional implementation of the flamelet generated manifolds technique for gas turbine application	
A. Donini, R.J.M. Bastiaans, J.A. van Oijen and L.P.H. de Goey	030012
A CFD study of formation of the intensive mixing zone in a highly non-Newtonian fluid	
A. Dylak and Z. Jaworski	030013
Solutal separation in a binary nanofluid due to thermodiffusion	
M.Z. Saghir, T. Yousefi and B. Farahbakhsh	030014
The mathematical model of a steady flow through a plane profile cascade with an arbitrarily large inflow – Existence of a weak solution	
T. Neustupa	030015
A computational study of some numerical schemes for a test case with steep boundary layers	
A.R. Appadu, J.K. Djoko and H.H. Gidey	030016
A hybrid Navier-Stokes/DSMC simulation for rarefied gas flow for the deposition of nano layers for OLEDs	
K. Farber, P. Farber, J. Gräbel, S. Krick, J. Reitz and P. Ueberholz	030017
A new algorithm for DNS simulations of cavitating flows using homogeneous mixture approach	
A. Žnidarčič, O. Coutier-Delgosha and M. Marquillie	030018
Partially-averaged Navier-Stokes simulation of the flow around simplified vehicle	
S. Krajnović and G. Minelli	030019
Model validation of Rayleigh’s problem for oscillating finite plate	
V.K. Sin and I.K. Wong	030020
Movement of dunes in a circular pipe	
Z. Chara, P. Vlasak, J. Konfrst and B. Kysela	030021
Effect of drag models on the accumulation of heavy particles in a circular bounded vortex flow	
X. Ku, T. Løvås, M. van Sint Annaland and R. Hagmeijer	030022
The metastable flow through adiabatic and diabatic coiled capillary tubes	
M. Zareh and M. Ghorbani Heidari	030023
Verification of the numerical codes for modelling of gas dynamics in strong centrifugal field	
S.V. Bogovalov, V.D. Borisevich, V.D. Borman, V.A. Kislov, I.V. Tronin and V.N. Tronin	030024
Optimal linear growth of MHD flow in a square duct	
J. Hu, C. Liu, N.-M. Zhang and M.-J. Ni	030025

An energy conserving well-balanced scheme for the shallow water equations J. Reiss, R. Touma and J. Sesterhenn	030026
GPU-based simulation of the two-dimensional unstable structure of gaseous oblique detonations H.H. Teng, G.H. Morgan, C.B. Kiyanda, N. Nikiforakis and H.D. Ng	030027
One method of constructing manufactured solutions to 2D hydrodynamics Euler equations W. Ruili, Z. Shudao and L. Quan	030028
The arbitrary Lagrangian-Eulerian (ALE) modeling of a vapor bubble growth in a microtube R. Jafari and T. Okutucu	030029
Numerical solution of 2D wet steam flow with non-equilibrium condensation and real thermodynamics V. Hric and J. Halama	030030
Experimental study of flow in a tank stirred by a Rushton impeller Z. Chara, B. Kysela, J. Konfrst and I. Fort	030031
Temperature boundary conditions for ATEs systems Z.K. Birhanu, N-O Kitterød, H.E. Krogstad and A. Kværnø	030032
A helical pipe investigation from a cardiovascular perspective A.F. Totorean, S.I. Bernad and R.F. Susan-Resiga	030033
Icing modelling in NSMB with chimera overset grids D. Pena, T. Deloze, E. Laurendeau and Y. Hoarau	030034
Parallelization of the 3D SIP algorithm F. Dierich, K. Wittig, A. Richter and P.A. Nikrityuk	030035
Modelling of pore growth in char particles by an octree-based 3D PLIC method K. Wittig, P.A. Nikrityuk, A. Richter and B. Meyer	030036
Identification of coherent structures in a supersonic flow past backward facing step N. Arya, R.K. Soni and A. De	030037
Turbulent combustion modeling with fully coupled fully implicit compressible solver B. Kalpakli, M.O. Öztürkmen and İ.S. Akmandor	030038
Assessment of RANS based models in a supersonic flow R.K. Soni, N. Arya and A. De	030039

SYMPOSIUM #2

Preface of “The fourth symposium on advanced computation and information in natural and applied sciences”	
Claus-Peter Rückemann	040001
Knowledge integration for scientific classification and computation	
Claus-Peter Rückemann	040002
A fast algorithm for the exactly k-digit best rational approximation to a real number	
Maurizio Citterio and Raffaella Pavani	040003
Unification of control in P2P communication middleware: Towards complex messaging patterns	
Oleg Iakushkin and Valery Grishkin	040004

SYMPOSIUM #3

Preface of the “3rd symposium on numerical methods of boundary value problems (BVPs): Analysis, algorithms and real world applications”	
Prof. Dr. Ali Sayfy and Prof. Dr. Suheil Khoury	050001
Solution of Troesch’s problem using fixed-point iteration with embedded green’s functions	
A. Sayfy, H. Kafri and S. Khoury	050002
Third-order BVPs: Fixed-point iteration scheme	
S. Khoury, Mariam Abushammala and A. Sayfy	050003
On total variation flow in L^1 with L^∞ exponent and Neumann boundary conditions	
Thomas Wunderli	050004
Reconstruction of perturbed pressure field in a hydraulic turbine by reduced order modeling techniques	
Diana Alina Bistriean	050005
Stabilized and reliable numerical scheme for a fully discrete Allen-Cahn equation on a smooth domain	
Pius W.M. Chin	050006
Numerical solutions of a class of second order boundary value problems with Robin conditions	
M. Abushammala and H. Kafri	050007
ADI method for solving the two-dimensional coupled nonlinear Schrodinger equation	
M.S. Ismail, H.A. Ashi and F. Al-Rakhemy	050008
Polynomial extensions on a pyramid in three dimensions	
Yang Yang, Jianming Zhang and Zhongjian Zhang	050009

The convergence of the h - p version of the finite element method with quasi-uniform meshes in three dimensions
Jianming Zhang, Yong He and Xian Qi 050010

SYMPOSIUM #4

Preface of the “Second symposium on highlights in copula modeling”
V.A. González-López 060001

Bounds for the cumulative conditional expectation function
M. Fernández and V.A. González-López 060002

Combining multivariate Markov chains
Jesús E. García 060003

Confidence bands in Kendall plots
M.C.C. Bianchi, F. Fernandes-Svartman, M. Fernández and V.A. González-López 060004

SYMPOSIUM #5

Preface of the “Symposium on operational research and applications”
Fernanda A. Ferreira and Flávio Ferreira 070001

Effects of hotel characteristics on room rates in Porto: A hedonic price approach
Conceição Castro and Fernanda A. Ferreira 070002

Privatization in an international mixed duopoly with environmental taxes
Flávio Ferreira 070003

Management of investment risks in the pension systems of OECD countries and Russia
Alexander N. Nepp, Oleg I. Nikonov, Paulina V. Kryuchkova and Alexander N. Semin 070004

The currency risk management in the real sectors of the economy based on volatility
Marina A. Medvedeva and Anatoly M. Volovich 070005

Dynamic modeling of interregional migration processes in the Ural Federal District (Russia)
Oleg I. Nikonov and Alexander A. Tarasiev 070006

Generalized Krein parameters and some theorems on strongly regular graphs
Luís António de Almeida Vieira and Vasco Moço Mano 070007

A decision process with portfolios for value-at-risks
Yuji Yoshida 070008

Bayesian comparison of Kalman filters with known covariance matrices
Jakub Dokoupil, Milan Papež and Pavel Václavěk 070009

SYMPOSIUM #6

Preface of the “Symposium on theoretical and numerical modeling of systems with long range interactions”	
Sergio Curilef	080001
Analytical solutions for a family of Vlasov equations within relaxation time approximation	
Sergio Curilef and Ewin Sánchez	080002
Thermo-statistics of rotating 2D non-screened plasma under an imperfect magnetic confinement	
C. Ordenes-Huanca and L. Velazquez	080003
Anomalous states from a classical Hamiltonian: Electric dipole in a magnetic field	
Boris Atenas, Luis A del Pino and Sergio Curilef	080004
Numerical study of a Vlasov equation for systems with interacting particles	
Dianela Herrera and Sergio Curilef	080005

SYMPOSIUM #7

Preface of the “Computational modeling and experimental assessment of transport processes in building materials and their multi-layered systems”	
Robert Černý	090001
Effect of cation type on chloride binding in building stones	
Milena Pavlíková, Zbyšek Pavlík and Robert Černý	090002
Application of the Lichtenecker’s mixing rule in modeling the thermal properties of autoclaved aerated concrete	
Lukáš Fiala and Robert Černý	090003
Characterization of a lime-pozzolan plaster containing phase change material	
Milena Pavlíková, Zbyšek Pavlík, Anton Trník, Jaroslav Pokorný and Robert Černý	090004
The impact of stone shape to the thermal stress of ashlar masonry	
Pavel Beran	090005
The impact of air flow to the distribution of heat transfer coefficient on circular cylinder	
Pavel Beran	090006
Long-term resistance of HPC to action of deicing salts	
Pavel Reiterman, Ondřej Holčapek, Marcel Jogl, Dagmar Jandeková and Petr Konvalinka	090007
Experimental analysis of fire resistant composite containing fine ceramic powder	
O. Holčapek, P. Reiterman, M. Jogl, J. Kořátková and P. Konvalinka	090008

Coupled thermo-mechanical analysis of Charles Bridge	
T. Krejčí and J. Šejnoha	090009
Influence of metakaolin additive and basalt fibers on the mechanical properties of fire resistant composites	
Jogl Marcel, Reiterman Pavel, Holčapek Ondřej and Kořátková Jaroslava	090010
Moisture and salt transport coupled with damage mechanics	
J. Kruis, T. Koudelka and J. Maděra	090011
Modeling of damage due to shrinkage in autoclaved aerated concrete	
T. Koudelka, J. Kruis, S. Sysala and M. Vokáč	090012
Boussinesq and kinematic wave equation based catchment transport model	
M. Kuraz	090013
Numerical prediction of energy consumption in buildings with controlled interior temperature	
P. Jarošová and S. Štátník	090014
SYMPOSIUM #8	
Preface of the “3rd symposium on dynamics of complex systems & networks: Modelling, computational analysis and control”	
Constantinos I. Siettos	100001
Non parametric granger causality EEG analysis of a visual 1-back-matching discrimination task in children	
F. Protopapa, I. Evaggelidis, I. Myatchin, L. Lagae and C.I. Siettos	100002
A bifurcation analysis of dislocation patterning in the one-dimensional finite domain	
Konstantinos G. Spiliotis and Elias C. Aifantis	100003
Mapping resonance regions in loop networks with spatio-temporal symmetry	
Lucia Russo and Erasmo Mancusi	100004
Complex network theory criterion to distribute fuel breaks for the hazard control of fire spread in forests	
Ioannis N. Evaggelidis, Constantinos I. Siettos, Paola Russo and Lucia Russo	100005
SYMPOSIUM #9	
Preface of the “3rd symposium on statistical inference in linear models”	
Francisco Carvalho	110001
A mixed-effect state space model to environmental data	
Marco Costa and Magda Monteiro	110002

A comparison between single site modeling and multiple site modeling approaches using Kalman filtering	110003
Magda Monteiro and Marco Costa	
Forecasting time series combining Holt-Winters and bootstrap approaches	110004
Marco Costa, A. Manuela Gonçalves and Joana Silva	
Influence of cancer location, sex and country on the death age	110005
Aníbal Areia, Francisco Carvalho and João T. Mexia	
Spatial distribution of climate indices in the Iberian Peninsula	110006
C. Andrade and J.A. Corte-Real	
Estimation of variance components in normal linear mixed models with additivity	110007
Dário Ferreira, Sandra S. Ferreira, Célia Nunes and João T. Mexia	
One-way fixed effects ANOVA with missing observations	110008
Célia Nunes, Gilberto Capistrano, Dário Ferreira, Sandra S. Ferreira and João T. Mexia	
One-way random effects ANOVA with random sample sizes: An application to a Brazilian database on cancer registries	110009
Gilberto Capistrano, Célia Nunes, Dário Ferreira, Sandra S. Ferreira and João T. Mexia	
\mathcal{B}-matrices and its applications to linear models	110010
Francisco Carvalho and Ricardo Covas	
SYMPOSIUM #10	
Preface of the “2nd symposium on latest advances in inverse problem and its application in physical science”	120001
Jun Liu	
Nonlinear membrane inverse finite elements	120002
Mattia Alioli, Pierangelo Masarati, Marco Morandini, Gian Luca Ghiringhelli, Trenton Carpenter and Roberto Albertani	
SYMPOSIUM #11	
On relative controllability of delayed difference equations with multiple control functions	130001
M. Pospíšil, J. Diblík and M. Fečkan	
SYMPOSIUM #12	
Preface of the “Symposium on numerical optimization and applications”	140001
Ana I. Pereira and M. Fernanda Costa	
Combining gait optimization with passive system to increase the energy efficiency of a humanoid robot walking movement	140002
Ana I. Pereira, José Lima and Paulo Costa	

Efficiency assessment of wind farms: A two-stage approach	
C.B. Vaz and A.P. Ferreira	140003
Global vs. local nonlinear optimization techniques for human-like movement of an anthropomorphic robot	
Eliana Costa e Silva, M. Fernanda Costa, Wolfram Erlhagen and Estela Bicho	140004
Relating air pollution and respiratory diseases occurrences	
M.F. Teodoro, J.N. Garcia, L.M. Coelho and M.G. Carvalho	140005
Genetic algorithm for flexible job shop scheduling problem - A case study	
Gabriela Guevara, Ana I. Pereira, Adriano Ferreira, José Barbosa and Paulo Leitão	140006
Nonlinear optimization for human-like synchronous movements of a dual arm-hand robotic system	
G. Gulletta, S.M. Araújo, E. Costa e Silva, M.F. Costa, W. Erlhagen and E. Bicho	140007
Improving the ADACOR² supervisor holon scheduling mechanism with genetic algorithms	
José Barbosa, Paulo Leitão, Emmanuel Adam and Damien Trentesaux	140008
Bootstrap performance profiles in stochastic algorithms assessment	
Lino Costa, Isabel A.C.P. Espírito Santo and Pedro Oliveira	140009
A firefly dynamic penalty approach for solving engineering design problems	
Rogério B. Francisco, M. Fernanda, P. Costa and Ana Maria A.C. Rocha	140010
SYMPOSIUM #13	
Preface of the “Seventh symposium on recent trends in the numerical solution of differential equations”	
Luigi Brugnano and Ewa Weinmüller	150001
Energetic BEM-FEM coupling for the numerical solution of the damped wave equation	
A. Aimi, M. Diligenti, C. Guardasoni and S. Panizzi	150002
Representation of the local error for higher-order exponential splitting schemes involving two or three sub-operators	
Winfried Auzinger, Othmar Koch and Mechthild Thalhammer	150003
Analytical and numerical treatment of singular linear BVPs with unsmooth inhomogeneity	
J. Burkotová, I. Rachunková, S. Staněk and E.B. Weinmüller	150004
Highly stable multivalued numerical methods	
Raffaele D’Ambrosio, Martina Moccaldi and Beatrice Paternoster	150005

Efficient accurate non-iterative breaking point detection and computation for state-dependent delay differential equations	150006
A. Eremin and A.R. Humphries	
A note on preconditioning for singularly perturbed problems discretized by wavelets	150007
Dana Černá and Václav Finěk	
Recent advances in the numerical solution of Hamiltonian PDEs	150008
Luigi Brugnano, Gianluca Frasca Caccia and Felice Iavernaro	
Some convergence results for inexact Radau IIA methods applied to evolutionary PDEs	150009
S. González-Pinto, D. Hernández-Abreu and S. Pérez-Rodríguez	
Modified line integral methods for conservative problems with multiple invariants	150010
Luigi Brugnano and Felice Iavernaro	
Construction of strong stability preserving general linear methods	150011
Giuseppe Izzo and Zdzislaw Jackiewicz	
High-order time-stepping for nonlinear PDE through rapid estimation of block Gaussian quadrature nodes	150012
James V. Lambers	
Numerical solution of nonlinear fractional boundary value problems	150013
Arvet Pedas and Enn Tamme	
Fixed point problem associated with state-dependent impulsive boundary value problems	150014
Irena Rachunková and Jan Tomeček	
Exponentially fitted fifth-order two-step peer explicit methods	150015
M. Calvo, J.I. Montijano, L. Rández and M. Van Daele	
Weighted finite element method of high degree of accuracy for Dirichlet problem with singularity	150016
V.A. Rukavishnikov and E.I. Rukavishnikova	
Application of implicit-explicit general linear methods to reaction-diffusion problems	150017
Hong Zhang and Adrian Sandu	
Numerical infinitesimals for solving ODEs given as a black-box	150018
Yaroslav D. Sergeyev	
Whispering gallery modes in oblate spheroidal cavities: Calculations with a variable stepsize	150019
P. Amodio, T. Levitina, G. Settanni and E.B. Weinmüller	

Inversion of the Riemann-Liouville integral operator and application to Abel equation
Gennadi Vainikko 150020

SYMPOSIUM #14

Preface of the “Fourth ICNAAM symposium on recent developments in Hilbert space tools and methodology for scientific computing”
Metin Demiralp 160001

Tridiagonal kernel enhanced multivariate products representation (TKEMPR) for outer product sums: Arrowheading EMPR for kernel (AEMPRK)
Ayla Okan and Metin Demiralp 160002

Fluctuation removal around spectral and temporal constancy limits via use of an extended space expectation value weight function for singular quantum systems
Berfin Kalay and Metin Demiralp 160003

Separate node ascending derivatives expansion (SNADE) for univariate functions: Conceptuality and formulation
Metin Demiralp 160004

Separate node ascending derivatives expansion (SNADE) for univariate functions: Polynomial recursions, remainder bounds and the convergence
N.A. Baykara and Metin Demiralp 160005

Separate node ascending derivatives expansion (SNADE) for univariate functions: Univariate numerical integration
N.A. Baykara and Ercan Gürvit 160006

Separate node ascending derivatives expansion (SNADE) for univariate functions: Node optimization via partial fluctuation suppression
Ercan Gürvit and N.A. Baykara 160007

Affine THDMR on the unit disk
İrem Yaman 160008

SYMPOSIUM #15

Preface of the “Symposium on computational methods for stochastic models”
Tuan Phung-Duc and Wouter Rogiest 170001

Void-creating algorithm in OPS/OBS: Mind the gap
Kurt Van Hautegeem, Wouter Rogiest and Herwig Bruneel 170002

Stability analysis of a two-stage optical buffer
Wouter Rogiest and Herwig Bruneel 170003

Boundary problem in a system with global FCFS and presorting	170004
Willem Mélange, Joris Walraevens, Dieter Claeys, Bart Steyaert and Herwig Bruneel	
Power consumption analysis for data centers with independent setup times and threshold controls	170005
Jianan Hu and Tuan Phung-Duc	
SYMPOSIUM #16	
Preface of the “Symposium on structure-preserving integrators for differential equations”	180001
Elena Celledoni, Roman Kozlov and Takayasu Matsuo	
Hamiltonian structures of wave-type equations compatible with the finite element exterior calculus	180002
Takaharu Yaguchi	
Invariance of Furihata’s discrete gradient schemes for the Webster equation with different Riemannian structures	180003
Ai Ishikawa and Takaharu Yaguchi	
A fourth-order energy-preserving exponentially-fitted integrator for Poisson systems	180004
Yuto Miyatake	
Splitting methods for controlled vessel offshore operations	180005
Eirik Hoel Høiseith, Elena Celledoni, Einar Gustafsson and Nataliya Ramzina	
Two definitions of fake Lax pairs	180006
Samuel Butler and Mike Hay	
SYMPOSIUM #17	
Preface of the “Third minisymposium on mathematical modeling in hydrology: Novel insight in hydrological modeling”	190001
Lucio Ubertini and Fabio Russo	
Structural health monitoring through fiber Bragg grating strain sensing	190002
R. Panciroli, C. Biscarini, A. Giovannozzi, P. Maggiorana and E. Jannelli	
Calibration of Maidment’s formula coefficients for runoff velocity	190003
D. Orlando, M. Giglioni and Stefano Magnaldi	
Evaluation of optimal rain gauge network density for rainfall-runoff modelling	190004
Valeria Montesarchio, Dario Orlando, Denise Del Bove, Francesco Napolitano and Stefano Magnaldi	
Microwave active sensors and river basin hydrology	190005
Franco Prodi	

A bivariate analysis of temperature and rainfall series for snowfall return period estimation	190006
Elena Ridolfi, Salvatore Grimaldi and Francesco Napolitano	
Using disdrometer measured raindrop size distributions to establish weather radar algorithms	190007
E. Adirosi, L. Baldini, N. Roberto, G. Vulpiani and F. Russo	
Real-time control of urban drainage system: Optimization of spillways	190008
S. Spina, L. Pancotto, G. Paris, F. Lombardo, S. Magnaldi and F. Russo	
A preliminary analysis of rainfall spatial distribution at catchment scale	190009
Maura Rianna, Valeria Montesarchio, Francesco Napolitano and Lucio Ubertini	
SYMPOSIUM #18	
Preface of the “Symposium on exponential product and quantum analysis”	200001
Masuo Suzuki	
Synergies from using higher order symplectic decompositions both for ordinary differential equations and quantum Monte Carlo methods	200002
Hans-Georg Matuttis and Xiaoxing Wang	
Exact mapping from singular value spectrum of a class of fractal images to entanglement spectrum of one-dimensional free fermions	200003
Hiroaki Matsueda and Ching Hua Lee	
Historical remarks on exponential product and quantum analysis	200004
Masuo Suzuki	
Eigenvalue problem of the Liouvillian of open quantum systems	200005
Naomichi Hatano and Tomio Petrosky	
Recent progress of quantum annealing	200006
Sei Suzuki	
Quantum analysis applied to thermo field dynamics on dissipative systems	200007
Yoichiro Hashizume, Masuo Suzuki and Soichiro Okamura	
SYMPOSIUM #19	
Preface of the “Symposium on modelling of biological cells, fluid flow and microfluidics”	210001
Ivan Cimrak	
Dynamics of magnetic particles in microfluidic channels	210002
Markus Gusenbauer and Thomas Schrefl	
Local stress analysis of red blood cells in shear flow	210003
Renata Tothova and Ivan Cimrak	

A novel approach with non-uniform force allocation for area preservation in spring network models	210004
Iveta Jančigová and Ivan Cimrák	
A simplified model for dynamics of cell rolling and cell-surface adhesion	210005
Ivan Cimrák	
SYMPOSIUM #20	
Preface of the “Symposium on theoretical and computational modeling of biomembranes”	220001
K. Kubica	
The network model of electroporation	220002
Krystian Kubica, Artur Wrona and Magdalena Żulpo	
SYMPOSIUM #21	
Preface of the “Second symposium on physical-chemical gas-dynamics: Non-equilibrium processes modeling and simulation”	230001
Yuriy Gorbachev	
Non-equilibrium one-temperature reaction rates	230002
Evgeniy G. Kolesnichenko and Yuriy E. Gorbachev	
Computational stochastic model of ions implantation	230003
Galina I. Zmievskaya, Anna L. Bondareva, Tatiana V. Levchenko and Giuseppe Maino	
Multiphase convective flow with steady sedimentation and equilibrium condensation	230004
Mikhail A. Zatevakhin	
Testing and acceleration of the conservative projection method for solving Boltzmann kinetic equation	230005
F.G. Tcheremissine	
DSMC models for H₂O condensation process	230006
Nikolay Y. Bykov and Yuriy E. Gorbachev	
A single fluid kinetic and continuum model in multicomponent gas mixtures	230007
S. Kokou Dadzie	
SYMPOSIUM #22	
Preface of the “Symposium on engineering problems of plasticity”	240001
Rostislav I. Nepershin	
Limiting states of plastic materials	240002
Anastasia A. Bukhanko, Anton Yu. Loshmanov and Aleksander I. Khromov	
Limit state of plastic layer compressed by rigid dies	240003
Ljudmila A. Maksimova	

Ideal plastic deformation of thick-walled tubes	240004
Rostislav I. Nepershin	
Thin-walled tube plastic crash in bending	240005
Rostislav I. Nepershin	
SYMPOSIUM #23	
Preface of the “Symposium on applied problems in probability theory and mathematical statistics related to modeling of information systems (APPT+MS)”	250001
Prof. Dr. Alexander Zeifman	
Statistical decision functions based on bans	250002
Alexander A. Grusho, Nick A. Grusho and Elena E. Timonina	
On joint stationary distribution in exponential multiserver reordering queue	250003
Alexander V. Pechinkin, Rostislav R. Razumchik and Ilaria Caraccio	
Approximating performance measures of radio admission control model for non real-time services with maximum bit rates in LTE	250004
Sergey Ya. Shorgin, Konstantin E. Samouylov, Irina A. Gudkova, Ekaterina V. Markova and Eduard S. Sopin	
Threshold-based queuing system for performance analysis of cloud computing system with dynamic scaling	250005
Sergey Ya. Shorgin, Alexander V. Pechinkin, Konstantin E. Samouylov, Yuliya V. Gaidamaka, Irina A. Gudkova and Eduard S. Sopin	
Application of GPU and parallel programming on grid methods	250006
Victor Yu. Kuzmin, Andrey K. Gorshenin, Dmitry S. Ostroumov and Marina G. Uglitskaya	
Numerical research of the optimal control problem in the semi-Markov inventory model	250007
Andrey K. Gorshenin, Vasily V. Belousov, Peter V. Shnourkoff and Alexey V. Ivanov	
On implementation of EM-type algorithms in the stochastic models for a matrix computing on GPU	250008
Andrey K. Gorshenin	
On the deficiency of some estimators constructed from samples with random sizes	250009
Vladimir E. Bening, Victor Yu. Korolev, V.A. Savushkin and Alexander I. Zeifman	
Limit theorems for statistics with random sample sizes	250010
M.E. Grigoryeva, Victor Yu. Korolev and Alexander I. Zeifman	
On ergodicity bounds for an inhomogeneous birth-death process	250011
Alexander I. Zeifman, Victor Yu. Korolev, Andrey V. Chertok and Sergey Ya. Shorgin	

On perturbation bounds for a queueing model with group services	
Alexander I. Zeifman, Anna V. Korotysheva, Galina N. Shilova, Victor Yu. Korolev and Vladimir E. Bening	250012
On order flow toxicity	
A. Chertok	250013
SYMPOSIUM #24	
Preface of the “Symposium on initial boundary value problems (IBVP) and its applications”	
Şerife Faydaoğlu	260001
Initial boundary value problems for mechanochemical corrosion of a thick spherical member in terms of principal stress	
Olga S. Sedova and Yulia G. Pronina	260002
On discontinuous Dirac systems with eigenvalue dependent boundary conditions	
Etibar S. Panakhov and Tuba Gulsen	260003
Numerical assessment of Dirac equation system by means of homotopy analysis method	
Etibar S. Panakhov and Mine Babaoglu	260004
On spectral properties of a fourth-order boundary value problem with impulse	
Serife Faydaoglu	260005
SYMPOSIUM #25	
Preface of the “Symposium on recent mathematical approaches & applications in geosciences”	
Mohammed Farfour	270001
Anisotropy investigation of a core image using the two-dimensional anisotropic wavelet transform	
Said Gaci, Naima Zaourar, Yoon-Geun Jo and Dongshin Kim	270002
Correction of steel casing effect for density log using numerical and experimental methods in the slim borehole	
Seho Hwang, Byeongho Won, Jehyun Shin and Jongman Kim	270003
Prestack reverse time migration for 3D marine reflection seismic data	
Seonghyung Jang and Taeyoun Kim	270004
Application of resistivity monitoring to evaluate cement grouting effect in earth filled dam	
Jin-Mo Kim and Wang-Jung Yoon	270005
Mineral classification map using MF and SAM techniques: A case study in the Nohwa Island, Korea	
Young-Sun Son and Wang-Jung Yoon	270006
Experimental approaches for the development of gamma spectroscopy well logging system	
Jehyun Shin, Seho Hwang, Jongman Kim and Byeongho Won	270007

SYMPOSIUM #26

- Preface of the “Symposium on adaptive materials, devices and systems towards unconventional computing and robotics: Modeling and implementation”**
Salvatore Iannotta and Victor Erokhin 280001
- Optimization of synthesis protocols to control the nanostructure and the morphology of metal oxide thin films for memristive applications**
G. Baldi, M. Bosi, G. Giusti, G. Attolini, T. Berzina, C. Collini, L. Lorenzelli, R. Mosca, P. Nozar, J.S. Ponraj, T. Toccoli, R. Verucchi and S. Iannotta 280002
- Hybrid slime mold - containing systems for unconventional computing**
Tatiana Berzina, Alice Dimonte, Angelica Cifarelli and Victor Erokhin 280003
- Physics of the rupturing mechanism for HP memristor in flux mode**
Jacopo Secco, Fernando Corinto and Marius Orłowski 280004
- Electrochemical model of polyaniline-based memristor with mass transfer step**
V.A. Demin, V.V. Erokhin, P.K. Kashkarov and M.V. Kovalchuk 280005
- Organic memristive device as key element for neuromorphic networks**
Victor Erokhin 280006
- Nanoengineered polymeric capsules for bio-computing**
Svetlana Erokhina, Laura Pastorino, Vladimir Sorokin and Victor Erokhin 280007
- Material-based non-neural analogues of lateral inhibition: A multi-agent approach**
Jeff Dale Jones 280008
- Alignment of liquid crystal/carbon nanotube dispersions for application in unconventional computing**
M.K. Massey, D. Volpati, F. Qaiser, A. Kotsialos, C. Pearson, D.A. Zeze and M.C. Petty 280009
- Phoneme discrimination using a pair of neurons built from CRS fuzzy logic gates**
Ondrej Šuch, Martin Klimo and Ondrej Škvarek 280010

SYMPOSIUM #27

- Standard electromagnetically driven cosmology coupled with fermionic source**
M.M.C. Mello and R. Klippert 290001
- The light rays analogue of a static black hole**
E. Bittencourt, V.A. De Lorenci, R. Klippert, M. Novello and J.M. Salim 290002
- Representing massive gravitons, as a way to quantify early universe magnetic field contributions to space-time, created by non linear electrodynamics**
Andrew Walcott Beckwith 290003

SYMPOSIUM #28

Preface of the “Mini-symposium on mechanics of thin-walled structures”	
Petr Evgenevich Tovstik	300001
Application of shell theories for simulation of intraocular pressure changes after injection	
Svetlana M. Bauer, Vladimir V. Kornikov and Eva B. Voronkova	300002
Stiffened shell of minimal weight in buckling problems	
Sergei B. Filippov	300003
Stress stage influence on diffusion process in materials	
D. Indeitsev and Yu. Mochalova	300004
Numerical study of convergence of nonlinear models of the theory of shells with thickness decrease	
Sergey A. Kabrits and Eugeny P. Kolpak	300005
Statics and dynamics of a rod under axial compression	
Aleksandr K. Belyaev, Nikita F. Morozov and Petr E. Tovstik	300006
Elastic-plastic deformations of a beam with the SD-effect	
Galina V. Pavilaynen	300007
On the applicability of thin spherical shell model for the problems of mechanochemical corrosion	
Yulia G. Pronina, Olga S. Sedova and Sergey A. Kabrits	300008
Free vibrations of perforated thin plates	
Andrei Smirnov and Alexandr Lebedev	300009
Vibrations of a floating beam on marine waves	
Valentin S. Sabaneev, Petr E. Tovstik, Tatiana M. Tovstik and Alexei S. Shekhovtsov	300010
Two-dimensional model of plate made of anisotropic inhomogeneous material	
Petr E. Tovstik and Tatiana P. Tovstik	300011

SYMPOSIUM #29

Preface of the “4th symposium on computer languages, implementations and tools” -SCLIT 2014-	
Zoran Budimac	310001
Implementing semantically rich business vocabularies in CASE tools	
Tomas Skersys, Saulius Pavalkis and Lina Nemuraite	310002
Automated language symbolization and conceptualization in human - computer communication	
Ján Kollár	310003

Application of the two-hemisphere model supported by BrainTool: Football game simulation	310004
Oksana Nikiforova, Uldis Sukovskis and Konstantins Gusarovs	
Iterative domain-specific language development with YAJCo parser generator	310005
Porubän Jaroslav and Lakatoš Dominik	
Comprehensible presentation of clone detection results	310006
Viktória Fördös and Melinda Tóth	
Bringing together manual and automated code assessment	310007
Ivan Pribela, Doni Pracner and Zoran Budimac	
Specifying structural constraints of architectural patterns in the ARCHERY language	310008
Alejandro Sanchez, Luis S. Barbosa and Daniel Riesco	
Mobile app development in HTML5	310009
Spyros Xanthopoulos and Stelios Xinogalos	
Educational influences of choice of first programming language	310010
Mirjana Ivanović, Zoran Budimac and Đura Paunić	
Configure and refactor cloud applications with Enterprise Library Integration Pack for Microsoft Azure using Aspect.NET	310011
Vladimir O. Safonov, Dmitry A. Grigoriev, Adel N. Safonova and Anastasiya V. Grigorieva	
Introducing support for Erlang into SSQSA framework	310012
Melinda Tóth, Attila Páter-Részeg and Gordana Rakić	
Improvement of load balancing mechanism in multi-core architectures over high availability technique	310013
Arsen Kurti, Iqli Tafa and Aldi Disha	
SYMPOSIUM #30	
Preface of the “1st symposium on multiscale, multiphysics and turbulent flow simulations”	320001
Serdar Çelebi and Mine Çağlar	
Exact analytical representation of fiber stress tensor based on angular integration (AI) through cellular level probabilistic equations	320002
Gürsan Çoban and M. Serdar Çelebi	
High reynolds number hybrid RANS/LES modeling with turbulent time scale bounding	320003
V.K. Krastev and G. Bella	
Representing subgrid stress with cinlar velocity field in large eddy simulation	320004
Rukiye Kara	

Numerical investigation of influence of leaflet calcification on aortic valve hemodynamics
Armin Amindari and Huseyin C. Yalcin 320005

SYMPOSIUM #31

Preface of the “Minisymposium on advances in iterative/semi-analytical methods for ordinary differential equations and their applications in engineering problems”
Assist. Prof. Dr. Mehmet Tarik Atay 330001

Evaluation of some convolution sums
Barış Kendirli 330002

Representation numbers of some quadratic forms of discriminant - 75
Barış Kendirli 330003

Numerical solutions of linear and nonlinear Lane-Emden type equations by using magnus expansion method
Cahit Köme, Mehmet Tarık Atay, Aytekin Eryilmaz and Sure Köme 330004

Magnus expansion method for solving singularly perturbed turning point problems having boundary layers
Sure Köme, Mehmet Tarık Atay, Aytekin Eryilmaz and Cahit Köme 330005

SYMPOSIUM #32

Preface of the “Minisymposium on theory and application of matrix equations”
Ivan Kyrchei 340001

Higher order matrix differential equations with singular coefficient matrices
V.C. Fragkoulis, I.A. Kougioumtzoglou, A.A. Pantelous and A. Pirrotta 340002

SYMPOSIUM #33

Preface of the “Symposium on dynamical systems applications”
Carla M.A. Pinto and Cristina P. Santos 350001

Dynamic states of a unidirectional ring of chen oscillators
Ana Carvalho and Carla M.A. Pinto 350002

Effects of dynamic quarantine and nonlinear infection rate in a model for computer worms propagation
Carla M.A. Pinto 350003

Virus propagation in a SIQR model with impulse quarantine
Carla M.A. Pinto and Ana Carvalho 350004

Dynamics of coinfection of HIV/AIDS and tuberculosis with exogeneous reinfection
Ana Carvalho and Carla M.A. Pinto 350005

SYMPOSIUM #34

Preface of the “Symposium on analysis and design of multi-functional composite structures” Ramesh Gupta	360001
Modeling of piezocomposites using variational asymptotic method Shashank Agrawal and Dineshkumar Harursampath	360002
Analysis of transverse shear strains in pre-twisted thick beams using variational asymptotic method Maqsood M. Ameen and Dineshkumar Harursampath	360003
VAM applied to dimensional reduction of nonlinear multifunctional film-fabric laminates Alap Kshirsagar, Dineshkumar Harursampath and Ramesh Gupta Burela	360004
Unified continuum damage model for matrix cracking in composite rotor blades Hemaraju Pollayi and Dineshkumar Harursampath	360005
Thermo-elastic failure simulation of 3-D orthotropic composites by XFEM Himanshu Pathak, Ramesh Gupta Burela, Akhilendra Singh and Indra VirSingh	360006

SYMPOSIUM #35

Preface of the “Symposium on some new trends in nonlinear differential equations” Necdet Bildik and Duygu Dönmez Demir	370001
Implementation of Taylor collocation and Adomian decomposition method for systems of ordinary differential equations Necdet Bildik and Sinan Deniz	370002
The solution of a string model by Adomian decomposition method Duygu Dönmez Demir and Erhan Koca	370003
Exact solutions of nonlinear Schrödinger’s equation by using generalized Kudryashov method Yusuf Pandir, Abdullah Sonmezoglu, Hasan Huseyin Duzgun and Nail Turhan	370004
Solving nonlinear space-time fractional differential equations using the exp-function method Özkan Güner, Ahmet Bekir and Yusuf Pandir	370005
An efficient approach for solving telegraph equation Ayse Betül Koc and Aydin Kurnaz	370006
A tumor-macrophage interaction model with fuzzy initial values F. Berna Benli and O. Keskin	370007
Numerical solution of generalized Burgers-Fisher equation by exponential cubic B-spline collocation method I. Dag and O. Ersoy	370008

The n-th stationary KdV equation and the monodromy	370009
Masatomo Matsushima and Mayumi Ohmiya	
Inverse problem for the quadratic pencil of the Sturm-Liouville equations	370010
Etibar S. Panakhov, Kezban Tas and Murat Sat	
The extended B-spline collocation method for numerical solutions of Fisher equation	370011
O. Ersoy and I. Dağ	
Reduced differential transform method for improved Boussinesq equation	370012
Sema Servi, Yildiray Keskin and Galip Oturanç	
The analysis of the exact solutions of the space fractional coupled KD equations	370013
Seyma Tuluçe Demiray, Yusuf Pandir and Hasan Bulut	
An application of the new function method to the generalized double sinh-Gordon equation	370014
Hasan Bulut, Tolga Akturk and Yusuf Gurefe	
Reduced differential transform method for (2+1) dimensional type of the Zakharov–Kuznetsov $ZK(n,n)$ equations	370015
Omer Acan and Yildiray Keskin	
New exact solutions of the space-time fractional potential Kadomtsev-Petviashvili (pKP) equation	370016
Yusuf Pandir and Ayse Yildirim	
On the solutions of nonlinear Boussinesq differential equations	370017
Necdet Bildik and Yusuf Ali Tandoğan	
SYMPOSIUM #36	
Preface of the “Symposium on graphs”	380001
Vojislav Petrović	
Bounds for the distance Estrada index of graphs	380002
Ş. Burcu Bozkurt Altındağ and Durmuş Bozkurt	
Uniform coverings of 2-paths in the complete bipartite directed graph	380003
Midori Kobayashi, Keiko Kotani, Nobuaki Mutoh and Gisaku Nakamura	
Existence of regular factors in star-free graphs	380004
Keiko Kotani	
SYMPOSIUM #37	
Preface of the “Minisymposium on boundary value problems and integral equations with applications”	390001
A.V. Setukha	

μ-diff: A matlab toolbox for multiple scattering problems by disks	390002
Bertrand Thierry, Xavier Antoine, Chokri Chniti and Hasan Alzubaidi	
Domain decomposition methods to solve reaction-diffusion problems in a sectorial domain	390003
Chniti Chokri	
Numerical simulation of scattering of acoustic waves by inelastic bodies using hypersingular boundary integral equation	390004
S.G. Daeva and A.V. Setukha	
Generalized Helmholtz's theorem	390005
V.V. Markov and G.B. Sizykh	
Toeplitz matrices used to solve Volterra-Fredholm integral equations with Carleman Kernel	390006
Sharefa Eisa Ali Alhazmi	
Accumulation effect for water-waves mode trapped in a canal	390007
Tiziana Durante	
Improvement of a Sinc-collocation method for Fredholm integro-differential equations	390008
Tomoaki Okayama	
Development of numerical-analytical method for calculating potential flow around 2D-body	390009
Vladimir Frolov	
On some numerical scheme of solving diffraction problem on open and closed screens	390010
Gleb V. Ryzhakov	
SYMPOSIUM #38	
Preface of the "Minisymposium particle-based multiscale analysis"	400001
Rimantas Kačianauskas and Harald Kruggel-Emden	
Numerical and experimental investigation of the pressure drop in packings of spherical and non-spherical particles	400002
Kevin Vollmari, Muhammad S. Khan, Tobias Oschmann and Harald Kruggel-Emden	
Development and application of a thermal lattice Boltzmann scheme	400003
Bogdan Kravets, Muhammad S. Khan and Harald Kruggel-Emden	
Numerical investigation of a continuous screening process by the discrete element method	400004
Harald Kruggel-Emden and Frederik Elskamp	
Modelling of the normal elastic dissipative interaction of a <i>S. Aureus</i> Bacterium	400005
Raimondas Jasevičius, Romas Baronas, Rimantas Kačianauskas and Harald Kruggel-Emden	

Adapting the discrete element method to simulation of acoustic agglomeration of aerosol particles	400006
Rimantas Kačianauskas, Algirdas Maknickas and Darius Markauskas	
Simulation of random cracking of heterogeneous matrix reinforced by the ribbed bar	400007
Ona Lukoševičienė, Rimantas Kačianauskas and Saulius Pilkavičius	
Semi-analytical model for non-spherical particles	400008
Rimantas Kačianauskas, Álvaro Ramírez-Gómez and Urtė Radvilaitė	
Discrete element analysis on the discharge rate of elongated particles	400009
Carlos González-Montellano and Álvaro Ramírez-Gómez	
SYMPOSIUM #39	
Preface of the “Symposium on environmental impact on the degradation of historical masonry: Computational simulations and experimental measurements”	410001
Oldrich Zmeskal	
Online climatic database for in-depth numerical analysis of building performance: Design of the code and example of application	410002
Kamil Ďurana, Jiří Maděra and Robert Černý	
Software for service life assessment of historical buildings: Implementation of coupled heat, moisture and salt transport model	410003
Jiří Maděra, Kamil Ďurana, Jan Kočí, Václav Kočí and Robert Černý	
Modification of the computational model of coupled heat and moisture transport: The transition between the liquid and gaseous phases of water	410004
Kamil Ďurana, Jan Kočí, Jiří Maděra, Jaroslav Pokorný and Robert Černý	
Moisture diffusivity of wood	410005
Miloš Jerman and Robert Černý	
In-situ analysis of hygric performance of piaristic monastery building	410006
Zbyšek Pavlík, Milena Pavlíková, Lukáš Balík and Robert Černý	
Applicability of contemporary ceramic bricks for the reconstruction of historical masonry	410007
Tereza Kulovaná, Zbyšek Pavlík, Jan Fořt, Milena Pavlíková, Jaroslav Pokorný, Lukáš Balík and Robert Černý	
Parameters describing the coupled water and nitrate transport and storage in materials of historical masonry	410008
Jan Fořt, Zbyšek Pavlík, Milena Pavlíková, Lukáš Fiala and Robert Černý	
Hygric properties of sandstones as a function of porosity	410009
Dana Koňáková, Monika Čáchová, Eva Vejmelková, Martin Keppert and Robert Černý	

Thermal insulating plasters and their hygric properties	
Monika Čáchová, Dana Koňáková, Eva Vejmelková, Pavel Reiterman and Robert Černý	410010
Compressive strength of deteriorated historic masonry based on measurements	
Miroslav Sykora and Milan Holicky	410011
Study of thermal properties of insulating materials	
Oldrich Zmeskal, Lucie Trhlikova and Lenka Dohnalova	410012
Reliability of existing clay masonry structures	
Markova Jana and Holicky Milan	410013
Identification of material characteristics in non-stationary heat and mass transfer	
J. Vala and P. Jarošová	410014
Capillary transfer coefficient in diffusion equation derived from a known solution	
L. Škripková	410015
SYMPOSIUM #40	
Preface of the “Symposium on phase transitions of the Baxter-Wu model and other models with triple-spin interactions”	
Ioannis N. Velonakis and Sotirios S. Martinos	420001
Monte Carlo renormalization group studies of the Baxter-Wu model in the presence of an external magnetic field	
Ioannis N. Velonakis	420002
SYMPOSIUM #41	
Preface of the “II mini symposium on symmetry methods and applications for differential equations”	
Maria Santos Bruzón, Igor Leite Freire, Maria Luz Gandarias, Chaudry Masood Khaliq, Mariano Torrisi and Rita Tracinà	430001
Analysis of the symmetries and conservation laws of a Gardner equation	
M.S. Bruzón and R. de la Rosa	430002
Classification of evolution equations possessing two-soliton solutions and lax pairs by direct methods	
Georgy I. Burde	430003
Symmetry analysis of a generalized Fisher equation	
M.L. Gandarias and R. Rosa	430004
On first integrals of ODEs admitting λ-symmetries	
Roman Kozlov	430005

SYMPOSIUM #42

Preface of the “11th symposium on clifford analysis and applications”	
K. Guerlebeck and W. Sproessig	440001
On modified quaternionic analysis, gradient dynamical systems and Kolmogorov equations in \mathbb{R}^3	
Dmitry Bryukhov	440002
Radial integration method in quaternion function theory and its applications	
Yu. Grigoriev	440003
An interpolation problem arising in a coupling of the finite element method with holomorphic basis functions	
K. Gürlebeck, U. Kähler and D. Legatiuk	440004
ψ-hyperholomorphic functions and an application to elasticity problems	
Klaus Gürlebeck and Hung Manh Nguyen	440005
A numerical algorithm for solving the Beltrami equation	
R. Michael Porter and Hirokazu Shimauchi	440006
Generalized hyperbolic harmonic functions in the plane	
Sirkka-Liisa Eriksson, Heikki Orelma and Vesa Vuojamo	440007
Generalized Cauchy-Riemann-type operators and some integral representation formulas	
Yanett Bolívar, Antonio Di Teodoro and Judith Vanegas	440008

SYMPOSIUM #43

Preface of the “Minisymposium on modern methods for solving problem of control and modeling of physical, biological and socio-economic processes”	
Alexander N. Kvitko	450001
A method for solving a local boundary problem for nonlinear controlled system	
Alexander Kvitko	450002
Control of simulation of a particle accelerator as a spatially distributed system	
S. Andrianov	450003
Identifiability and controllability of a dynamic system under restriction on measuring errors	
Valentina Chashnikova	450004
On control of continuous dynamical polysystems in discrete times	
S.M. Khryashchev	450005
On one boundary problem for nonlinear controlled system	
Daria B. Yakusheva	450006

A mathematical model of economic growth connecting demographic setting with controlled migration	
Alexandra Lukina and Alexander Prasolov	450007
On the estimation of the attainability set of nonlinear control systems	
A.V. Ekimov, Yu.E. Balykina and M.V. Svirkin	450008
Game-theoretic model of inspection by anti-corruption group	
G.V. Alferov, O.A. Malafeyev and A.S. Maltseva	450009
Control with expenditure criteria in rotational motion of the satellite moving along a circular orbit	
Levon K. Babadzanjanz, Irina Yu. Pototskaya and Yulia Yu. Pupysheva	450010
Mathematical and numerical analysis of the waves motion in electrically conducting incompressible fluid	
S. Kholodova and S. Peregudin	450011
A model of interaction between anticorruption authority and corruption groups	
Elena G. Neverova and Oleg A. Malafeyef	450012
Comparative characteristics and selection of optimal filtering algorithm signal using LabVIEW software package	
A.A. Maslov and T.A. Lepikhin	450013
Mathematical model and software complex for computer simulation of field emission electron sources	
Konstantin Nikiforov	450014
Informational sensitivity as algorithm's complexity function characteristic	
Anastasia Kiktenko, Mikhail Lunkovskiy and Konstantin Nikiforov	450015
SYMPOSIUM #44	
Preface of the "Symposium on multi-scale computational modelling and simulation for complex materials (fluid and solid)"	
Prof. Thanh Tran-Cong and Dr. Canh-Dung Tran	460001
Microstructural computational modelling of soft tissues	
Aleksandar Tomic, Alfio Grillo and Salvatore Federico	460002
Shear deformable deformation of carbon nanotubes based on a new analytical nonlocal Timoshenko beam model	
Jianming Zhang and Yang Yang	460003
SYMPOSIUM #45	
Preface of the "Minisymposium on high accuracy solution of ordinary and Partial Differential Equations"	
Prof. Dr. Murli M. Gupta	470001

On the improvement of convergence rate of difference schemes with high order differences for a convection-diffusion equation	
Givi Berikelashvili, Murli M. Gupta and Bidzina Midodashvili	470002
Approximate solution of Kuramoto–Sivashinsky equation using reduced differential transform method	
Omer Acan and Yıldray Keskin	470003
GPU accelerated flow computation by the streamfunction-velocity (ψ-v) formulation	
Jiten C. Kalita, Parikshit Upadhyaya and Murli M. Gupta	470004
SYMPOSIUM #46	
Preface of the “Second symposium on computational and applied sciences”	
Dr. Waheed K. Zahra, Dr. Mohamed A. Bek and Dr. Manal. M. Hikal	480001
Solution of the system of Cauchy-type singular integral equations of the first kind by third- and fourth- kind Chebyshev polynomials	
Hatice Kübra Duru and Elçin Yusufoglu	480002
SYMPOSIUM #47	
Preface of the “2nd symposium on computational and analytical techniques for solving coupled multiphysics problems”	
Youhe Zhou	490001
Influence of pre-stress fields on electric properties of semiconductor nanowires	
Linli Zhu	490002
Dynamic response of pile in elasto-viscoplastic soil by load-transfer methods	
Feng Hu	490003
A non-local bond-based peridynamic model for elastic behavior and fracture analysis	
Dan Huang, Guangda Lu and Mengwei Wang	490004
Effective electromagnetic and thermoelastic properties for multi-phase composites based on the generalized M-T method	
Zhichao Zhang and Xingzhe Wang	490005
Numerical simulation of nonlinear thermo-magneto-electric coupling effect in ME laminates	
Hao-Miao Zhou and Xiao-Le Cui	490006
The compressive buckling and size effect of single-walled carbon nanotubes	
Yuzhou Sun, Yanzhi Zhu and Dongxia Li	490007
A micromechanics-based incremental damage model for carbon black filled rubbers	
Yunpeng Jiang and Kun Qiu	490008

Thermomagnetic instability and correlated deformation in the type-II superconducting films Ze Jing, Huadong Yong and You-He Zhou	490009
Investigations on the mechanical behavior of nanowires with twin boundaries by atomistic simulations Xia Tian	490010
Wavelet method for viscoelastic fractional derivative model Xiaomin Wang, Jizeng Wang and Youhe Zhou	490011
A new boundary integral equation for crack problems of the superconducting bulk in applied magnetic field Zhaoxia Zhang, Wen Chen and Xiaofan Gou	490012
Solution of second order quasi-linear boundary value problems by a wavelet method Lei Zhang, Youhe Zhou and Jizeng Wang	490013
Modeling of the reversible effect of the axial strain on the critical current of superconducting REBCO films Guang Zhu and Xiaofan Gou	490014
Study of the influence of soft ferromagnet location and dimensions on the levitation performance for maglev systems Chenguang Huang and Youhe Zhou	490015
SYMPOSIUM #48	
Preface of the “Symposium on state of the art of mathematical modeling, numerical analysis, optimization and control of hybrid renewable energy systems (wind power/photovoltaic energy)” Alexandru Dumitrache and Florin Frunzulica	500001
Numerical investigations on dynamic stall control with passive elements Florin Frunzulica, Alexandru Dumitrache and Bogdan Suatean	500002
The use of experimental design to find the operating maximum power point of PEM fuel cells Aurelian Crăciunescu, Laurențiu Pătularu, Gloria Ciumbulea, Valentin Olteanu, Cristina Pitorac and Elena Drugan	500003
The analyze of the dynamic performances of two maximum power point tracking algorithms for photovoltaic systems Aurelian Crăciunescu, Claudia Popescu, Mihai Popescu, Marin-Leonard Florea, Elena Drugan and Gabriel Colț	500004
Aerodynamic study of active flow control using blowing jets over some trailing edge configurations A.R. Isac, D.E. Crunteanu and F. Frunzulica	500005

Turbulence models in CFD simulation of low-Reynolds number airfoils flow Stefan Bogos, Alexandru Dumitrache and Florin Frunzulica	500006
Influence of unsteady flow on the aerodynamics and aeroacoustics of vertical axis wind turbines A. Dumitrache, F. Frunzulica and D.E. Crunteanu	500007
SYMPOSIUM #49	
Preface of the “Fifth international workshop on iso-, geno-, and hypermathematics” Christian Corda, Anil Bhalekar and Thomas Vougiouklis	510001
Isopermutation group A.S. Muktibodh	510002
An intrinsically irreversible, neural-network-like approach to the Schrödinger equation and some results of application to drive nuclear synthesis research work Ugo Abundo	510003
Study on possible trajectories and impacts with earth of antimatter bodies in the solar system according to isodual theory of antimatter Simone Beghella Bartoli	510004
Santilli’s detection of antimatter galaxies: An introduction and experimental confirmation P.M. Bhujbal	510005
On the Rutherford-Santilli neutron model Chandrakant S. Burande	510006
Bose-Einstein correlation within the framework of hadronic mechanics Chandrakant S. Burande	510007
Hadronic nuclear energy: An approach towards green energy Indrani B. Das Sarma	510008
Santilli’s hadronic mechanics of formation of deuteron Sudhakar S. Dhondge	510009
Multiple iso-integrals S. Georgiev	510010
Novel Mössbauer experiment in a rotating system: Extra energy shift confirmed A.L. Kholmetskii, T. Yarman, M. Arik and O.V. Missevitch	510011

A brief review of intermediate controlled nuclear syntheses (ICNS) without harmful radiations	
R.B. Lanjewar	510012
Polarization of photons in matter–antimatter annihilation	
S.S. Moskaliuk	510013
Category of Lie-Santilli isogroups	
S.S. Moskaliuk	510014
Studies on the new fuels with Santilli magnecular structure and their industrial applications	
Chandrashekhar P. Pandhurnekar	510015
A brief note on the magnecule order parameter upgrade hypothesis	
Nathan O. Schmidt	510016
Launching the chaotic realm of iso-fractals: A short remark	
Nathan O. Schmidt, Reza Katebi and Christian Corda	510017
A gist of comprehensive review of hadronic chemistry and its applications	
Vijay M. Tangde	510018
Iso-hypernumbers, Iso-H_v-numbers	
T. Vougiouklis	510019
Lie-Santilli admissibility on non square matrices	
T. Vougiouklis	510020
Study of combustion of coal with magnegas as additive for improved combustion efficiency: A review of present scenario and future scope	
Sachin S. Wazalwar, Vijay M. Tangde and Anil A. Bhalekar	510021
Novel chemical species of Santilli’s magnegas in hadronic chemistry	
Sangesh P. Zodape	510022
Bohr-like black holes	
Christian Corda	510023
New experimental support to Santilli’s mechanism of IsoRedShift (IRS) in “heavy ions and dust free” medium	
Sanjay J. Dhoble	510024
Mathematical, theoretical and experimental confirmations of IRS and IBS by R.M. Santilli	
Ritesh L. Kohale	510025

SYMPOSIUM #50

- Preface of the “Symposium on applied mathematics to computer science”**
Silvia M. Sanahuja and Jose C. Valverde 520001
- The circular representation of 2 FIFO-queues in single level memory**
Andrew V. Sokolov and Andrew V. Drac 520002
- Some problems of optimal control of two parallel FIFO-queues**
Andrew V. Sokolov and Eugene A. Barkovsky 520003

SYMPOSIUM #51

- Preface of the “Symposium on modeling, simulation and optimization of transportation networks”**
Nadir Farhi, Xavier Louis and Jean-Patrick Lebacque 530001
- Criticism of generally accepted fundamentals and methodologies of traffic and transportation theory**
Boris S. Kerner 530002
- Fast multirate numerical integration scheme for large-scale traffic simulation**
Valentina Kurtc and Igor Anufriev 530003
- On the robust guidance of users in road traffic networks**
Nadir Farhi, Habib Haj-Salem and Jean-Patrick Lebacque 530004
- Real-time dynamic information to road-users: New challenges for urban road network management strategies**
Luc Charansonney and Vincent Aguiléra 530005
- Traffic flow on a road network using a conserved higher-order model**
Zhi-Yang Lin, Peng Zhang, Li-Yun Dong, S.C. Wong and Keechoo Choi 530006
- Two-dimensional hydrodynamic model for traffic flow simulation using parallel computer systems**
Antonina A. Chechina, Natalia G. Churbanova and Marina A. Trapeznikova 530007
- Relaxation approximations to second-order traffic flow models by high-resolution schemes**
I.K. Nikolos, A.I. Delis and M. Papageorgiou 530008
- A simulation-based model for dynamic traffic assignment on guided vehicles**
Dihya Atmani, Jean-Patrick Lebacque, Neila Bhourri and Habib Haj-Salem 530009
- Application of multi-objective nonlinear optimization technique for coordinated ramp-metering**
Habib. Haj Salem, Nadir Farhi and Jean Patrick Lebacque 530010

A multiclass vehicular dynamic traffic flow model for main roads and dedicated lanes/roads of multimodal transport network
K.S. Sossoe and J-P. Lebacque 530011

A queuing model for road traffic simulation
N. Guerrouahane, N. Farhi, D. Aissani and L. Bouallouche-Medjkoune 530012

On discrete model of particle migration on regular networks
A.M. Yaroshenko 530013

SYMPOSIUM #52

Preface of the “4th symposium on distribution theory, estimation and inference”
Carlos A. Coelho and Filipe J. Marques 540001

Further results on order statistics and products of functions of independent generalized beta random variables
M. Fátima Brilhante, M. Ivette Gomes and Dinis Pestana 540002

On the proportion of non uniform reported p-values
M. Fátima Brilhante, Dinis Pestana, Paulo Semblano and Fernando Sequeira 540003

On a spread model for portfolio credit risk modeling
Manuel L. Esquível, Gracinda R. Guerreiro, José M. Fernandes and Ana F. Silva 540004

Computer intensive methods for improving the extremal index estimation
Dora Prata Gomes and Maria Manuela Neves 540005

Extreme value analysis of the sea levels in Venice
Frederico Caeiro, Ayana Mateus and Luís Ramos 540006

Finite sample behaviour of classical and quantile regression estimators for the Pareto distribution
Frederico Caeiro, Ana P. Martins and Inês J. Sequeira 540007

On sharp and highly manageable asymptotic approximations for instances of the Meijer G function
Carlos A. Coelho, Filipe J. Marques and Rui P. Alberto 540008

The sphericity versus equivariance-euicorrelation test
Filipe J. Marques and Carlos A. Coelho 540009

SYMPOSIUM #53

Preface of the “1st international symposium on intelligent systems and algorithms (ISA 2014)”
Eva Volna, Martin Kotyrba and Radim Farana 550001

Genetic algorithms for two dimensional bin packing problem	550002
Eva Volna	
Influence of changes in initial conditions for the simulation of dynamic systems	550003
Martin Kotyrba	
Preliminary multivariate analysis of the Harvard spectral classification of the H-R diagram main sequence stars	550004
Michal Janošek	
RDF graph-based formal system in relation to the Sowa's conceptual graph	550005
Martin Žáček	
Evolutionary search for automated generation of EQ-algebras	550006
Hashim Habiballa, Vilem Novak, Martin Dyba and Jiri Schenk	
Refutational provability and fuzzy description logic	550007
Hashim Habiballa and Zuzana Rombova	
Data modelling and ontological semantics	550008
Zdenka Telnarova and Zuzana Rombová	
Introduction to modelling of natural deduction based on fuzzy type theory	550009
Zuzana Rombová and Zdenka Telnarova	
Fuzzy based audit of operating systems	550010
Juraj Masar, Bogdan Walek, Cyril Klimes and Radim Farana	
Expert system for selection of human resources in ERP system	550011
Bogdan Walek, Jiří Bartoš and Radim Farana	
Application of honeypots in IPv6 networks	550012
Tomas Sochor and Matej Zuzcak	
Applying ETL fuzzy filter for data warehouse size minimization	550013
Jaroslav Zacek and Frantisek Hunka	
FlightGear application for flight simulation of a mini-UAV	550014
Tomáš Vogeltanz and Roman Jašek	
JSBSim library for flight dynamics modelling of a mini-UAV	550015
Tomáš Vogeltanz and Roman Jašek	
Differences between ITIL® v2 and ITIL® v3 with respect to service strategy and service design	550016
Roman Jašek, Lukáš Králík, Jaromír Švejda and Alena Kolčavová	

Differences between ITIL® v2 and ITIL® v3 with respect to service transition and service operation	550017
Roman Jašek, Lukáš Králík, Roman Žák and Alena Kolčavová	
Numerical analysis of direct punch with a view to velocity and level of training	550018
Dora Lapkova, Michal Pluhacek and Milan Adamek	
Maximizing vector distances using differential evolution—Relation to data redundancy	550019
Martin Kolarik, Roman Jasek and Zuzana Kominkova Oplatkova	
ITIL® and information security	550020
Roman Jašek, Lukáš Králík and Miroslav Popelka	
ITIL® – General overview	550021
Roman Jašek, Lukáš Králík and Jakub Nožička	
PSO algorithm enhanced with Lozi Chaotic Map - Tuning experiment	550022
Michal Pluhacek, Roman Senkerik and Ivan Zelinka	
Performance of Multi-chaotic PSO on a shifted benchmark functions set	550023
Michal Pluhacek, Roman Senkerik and Ivan Zelinka	
Options of system integrated environment modelling in the predicated dynamic cyberspace	550024
Martina Janková and Jiří Dvořák	
SYMPOSIUM #54	
Preface of the “Symposium on border zones between experimental and numerical application including solution approaches by extensions of standard numerical methods”	560001
S. Ortleb and C. Seidel	
Electromagnetic scattering problems -Numerical issues and new experimental approaches of validation	560002
Robert Geise, Bjoern Neubauer and Georg Zimmer	
Thermal fluid-structure-interaction - Experimental and numerical analysis	560003
Tobias Gleim, Philipp Birken, Matthias Weiland, Detlef Kuhl, Andreas Meister and Olaf Wunsch	
An application of parameter sensitivity analysis for shallow water flow around a pier	560004
S. Ortleb	
The shallow water equations as a hybrid flow model for the numerical and experimental analysis of hydro power stations	560005
Lars Ostermann and Christian Seidel	

Border zones between numerical and experimental investigations by the modelling of rain-wind induced vibrations	
Christian Seidel	560006
Experimental and numerical analysis of tensegrity structures	
Nikolai Wagner, Matthias Weiland, Rainer Fletling, Wolfgang Dietz and Detlef Kuhl	560007
SYMPOSIUM #55	
Preface of the “First minisymposium on mathematics in engineering and technology”	
Alfredo Donno, Valeria Montesarchio and Laura Tribioli	570001
Isomorphism classification of infinite Sierpiński carpet graphs	
Daniele D’Angeli and Alfredo Donno	570002
Three dimensional numerical simulation of water entry problem	
Andrea Luigi Facci, Marcelo Reggio and Stefano Ubertini	570003
Control strategy optimization of HVAC plants	
Andrea Luigi Facci, Fabrizio Martini, Salvatore Pirozzi, Antonella Zanfardino and Stefano Ubertini	570004
An activity based costing model for evaluating effectiveness of RFID technology in pallet reverse logistics system	
Vincenzo Duraccio, Valerio Elia and Antonio Forcina	570005
On the detailed multidimensional modeling of HT PEM fuel cells and stacks	
V.K. Krastev and G. Falcucci	570006
Front-tracking lattice Boltzmann simulation of a wedge water entry	
Ahad Zarghami, Maurizio Porfiri, Elio Jannelli and Stefano Ubertini	570007
Development of a system-level model for fuel cell power units operated with syngas	
Mariagiovanna Minutillo, Alessandra Perna and Stefano Ubertini	570008
Statistical analysis of the mechanical properties of injection molded photoluminescent polymers	
Federica Trovalusci, Alfredo Donno and Vincenzo Tagliaferri	570009
Optimal water distribution in a Sierpinski type network	
Valeria Montesarchio, Alfredo Donno and Silvia Di Francesco	570010
Fluid-structure interaction during the water entry of flexible cylinders	
R. Panciroli, G. Falcucci, G. Erme, E. De Santis and E. Jannelli	570011
Design and realization of MTM-inspired absorbers using graphite resistive sheets	
M. Barbuto, A. Monti, D. Ramaccia, F. Bilotti and A. Toscano	570012

On-board diesel autothermal reforming for PEM fuel cells: Simulation and optimization	570013
Raffaello Cozzolino and Laura Tribioli	
Optimal control of a repowered vehicle: Plug-in fuel cell against plug-in hybrid electric powertrain	570014
L. Tribioli, R. Cozzolino and M. Barbieri	
Fuzzy model for fluidized bed assisted drag finishing	570015
Oliviero Giannini, Federica Trovalusci and Massimiliano Barletta	
Broadband enhanced transmission through a single aperture based on actively loaded SRR	570016
A. Monti, M. Barbuto, A. Toscano and F. Bilotti	
Influence of non-axisymmetric material anisotropy on FSSW static strength	570017
Pierluigi Fanelli and Francesco Vivio	
Modelling spot welded joints in elastic-plastic field	570018
Pierluigi Fanelli and Francesco Vivio	
Numerical modeling of failure modes in bolted composite laminates	570019
Francesca Nerilli, Luca Tarquini, Michele Marino and Giuseppe Vairo	
Ternary systems based on PVDF, BaTiO₃ and MWCNTs: Fabrication, characterization, electromagnetic simulation	570020
Iliaria Cacciotti, Manlio Valentini and Francesca Nanni	
Hydraulic control of culvert on floodplain simulation	570021
Piergiorgio Manciola, Sara Venturi and Arnaldo Pierleoni	
Lattice Boltzmann investigation of ferrofluid jet evolution in external magnetic fields	570022
Giacomo Falcucci	
SYMPOSIUM #56	
Preface of the “1st international symposium on artificial, biological and bio-inspired intelligence (ABBII)”	580001
Prof. Andrew Adamatzky, Dr. Hiroshi Sato and Dr. Tomohiro Shirakawa	
Causal cognition and spam classifier	580002
Hidetaka Taniguchi, Kuratomo Oyo, Yu Kohno and Tatsuji Takahashi	
Causal cognition in game tree search	580003
Kuratomo Oyo, Naoto Noguchi and Tatsuji Takahashi	
Information utilization in the Artificial Bee Colony Algorithm on noisy landscapes	580004
Yuta Ozawa, Yu Kohno and Tatsuji Takahashi	

Polymeric systems for bio-inspired information processing Victor Erokhin	580005
Exploiting environmental computation in a multi-agent model of slime mould Jeff Dale Jones	580006
A satisficing strategy with variable reference in the multi-armed bandit problems Yu Kohno and Tatsuji Takahashi	580007
Curried propositional calculus and the matrix representation Moto Kamiura	580008
Gait analysis and machine learning classification on healthy subjects in normal walking Tomohiro Shirakawa, Naruhisa Sugiyama, Hiroshi Sato, Kazuki Sakurai and Eri Sato	580009
Modulation effect with global ambiguity in 2-dimensional random walk Tomoko Sakiyama and Yukio-Pegio Gunji	580010
Reversible logic gates on <i>Physarum Polycephalum</i> Andrew Schumann	580011
Growing geometries (tattooing mushrooms) Theresa Schubert	580012
<i>Physarum</i> plasmodium perceives ambiguous stimulus as either attractant or repellent Masaki Yamachiyo, Andrew Adamatzky and Yukio-Pegio Gunji	580013
Synchronization in asynchronous cellular automata evaluated by local active information storage Anri Mutoh and Yukio-Pegio Gunji	580014
Pattern formation using L-systems: A case study in forming Neyname's words Mohammad Mahdi Dehshibi, Ali Shirmohammadi and Andrew Adamatzky	580015
The evolution of ordering strategies under Damaged Beer Game Hiroshi Sato, Tomohiro Shirakawa, Masao Kubo and Akira Namatame	580016
Play style classification of the strong mahjong players Hiroshi Sato, Tomohiro Shirakawa and Masao Kubo	580017
An analysis of course evaluation questionnaire by machine learning Hiroshi Sato, Tomohiro Shirakawa and Masao Kubo	580018
GPU implementation of <i>physarum</i> cellular automata model Nikolaos I. Dourvas, Georgios Ch. Sirakoulis and Philippos Tsalides	580019

SYMPOSIUM #57

Preface of the “Virtual symposium on bezier curves and surfaces”	
Abedallah Rababah	590001
Concept of the interval modelling the boundary shape using interval bézier curves in boundary problems solved by PIES	
Eugeniusz Zieniuk and Andrzej Kuzelewski	590002
A comparison of parametric curves applied to modeling boundary shapes in boundary problems solved by PIES	
Agnieszka Boltuc and Eugeniusz Zieniuk	590003
Rectangular Bézier patches in identification of 3D smooth boundary shape in the PIES method for potential problems	
Krzysztof Szerszen and Eugeniusz Zieniuk	590004
G^0 - and G^1 -degree reduction of disk Bezier curves	
Abedallah Rababah and Yusuf Fatihu	590005

SYMPOSIUM #58

Preface of the “Symposium on application of fuzzy logic and neural networks in construction management”	
Edyta Plebankiewicz	600001
Evaluation of the project timeliness with fuzzy constraints	
Nabi Ibadov and Janusz Kulejewski	600002
Fuzzy analysis of project duration in situations of risk	
Barbara Gładysz, Dorota Kuchta, Dariusz Skorupka and Artur Duchaczek	600003
Defining shape of membership function for Mamdani’s Fuzzy Inference System within park & ride share modelling	
Andrzej Szarata	600004
The selection of construction sub-contractors using the fuzzy sets theory	
Michał Krzemiński	600005
Bid assessment with the use of fuzzy sets theory	
Agnieszka Leśniak	600006
Application of fuzzy expert opinions to intensity evaluation and direction identification of cause – effect relations between factors organized by influence network	
Grzegorz Ginda, Renata Kozik and Mariusz Maślak	600007
Application of committees of neural networks for conceptual cost estimation of residential buildings	
Michał Juszczyk	600008

Different methods of determination of the fuzzy value in contractor prequalification model	600009
Edyta Plebankiewicz	
The use of fuzzy case-based reasoning in estimating costs in the early phase of the construction project	600010
Krzysztof Zima	
SYMPOSIUM #59	
Preface of the “Symposium on recent advances in statistics”	610001
Dr. Nursel Koyuncu	
Bivariate Kumaraswamy distribution with an application on earthquake data	610002
Gamze Özel	
Performance comparison of methods for design of experiments for analysis of tasks involving random variables	610003
Magdalena Šmídová and Miroslav Vořechovský	
A simulation study for the comparison of two popular robust PLSR methods: RSIMPLS and PRM with a robust PCR method in the presence of outliers	610004
Esra Polat and Suleyman Gunay	
Exponential estimators of finite population variance in simple random sampling	610005
Nursel Koyuncu	
A class of estimators of finite population variance in simple random sampling	610006
Nursel Koyuncu	
Hartley-Ross type estimators in simple random sampling	610007
Cem Kadilar and Hatice O. Cekim	
A new kind estimator for the population mean in the stratified random sampling	610008
Gamze Özel and Cem Kadilar	
SYMPOSIUM #60	
Preface of the “Symposium on dependable mechatronic systems”	620001
José Machado	
Studies and researches on the measurement and 3D integrated control of complex components from automotive industry by laser scanning	620002
Adrian-Cătălin Voicu, Gheorghe I. Gheorghe and Liliana-Laura Badita	
Mechatronic architectures	620003
Constantinescu Alexandru and Gheorghe I. Gheorghe	

Telemaintenance and teleservice oriented design of dependable mechatronic system in automotive industry	
Anghel Constantin	620004
QR codes and Java applied to physiological data acquisition in biomedical engineering education	
Carla Barros, Celina Pinto Leão, Filomena Soares and José Machado	620005
Industrial controlling process using the remote industrial automation trainer PAIR	
M. Silva, F. Pereira, F. Soares, C.P. Leão, J. Machado and V. Carvalho	620006
Design and development of a portable projection and natural interface device for virtual games applied to physiotherapy	
Orlando Lopes, Tiago Martins, Vítor Carvalho, Demétrio Matos, Filomena Soares and José Machado	620007
Non contact measurement of thread's holes using video systems	
Sorin Sorea, Anca Atanasescu, Paul-Nicolae Ancuța and Horia Alexandru Mănescu	620008
SYMPOSIUM #61	
Preface of the “Symposium on multi-scale mathematical and numerical analysis of involution-constrained PDEs”	
Alexander A. Lukyanov, Dr. Hadi Hajibeygi and Evgeny Romenski	630001
Uncertainty analysis for hydraulic fracturing modeling in porous media containing oil and gas	
A.A. Lukyanov and N. Chugunov	630002
Slug capturing scheme for gas-liquid pipe flows based on two-pressure two-fluid model	
D. Shaposhnikov, N. Lebedeva and A. Starostin	630003
Application of the Jacobian-Free Newton-Krylov method for multiphase pipe flows	
B. Krasnopol'sky, A.A. Lukyanov and A. Starostin	630004
Mathematical modeling of a metal foam as an elastic-plastic continuum with changing resistance	
Vladimir M. Sadovskii and Oxana V. Sadovskaya	630005
Analysis of elastic waves in blocky media using the equations of Cosserat continuum	
Oxana V. Sadovskaya and Vladimir M. Sadovskii	630006
SYMPOSIUM #62	
Preface of the “Symposium on fractal analysis and harmonic analysis”	
Weiyi Su	640001
On local fractal functions in banach spaces	
Peter Massopust	640002

SYMPOSIUM #63

- Preface of the “Symposium on analytical approaches for nonlinear differential equations modeling complex natural phenomena & advanced technological processes”**
S.J. Liao, Hang Xu and E.C. Aifantis 650001
- Sub-harmonic resonances of periodic parameter excited oscillators with the absolute value items**
Jifeng Cui, Shijun Liao and Zhiliang Lin 650002
- The experimental study on the standing solitary waves**
Xiaochen Li, Dali Xu and Shijun Liao 650003
- Analytic investigation of bioconvection in an unsteady squeezing flow of nanofluid between parallel plates**
Ammarah Raees, Hang Xu and Shijun Liao 650004
- Homotopy analysis method for the convection flow in two rotating disks filled by a nanofluid containing both nanoparticles and microorganisms**
Jiaojiao Li, Jifeng Cui and Hang Xu 650005
- Analysis of free convection in the stagnation point of a three-dimensional body immersed in a nanofluid**
Qingkai Zhao, Hang Xu and Longbin Tao 650006
- Survivability design for a hybrid underwater vehicle**
Biao Wang, Chao Wu, Xiang Li, Qingkai Zhao and Tong Ge 650007
- Performance study and flow analysis of an annular multi-nozzle macrobenthos sampler**
Xiang Li, Xuyang Wang, Biao Wang, Xiaochen Li, Tong Ge and Yan Wen 650008
- The scour prediction of non-contact trencher with numerical method**
Qingqing Yuan, Min Zhao, Tong Ge and Ammarah Raees 650009
- Interaction of solitons by simulating the relative forced motion for submerged cylinders in shallow water**
Kang Ren, Shili Sun and Jifeng Cui 650010

SYMPOSIUM #64

- Preface of the “Workshop on numerical and symbolic computation in surface and curve modeling”**
Ryszard Kozera 660001
- On optimal coefficient in augmented Lagrangian method for saddle point problem**
Felicja Okulicka-Dłużewska 660002
- Selection of pose configuration parameters of motion capture data based on dynamic time warping**
Adam Switonski, Henryk Josinski, Hafez Zghidi and Konrad Wojciechowski 660003

Generative electronic background music system Lukasz Mazurowski	660004
Error analysis in the hardware neural networks applications using reduced floating-point numbers representation Marcin Pietras	660005
Phase space reconstruction and estimation of the largest Lyapunov exponent for gait kinematic data Henryk Josiński, Adam Świtoński, Agnieszka Michalczyk and Konrad Wojciechowski	660006
Blobby quaternion model of human joint limits Agnieszka Szczęsna	660007
Functional body mesh representation - A simplified kinematic model Przemysław Skurowski and Magdalena Pawlyta	660008
An algorithm for multiplication of biquaternions Aleksandr Cariow, Galina Cariowa and Anna Malewicz	660009
Fuzzy cognitive map reconstruction - Dynamics vs. History Władysław Homenda, Agnieszka Jastrzebska and Witold Pedrycz	660010
Automatic data understanding: The tool for intelligent man-machine communication Władysław Homenda, Agnieszka Jastrzebska and Witold Pedrycz	660011
Automatic harmonization model using expert system with fuzzy knowledge and supervised learning Mariusz Rybnik, Władysław Homenda and Agnieszka Jastrzebska	660012
Preprocessing of 3D scanned images for facial animation on the basis of realistic acquisition Damian Pęszor, Andrzej Polański and Konrad Wojciechowski	660013
Estimation of marker placement based on fiducial points for automatic facial animation Damian Pęszor, Andrzej Polanski and Konrad Wojciechowski	660014
Convergence orders in length estimation for exponential parameterization and ε-uniform samplings R. Kozera, L. Noakes and P. Szmielew	660015
Exponential parameterization and ε-uniformly sampled reduced data R. Kozera and L. Noakes	660016
Discrete analogs of the comparison theorem and two-side estimates of solution of parabolic equations P.P. Matus, R. Kozera, A. Paradzińska and D.A. Schadinskii	660017

Computerized classification system for the identification of soil microorganisms Michał Kruk, Ryszard Kozera, Stanisław Osowski, Paweł Trzciniński, Lidia Sas Paszt, Beata Sumorok and Bolesław Borkowski	660018
Alternative method of measuring concentration Zygmunt Zawistowski, Wiesław Szczesny, Bolesław Borkowski and Yochanan Shachmurove	660019
SYMPOSIUM #65	
Preface of the “Symposium on mathematical optimization in modern medicine and engineering” Flavius Pater, Ioan Sorin Herban and Șerban Roșu	670001
Mathematic interpolation methods - Support for an efficient 3D modeling of landslides in the context of displacements monitoring Adrian Alionescu, Ioan Sorin Herban, Clara-Beatrice Vilceanu and Cosmin Constantin Mușat	670002
Relation of normalized difference vegetation index with some spectral bands of satellite images Mihai Valentin Herbei, Florin Sala and Marius Boldea	670003
Using mathematical algorithms for classification of LANDSAT 8 satellite images Mihai Valentin Herbei, Florin Sala and Marius Boldea	670004
Adjustment of time-series using the modified exponential for turnover forecast Liana Pater and Nicolae Cociu	670005
The evolution of the market share of competing brands modeled with Markov chains Liana Pater and Nicolae Cociu	670006
Mathematical cartography based on georeferencing maps Anca-Maria Moscovici, Floarea Maria Brebu, Maria-Roberta Gridan and Viorica David	670007
On some interpolation properties in locally convex spaces Flavius Pater	670008
Variation of chlorophyll content in sunflower under the influence of magnetic nanofluids Amedeu Pîrvulescu, Florin Sala and Marius Boldea	670009
Mathematical and statistical analysis of the effect of boron on yield parameters of wheat Hamzeh Rawashdeh, Florin Sala and Marius Boldea	670010
Mathematical support for three-dimensional transformation points from geocentric reference system in local reference system Georgiana Rusu, Ioan Sorin Herban, Alina Corina Bălă and Carmen Grecea	670011

SYMPOSIUM #66

Preface of the “Symposium on mathematical methods in economics and engineering” Ludovic Dan Lemle	680001
Mathematical modeling concerning the influence of chemical composition of the 6082 aluminum alloy on physical and mechanical characteristics Nicoleta Bularda and Teodor Heput	680002
Mathematical modeling concerning the cumulative influence of the alloying elements for aluminum alloy 6082 on the physical and mechanical characteristics Nicoleta Bularda, Francisc Weber and Eugen Crisan	680003
Thermal optimization of steel at continuous casting Alina Lăscuțoni, Erika Ardelean and Teodor Heput	680004
The influence of chemical composition upon the hardness of brake shoes meant for rolling stock Liviu Pascu, Ana Socalici, Erika Popa and Eugen Crisan	680005
Evaluating the safety risk in relation to the energetic field Mihaela Vătășescu, Mihail Vătășescu, Gabriel Dragoș Vasilescu and Ludovic Dan Lemle	680006
Software for the occupational health and safety integrated management system Mihaela Vătășescu	680007
Advanced research in the field of instruments for use in the probabilistic study of security Mihail Vătășescu, Mihaela Vătășescu, Gabriel Dragoș Vasilescu and Ludovic Dan Lemle	680008
Risk assessment of demolition activity with the help of explosives Mihail Vătășescu	680009

SYMPOSIUM #67

Preface of the “Symposium on numerical methods for linear algebra and approximations” Yohsuke Hosoda and Kuniyoshi Abe	690001
Hybrid BiCR methods with a stabilization strategy for solving linear equations Kuniyoshi Abe and Kensuke Aihara	690002
A new QR factorization method by recursive blocked Gram-Schmidt algorithm and recursive blocked Cholesky factorization Shinya Ozawa, Yohsuke Hosoda and Takemitsu Hasegawa	690003
On computing eigenvalues of Lamé equation and zeros of Whittaker function by matrix method Nobuyoshi Asai and Yoshinori Miyazaki	690004

An implementation of IDRstab with biorthogonality relations for solving linear systems Kensuke Aihara, Akira Osato, Kuniyoshi Abe and Emiko Ishiwata	690005
Eigenvalue computation of totally nonnegative upper Hessenberg matrices based on a variant of the discrete hungry Toda equation Ryo Sumikura, Akiko Fukuda, Emiko Ishiwata, Yusaku Yamamoto, Masashi Iwasaki and Yoshimasa Nakamura	690006
SYMPOSIUM #68	
Preface of the “Symposium on development and application of high-order methods for computational fluid dynamics” Ping Lu	700001
Mimetic spectral element methods Marc Gerritsma	700002
Performance of <i>hp</i>-adaptive strategies for elliptic partial differential equations William F. Mitchell and Marjorie A. McClain	700003
SYMPOSIUM #69	
Preface of the “Symposium on modelling and simulation in computer sciences and engineering” Francisco Miranda and Carlos Abreu	710001
Metamodeling of laser cutting Urs Eppelt and Toufik Al Khawli	710002
Modelling for self-optimization in laser cutting Torsten Hermanns, Ulrich Thombansen and Stoyan Stoyanov	710003
A fuzzy neural network for <i>E. coli</i> metabolism Daniel Figueiredo, Claudio Fuentes and Manuel A. Martins	710004
Classical principles in molecular logic Diana Costa, Patricio Fuentes, Claudio Fuentes and Manuel A. Martins	710005
A logic for robotics? Alexandre Madeira, Renato Neves, Manuel A. Martins and Luís S. Barbosa	710006
(Max,+) model for alignment selection and schedule optimization in a flow network Karla Quintero, Eric Niel and José Aguilar	710007
A comparison among scheduling algorithms in order to improve the air traffic control Mario Collotta, Giovanni Pau, Dario Ticali and Salvatore Tirrito	710008

Energy conservation law for the turbulent motion in the free atmosphere K. Kaliyeva	710009
Simulation of long period fibre gratings and applications Fábio D. Baptista, Ariel Guerreiro, Luís A. Gomes and Paulo Caldas	710010
Using stochastic activity networks to study the energy feasibility of automatic weather stations Luca Cassano, Daniel Cesarini and Marco Avvenuti	710011
Reducing WSN simulation runtime by using multiple simultaneous instances Pedro Pinto, António Pinto and Manuel Ricardo	710012
Estimating the impact of adding sensor nodes to biomedical wireless sensor networks Carlos Abreu, Francisco Miranda and Paulo Mateus Mendes	710013
SYMPOSIUM #70	
Preface of the “Symposium on mathematical modelling of economic systems II” David Hampel	720001
The statistical evaluation of thermal resistance and price of bitumen waterproofing sheets Plachý Jan, Vysoká Jana, Vejmelka Radek, Petránek Vít, Petříček Tomáš, Kalousek Lubor and Bednářová Petra	720002
Influence of outside air relative humidity on interior humidity including economical aspects Petra Bednářová, Roman Šubrt and Petr Chládek	720003
Modelling of volatility in monetary transmission mechanism Anna Dobešová, Václav Klepáč, Pavel Kolman and Petra Bednářová	720004
Estimation of cost and revenue functions for reforestation system in Drahanska highlands David Hampel, Jitka Janová and Jiří Kadlec	720005
Testing equality of selected parameters in particular nonlinear models Lucie Doudová and David Hampel	720006
Can economic growth be acceptable if environmental issues are considered? Economic consequences in the EU countries Ladislava Issever Grochová	720007
Time minimizing transportation problems with partial limitations of transported amount for transport participants Pavel Kolman	720008

Influence of technical parameters of overpasses on wildlife migrations and economic aspects Myšková Kateřina	720009
Modelling expected defense specific inflation Vladan Holcner and Jiří Neubauer	720010
Classification of terrorism risk by multidimensional statistical methods Sedlačík Marek, Odehnal Jakub and Foltin Pavel	720011
The demand for military spending in NATO member countries Jakub Odehnal and Marek Sedlacik	720012
Notes on power of normality tests of error terms in regression models Luboš Střelec	720013
Economic environmental and structural analysis of green bridges Jaroslav Žák and Jiří Žák	720014
Ecology versus economic growth in europe: How to improve relative efficiency? Ladislava Issever Grochová, Kateřina Myšková and Jaroslav Žák	720015
Minimization of number of setups for mounting machines Pavel Kolman, Dennis Nchor, David Hampel and Jaroslav Žák	720016
Distribution of constrained maximum coordinates Martin Tláškal, Lucie Doudová and František Buňka	720017
SYMPOSIUM #71	
Functional variable method for the nonlinear fractional differential equations Ahmet Bekir, Özkan Güner, Esin Aksoy and Yusuf Pandir	730001
SYMPOSIUM #72	
Preface of the “Symposium on computational intelligence: Theory and applications on mathematical modeling, optimization and control” A. Alexandridis and I. Th. Famelis	740001
Evolutionary derivation of quadratic symplectic Runge–Kutta–Nyström methods Ch. Tsitouras	740002
Long-term time-series prediction using radial basis function neural networks Alex Alexandridis, Ioannis Th. Famelis and Charalambos Tsitouras	740003
Differential evolution for the derivation of Runge Kutta pairs Ioannis Th. Famelis and Ch. Tsitouras	740004
On the enumeration of rigid hypercompositional structures Christos G. Massouros	740005

SYMPOSIUM #73

Preface of the “Symposium on mathematical modeling of nonhomogeneous complex systems” Evgeny Galakhov	750001
Modeling of interaction of electromagnetic waves with small non-spherical particles having fractal surface Kirill Budniy and Oleg Kazakov	750002
Blow-up time for a problem of heat transfer with coefficients depending on their formation mechanisms E. Deviatyrikova, E. Galakhov, O. Salieva and L. Uvarova	750003
On blow-up for a generalized heat inequality E. Galakhov and O. Salieva	750004
Computer modeling of properties of complex molecular systems E.Yu. Kulkova, M.G. Khrenova, I.V. Polyakov and A.V. Nemukhin	750005
Mathematical model of heterogeneous structure of stem cells dynamics M. Rusinov, S. Kulikov and L. Uvarova	750006
Simulation of the interaction of electromagnetic waves with dispersed particles in the propagation of breather in the surface layer of a liquid medium V.V. Zabolotin and L.A. Uvarova	750007

SYMPOSIUM #74

Preface of the “Symposium on stochastic & random partial differential equations with applications” Mohamed El-Beltagy	760001
Multi-dimensional explicit solutions of the diffusion-absorption equation Waleed S. Khedr	760002
Solving multidimensional nonlinear perturbed problems using interval Newton methods Islam R. Kamel and Maha A. Hassanein	760003

SYMPOSIUM #75

Preface of the “First international symposium on free surface flows 2014” Mohammad Javad Ketabdari	770001
Comparative investigation of different numerical features of SPH method for simulation of free surface flow Shahryar Abtahi, Hassan Ghasemi and Elnaz Arbabizaboli	770002
Effect of submerged breakwater geometry on free surface by SPH Aliakbar Safaei, Hassan Ghasemi and Elnaz Arbabizaboli	770003

Performance prediction of the river craft using numerical approach	770004
Mojtaba Kamarlouei, Hassan Ghassemi and Aliakbar Safaei	
Free surface modeling in OWC chamber with parabolic side walls using 3D BEM	770005
Madjid Ghodsi Hasanabad	
WCSPH simulation of solitary wave interaction with a curtain-type breakwater	770006
Mohammad Javad Ketabdari, Narges Kamani and Mehdi Heidari Moghaddam	
Numerical study of motion response of a floating body using SPH method	770007
Mohammad Javad Ketabdari and Kaveh Soleimani	
Wave simulation in a numerical wave tank, using BEM	770008
Rezvan Alamian, Rouzbeh Shafaghat and Mohammad Javad Ketabdari	
On the instability of the three dimensional rectangular duct flow using the energy gradient method	770009
S.S. Nourazar, R. Shademani, S. Kavooosi and H.S. Dou	
A model study of wind-induced sea level fluctuations in the Persian Gulf and the Gulf of Oman	770010
Mohammad Javad Ketabdari, Amin Ilia and Mehdi Karimi	
SYMPOSIUM #76	
Preface of the “2nd edition of mathematical problems in engineering”	780001
Mario Collotta, Cristina L.R. Milazzo and Calogero Orlando	
Mathematical methods for rotorcraft DC engine-propeller characterization	780002
Andrea Alaimo, Antonio Esposito, Calogero Orlando and Luca Trefiletti	
Genetic algorithm applied to the stabilization control of a hexarotor	780003
Valeria Artale, Cristina L.R. Milazzo, Calogero Orlando and Angela Ricciardello	
Intelligent shoe system: A self-powered wearable device for personal localization	780004
Mario Collotta, Giovanni Pau, Giovanni Tesoriere and Salvatore Tirrito	
A preliminary study to increase baggage tracking by using a RFID solution	780005
Mario Collotta, Giovanni Pau and Salvatore Tirrito	
Piezoelectric energy harvesting from raised crosswalk devices	780006
Dario Ticali, Mario Denaro, Alessandro Barracco and Marco Guarrieri	
GA application with hybrid encoding for QoS routing	780007
Vincenzo Maniscalco, Silvana Greco Polito and Luca Gentile	

A static analysis of three-dimensional functionally graded beams through hierarchical one-dimensional finite elements	
G. Giunta and S. Belouettar	780008
A fuzzy controller to reduce power consumption in a quadrotor helicopter for environmental monitoring	
Giovanni Pau, Giovanni Tesoriere and Salvatore Tirrito	780009
Laser scanner data processing and 3D modeling using a free and open source software	
Fatuzzo Gabriele, Mangiameli Michele, Mussumeci Giuseppe and Zito Salvatore	780010
A gimbal platform stabilization for topographic applications	
Mangiameli Michele and Mussumeci Giuseppe	780011
Real time transferring of field data into a spatial DBMS for management of emergencies with a dedicated GIS platform	
Mangiameli Michele and Mussumeci Giuseppe	780012
On the influence of wall roughness in particle-laden flows	
Barbara Milici and Mauro De Marchis	780013
Single and multi destinations trees for routing applications	
Vincenzo Maniscalco, Silvana Greco Polito and Francesco Privitera	780014
An approach towards adaptivity in wireless sensor networks	
Gaetano Patti and Giuliana Alderisi	780015
LES of turbulent channel flow with realistic rough walls	
Mauro De Marchis, Barbara Milici and Enrico Napoli	780016
SYMPOSIUM #77	
Preface of the “Symposium on robotic control, decomposition method and numerical analysis in applied mathematics”	
Mahmoud Najafi, Mohammad Taeibi Rahni, Mohammad T.H. Beheshti and H.R. Massah	790001
Applicability of lattice Boltzmann method in simulation of drops and bubbles formation and transport	
M. Taeibi Rahni, M. Alizadeh, M. Haghshenas, H. Salimi, M. Najafi and R. Miller	790002
Modeling and stability analysis of HIV-1 as a time delay fuzzy T-S system via LMIs	
R. Abbasi, M.T. Hamidi Beheshti and M. Najafi	790003
An approximation technique for jet impingement flow	
Mahmoud Najafi, Donald Fincher, Taeibi Rahni, H. Massah and KH. Javadi	790004

Analysis of a non-linear parabolic ODE via decomposition
Mahmoud Najafi, M. Ramezanizadeh, Donald Fincher and H. Massah 790005

SYMPOSIUM #78

Mathematical and numerical modelling
E. Magnucka-Blandzi 800001

Experimental three-point bending of sandwich beam with corrugated core
Magdalena Grygorowicz, Piotr Paczos, Leszek Wittenbeck and Piotr Wasilewicz 800002

Bending of five-layer beams with lengthwise corrugated main core
Ewa Magnucka-Blandzi and Zbigniew Walczak 800003

Bending of five-layer beams with crosswise corrugated main core
Ewa Magnucka-Blandzi and Zbigniew Walczak 800004

Mathematical modeling of three-layer circular plate under uniformly distributed load (pressure)
Ewa Magnucka-Blandzi and Zbigniew Walczak 800005

An interval version of Cauchy's problem for the wave equation
Barbara Szyszka 800006

Numerical analysis of sandwich beam with corrugated core under three-point bending
Leszek Wittenbeck, Magdalena Grygorowicz and Piotr Paczos 800007

On linear isometries on non-Archimedean generalized power series spaces
Agnieszka Ziemkowska 800008

SYMPOSIUM #79

Preface of the "Symposium on the numerical solution of differential equations and their applications"
Z. Kalogiratou and Th. Monovasilis 810001

A new iterative method for linear and nonlinear partial differential equations
Josef Rebenda and Zdeněk Šmarda 810002

Solving boundary layer problem using fifth order block method
Phang Pei See and Zanariah Abdul Majid 810003

Some efficient one-point variants of Halley's method, with memory, for solving nonlinear equations
Higinio Ramos 810004

Multistep block method for solving vanishing delay differential equations
Zanariah Abdul Majid and Nurul Huda Abdul Aziz 810005

An optimized two-step hybrid block method for solving general second order initial-value problems of the form $y'' = f(x, y, y')$	
Higinio Ramos, Z. Kalogiratou, Th. Monovasilis and T.E. Simos	810006
A trigonometrically fitted optimized two-step hybrid block method for solving initial-value problems of the form $y'' = f(x, y, y')$ with oscillatory solutions	
Higinio Ramos, Z. Kalogiratou, Th. Monovasilis and T.E. Simos	810007
Trigonometrically fitted two step hybrid methods for the numerical solution of the Schrödinger equation	
Z. Kalogiratou, Th. Monovasilis, Higinio Ramos and T.E. Simos	810008
A new approach on the construction of trigonometrically fitted two step hybrid methods	
Th. Monovasilis, Z. Kalogiratou, Higinio Ramos and T.E. Simos	810009
An embedded RKN method for the numerical integration of oscillatory problems	
D.F. Papadopoulos and T.E. Simos	810010
SYMPOSIUM #80	
Preface of the “Symposium on optimization algorithms for discrete problems”	
Joaquín Pérez Ortega	820001
An improvement to the K-means algorithm oriented to big data	
Joaquín Pérez Ortega, Rodolfo Pazos R., Miguel Hidalgo, Nelva Almanza, Ocotlán Díaz-Parra, René Santaolaya and Vitervo Caballero	820002
A hybrid algorithm with reduction criteria for the bin packing problem in one dimension	
Joaquín Pérez, Hilda Castillo, Darnes Vilariño, José C. Zavala, Rafael De la Rosa and Jorge A. Ruiz-Vanoye	820003
Fast means: Enhancing the K-means algorithm by accelerating its early classification version	
A. Mexicano, R. Rodriguez, S. Cervantes, R. Ponce and W. Bernal	820004
Application of the lattice of the power set to solve the 0/1 knapsack problem	
J.C. Zavala-Díaz, A. Mexicano-Santoyo, H. Castillo, de la Rosa-Flores and J.A. Hernández-Aguilar	820005
Application of prime numbers to solve complex instances of the bin packing problem	
Rafael De la Rosa, Hilda Castillo, José C. Zavala, Alicia Martínez and Hugo Estrada	820006
Comparison study of micro-algorithms for lighting comfort	
T.J. Barrón Llamas, R. Baltazar, M.A. Casillas Araiza, D. Cuesta Frau and V.M. Zamudio Rodríguez	820007
SYMPOSIUM #81	
Preface of the “Symposium on high performance computing in engineering and environmental sciences”	
Tomas Kozubek	830001

Implementation of hybrid total FETI (HTFETI) solver for multi-core architectures	
Lubomír Říha, Tomáš Brzobohatý, Alexandros Markopoulos, Marta Jarošová and Tomáš Kozubek	830002
The stokes flow with friction	
Radek Kučera, Václav Šátek, Marta Jarošová and Tomáš Kozubek	830003
Performance evaluation of OpenFOAM on many-core architectures	
Tomáš Brzobohatý, Lubomír Říha, Tomáš Karásek and Tomáš Kozubek	830004
Solving elastoplastic problems with different preconditioners	
Martin Cermak, Vaclav Hapla, Alexandros Markopoulos and Tomas Karasek	830005
Adaptive model predictive control as a prospect for control of machine tools with significant flexibility	
Petr Strakos and Tomas Karasek	830006
Implementation of collective communication in Kaira	
Stanislav Böhm	830007
Verification of MPI applications	
Ondřej Meca and Stanislav Böhm	830008
Implementation of the plasticity solver in the PermonCube software package	
Alexandros Markopoulos, Martin Čermák, Václav Hapla and Radim Halama	830009
A novel boundary element library with applications	
Martin Čermák, Michal Merta and Jan Zapletal	830010
Hydromechanical modelling with application in sealing for underground waste deposition	
Martin Hasal, Zdeněk Michalec and Radim Blaheta	830011
Improving efficiency of hydrodynamic modelling using adaptive mesh refinement	
Ronovsky Ales, Vondrak Vit and Podhoranyi Michal	830012
Framework for scheduling and resource management in time-constrained HPC application	
Antoni Portero, Stepan Kuchar, Radim Vavrik, Martin Golasowski, Giuseppe Massari, William Fornaciari and Vit Vondrak	830013
Automatic calibration of rainfall-runoff models and its parallelization strategies	
Radim Vavrik, Matyas Theuer, Martin Golasowski, Stepan Kuchar, Michal Podhoranyi and Vit Vondrak	830014
SYMPOSIUM #82	
Preface of the “Symposium on statistical modelling and biometrical applications”	
Teresa A. Oliveira	840001

A new perspective of students allocation satisfaction in engineering courses in Portugal Raquel Oliveira, A. Manuela Gonçalves and Rosa M. Vasconcelos	840002
An alternative educational indicator for classifying Secondary Schools in Portugal A. Manuela Gonçalves, Marco Costa and Mário Oliveira	840003
BIBD, Hadamard matrices and new technological devices: Applications to QR codes Teresa A. Oliveira and Carla Francisco	840004
Distribution function for the ratio of two normal random variables Amílcar Oliveira, Teresa Oliveira and Antonio Seijas Macías	840005
Application of Hotelling's T^2 charts in monitoring quality parameters in a drinking water supply system Mafalda T. Costa, Elisabete Carolino and Teresa A. Oliveira	840006
Attention-deficit/hyperactivity disorder in children. A statistical approach Luís M. Grilo, Rita S. Henriques, Paula C. Correia and Helena L. Grilo	840007
Modulation of dental root surface area through GLMs. Clinical applications José António Pereira, Teresa A. Oliveira, António Costa and Luzia Mendes	840008
Acquisition of competencies in mathematics through games MariaCristina Ferreira, José António Pereira and Amílcar Oliveira	840009
Linear regression on the characterization of elements of natural origin and possible implications in the use of ground Teresa Oliveira, Amílcar Oliveira, Adolfo Carço, Maria J. Batista, Maria Manuela Oliveira and José Borges	840010
Individual and moving range control charts in the production of olive oil Luís M. Grilo and Helena L. Grilo	840011
Stochastic response surface methodology: A study in the human health area Teresa A. Oliveira, Conceição Leal and Amílcar Oliveira	840012
Phytoplankton analysis of Portuguese reservoirs: A cluster analysis with R Aldina Correia, I. Cristina Lopes, Eliana Costa e Silva and Edna Cabecinha	840013
A new method for testing interaction in different kinds of block designs based on a linear model Karl Moder	840014
Statistical models for categorical data: Brief review for applications in ecology M. Rosário Ramos, Manuela M. Oliveira, José G. Borges and Marc E. McDill	840015

GENERAL SESSION

Using neural networks to model self-immune disease in terms of the alterations of the dynamic electrical impedance Georgios Giannoukos and Mart Min	850001
Mathematical and physical modelling of the dynamic electrical impedance of a tooth Georgios Giannoukos and Mart Min	850002
A new approach to line – sphere and line – quadrics intersection detection and computation Vaclav Skala	850003
Specifics of plants identification in man-machine systems Pikina Galina, Pashchenko Fedor and Pashchenko Alexander	850004
On reducibility of linear markov switched difference equations Jevgenijs Carkovs and Jolanta Goldšteine	850005
Global well-posedness of Cauchy problem for damped multidimensional generalized Boussinesq equations with special nonlinear term Zhang Lijian, Zhang Wenping and Niu Yi	850006
Quenching time for nonlinear heat transfer model and its simulation Peng Xiuyan, Niu Yi and Zhang Mingyou	850007
A new semiautomatic interpretation technique for aeromagnetic data Gordon R.J. Cooper	850008
Adaptive control system for gas producing wells Pashchenko Fedor, Gulyaev Sergey and Pashchenko Alexander	850009
A unified formula of a series of breather solitons for the nonlinear Schrödinger equation Changfu Liu, Meiping Gao, Yan yan Li and Chuanjian Wang	850010
Accuracy of Lipschitz classifier ensemble: Confidence sets approach Andrey V. Timofeev	850011
On initial-boundary value problem for nonlinear viscoelastic wave system with damping and source terms Yanjin Wang and Yufeng Wang	850012
Approximation of stochastic equilibria for dynamic systems with colored noise Irina Bashkirtseva	850013
Control of confidence domains in the problem of stochastic attractors synthesis Irina Bashkirtseva	850014

The study on knowledge transferring incentive for information system requirement development Yang Li	850015
The finite element implementation of a K.P.P. equation for the simulation of tsetse control measures S.J. Childs	850016
Two-dimensional depth-averaged model simulation Anna Avramenko and Jari Hamalainen	850017
Effective closed form mathematical approach to determine kinetic constants of NR vulcanized with sulphur and accelerators at different concentrations Gabriele Milani, Thomas Hanel, Raffaella Donetti and Federico Milani	850018
Numerical analysis of randomly forced glycolitic oscillations Lev Ryashko	850019
Attainability analysis in stochastic controlled systems Lev Ryashko	850020
Linear and nonlinear vibrations control of a two member column by means of piezoceramic element Krzysztof Sokół and Sebastian Uzny	850021
Variance-based sensitivity indices for stochastic models with correlated inputs Zdeněk Kala	850022
Reliability and sensitivity analysis of welded shell tanks for crude oil storage Zdeněk Kala	850023
Buckling and post-buckling of the von Mises planar truss Zdeněk Kala, Martin Kalina and Petr Frantík	850024
Dimensions of invariant measures for continuous random dynamical systems Tomasz Bielaczyc and Katarzyna Horbacz	850025
Parameters estimation of equations of chemical kinetics and mathematical biology in the case of incomplete experimental data I. Fedotov, A. Demidov and M. Shatalov	850026
A proof of an identity for a generalization of well-known number sequences Meral Yaşar, Durmuş Bozkurt and Atakan Tuğkan Yakut	850027
A parallel matrix sweep algorithm for solving linear systems with block-fivediagonal matrices Elena N. Akimova	850028

Asynchronous time integration of parabolic problems in composite media Michal Beneš	850029
An inverse fourth order Sturm-Liouville problem Christine Böckmann and Amornrat Rattana	850030
Numerical analysis of the efficiency of film cooling of surface streamlined by supersonic disperse flow Vladislav N. Kovalnogov and Ruslan V. Fedorov	850031
Modeling, research and development the technology of cooling of turbine engine blades Vladislav N. Kovalnogov, Ruslan V. Fedorov and Dmitry A. Generalov	850032
Numerical analysis of the temperature stratification of the disperse flow Vladislav N. Kovalnogov, Ruslan V. Fedorov, Tamara V. Karpukhina and Ekaterina V. Tsvetova	850033
Qualitative dynamics and numerical evidences in a business-cycle model with non-concave production function and variable population growth rate Cristiana Mammana and Elisabetta Michetti	850034
Stability analysis of macrophage-tumor interaction with piecewise constant arguments Fatma Bozkurt and Fatma Özköse	850035
The Bernoulli-Euler and Timoshenko theories in the context of research on the characteristic curves of column with different boundary conditions Sebastian Uzny and Krzysztof Sokół	850036
The stability of geometrically nonlinear Euler's column at stepped variable of flexural rigidity Janusz Szmidla, Ilona Cieślińska-Gąsior and Justyna Wiktorowicz	850037
Stability of geometrically nonlinear pre-stressed column loaded by a force directed towards the positive pole partially lying on Winkler elastic foundation Janusz Szmidla and Anna Jurczyńska	850038
Numerical simulation of flow around obstacles using lattice Boltzmann method M. Benamour, E. Liberge, C. Béghein and A. Hamdouni	850039
Numerical modeling of pulsed laser-material interaction and of laser plume dynamics Qiang Zhao and Yina Shi	850040
The semi-lagrangian algorithm based on an integral transformation Vladimir Shaydurov and Alexander Vyatkin	850041
Verification of functional a posteriori error estimates for an obstacle problem P. Harasim and J. Valdman	850042

The discrete minimum constraint removal motion planning problem Anna Gorbenko and Vladimir Popov	850043
The problem of robot swarms control with only global signals Anna Gorbenko and Vladimir Popov	850044
A singular perturbation technique for the reconstruction of elastic objects Koung Hee Leem, George Pelekanos and Vassilios Sevrouglou	850045
Simultaneous diagonalization of various size matrices Takanori Maehara	850046
Hybrid methods for solving nonlinear ODE of the first order Vagif Ibrahimov and Mehriban Imanova	850047
The application of second derivative methods to solving Volterra integro-differential equations Mehriban Imanova and Vagif Ibrahimov	850048
The construction of the finite-difference method and application Vagif Ibrahimov and Aliyeva Vusala	850049
On the application of multistep methods to solving some problems of communication Vagif Ibrahimov and Mehriban Imanova	850050
Applications of generalized finite difference method in fluid-rigid body interaction problems Wu Di, K.S. Yeo and T.T. Lim	850051
Compact splitting multisymplectic scheme for the coupled nonlinear Schrödinger equations on unbounded domains Zhaohui Dai and Shanshan Jiang	850052
Revised Ansatz for ball-shape valve hydraulic force analysis Alpar Matyas, Sebastian Olajos, Zoltan Balint and Sigismund Jones	850053
Convergence of the Hundsdorfer–Verwer scheme for two-dimensional convection-diffusion equations with mixed derivative term Karel in 't Hout and Maarten Wyns	850054
Identification of parameters of discrete-continuous models Dawid Cekus and Pawel Warys	850055
A conical interior point method for nonsmooth rigid body dynamics Jan Kleinert and Bernd Simeon	850056
Multispectral image filtering using the mean shift algorithm Hafed Zghidi, Adam Świtoński and Grzegorz Drązek	850057

Effect of structural damping on vibration of a truck-mounted telescopic crane Wojciech Sochacki and Marta Bold	850058
A general approach for efficient embedding of flexible structures in multibody dynamics Fabio Schneider, Michael Burger and Bernd Simeon	850059
Viscoelastic multicomponent fluids in confined flow-focusing devices A. Gupta, M. Sbragaglia, E. Foard and F. Bonaccorso	850060
Numerical study on turbulent mixing process in cross-flow type T-junction Azzi Abbes, Nemdili Fadéla and Ahmed Zineddine Dellil	850061
Effect of jet pulsation on film cooling effectiveness at the leading edge of a symmetrical turbine blade model Nemdili Fadéla, Azzi Abbès and Dellil Ahmed Zineddine	850062
A fast parallel gradient algorithm for solving structural inverse gravity problem Elena N. Akimova, Peter S. Martyshko and Vladimir E. Misilov	850063
An improved maximum product criterion for three dimensional reconstructions in electromagnetics Fermín S.V. Bazán, Juliano B. Francisco, Koung Hee Leem and George Pelekanos	850064
Fuzzy analysis of serviceability limit state of slender steel beam under bending Zdeněk Kala and Jan Valeš	850065
The influence of correlation between initial axis curvature and cross-section rotation on the beam static resistance Jan Valeš	850066
Kernel methods in dual frame surveys María del Mar Rueda, Ismael Sánchez-Borrego and Antonio Arcos	850067
Influence of thermal conditions on accelerated boundary layer subjected to a wall heating Alexey Yu. Sakhnov	850068
Numerical estimation of phase transformations in solid state during Yb:YAG laser heating of steel sheets Marcin Kubiak, Wiesława Piekarska, Tomasz Domański, Zbigniew Saternus and Sebastian Stano	850069
Simulations and numerical model of steel hardening process Tomasz Domański, Adam Bokota and Marcin Kubiak	850070
Program complex for fluid dynamic problems simulation on GPU-based computer systems Alexander A. Davydov and Evgeny V. Shilnikov	850071

Trajectory reconstruction using personalized routing over a graph	
Edison C. Ospina, Francisco J. Moreno and Jaime A. Guzmán	850072
Numerical evaluation of equivalent material properties in the extruded aluminum panel for urban railway vehicle car bodies	
Woo Geun Lee, Jae Yong Lim and Jung Seok Kim	850073
Pedestrian detection and tracking using modified SURF algorithm	
Miso Jang, Geon-Hui Lee, Dong-Chul Park and Soo-Young Min	850074
A fractional PID controller of an oscillatory system	
Carlos Alberto Valentim Jr. and Sergio Adriani David	850075
Numerical study of thermal effects in the hydrodynamic behavior of textured journal bearings	
N. Tala-Ighil, M. Fillon, A. Brick Chaouche and A. Mokhtari	850076
Modeling the experiments in an oscillating cylinder viscometry	
Inna Elyukhina	850077
Analytical study of uniform flow past a two-layer spherical obstacle	
Longhua Zhao	850078
Dynamic analysis of girder bridge based on electrical sensor data	
Hyuk-Jin Yoon, Jung-Seok Kim and Chan-Yong Choi	850079
Construction of P^1 gradient from P^0 gradient by averaging	
Jiří Kunovský, Václav Šátek, Jan Valdman and Václav Valenta	850080
New trends in Taylor series based computations	
Filip Kocina, Jiří Kunovský, Martin Marek, Gabriela Nečasová, Alexander Schirrer and Václav Šátek	850081
Multiple integral computations using Taylor series	
Jan Chaloupka, Jiří Kunovský, Alžběta Martinkovičová, Václav Šátek and Elvira Thonhofer	850082
Weight optimization of large span steel truss structures with genetic algorithm	
Cristian Mojolic, Radu Hulea and Bianca Roxana Pârv	850083
Towards a realistic fruitfly wing model with flexibility	
N.T. Trong, D. Shyam Sundar, T.T. Lim and K.S. Yeo	850084
Elastic response of heat generating rod at a variable generating rate	
Ahmet N. Eraslan and Ekin Varlı	850085
Analytical and numerical solutions to rotating variable thickness disks for a new thickness profile	
Ahmet N. Eraslan and Busra Ciftci	850086

Large deformations of elastic vessels under atherosclerotic conditions Pauline Assemat and Kerry Hourigan	850087
Numerical simulation of fluid flow around free vibrating wind turbine airfoil Ahmed Bekhti, Ouahiba Guerri and Tahar Rezoug	850088
Computation of phase transformations, strains and stresses fields during multipass superficial hardening process with tempering Adam Kulawik, Joanna Wróbel and Jerzy Winczek	850089
Using the artificial neural networks in the modelling of the induction heating Joanna Wróbel and Adam Kulawik	850090
Finite element analysis of an extended end-plate connection using the T-stub approach Ioana Cristina Muresan and Roxana Balc	850091
Experimental determination of the grain growth kinetics during solidification of eutectic Al-Ni alloy using a simplified mathematical procedure C. Gonzalez-Rivera, M. Morua and M. Ramirez-Argaez	850092
Aerodynamic and aeroacoustic for wind turbine Maizi Mohamed and Dizene Rabah	850093
Investigation of flow around a circular cylinder in laminar and turbulent flow using the Lattice Boltzmann method Dawoud Hamane, Ouahiba Guerri and Salah Larbi	850094
Self-consistent approach to solving the 1D Thomas-Fermi equation using an exponential basis set Hamid Badri, Fahhad H. Alharbi and Raka Jovanovic	850095
Axisymmetric large deflection analysis of a circular plate with a ring support Murat Altekina and R. Faruk Yükseler	850096
Investigation of influence of fibres layout in composite specimens on their strength with cellular automata method Dorota Aniszewska and Marek Rybaczuk	850097
A three-dimensional computational model of H₂-air premixed combustion in a circular micro-channel for thermo-photovoltaic (TPV) application Saad Akhtar, Jundika C. Kurnia, Mohammad Khan and Tariq Shamim	850098
Fractional order IMC based controller for time delay systems Cristina I. Muresan and Eva H. Dulf	850099

Effectiveness of vendor managed inventory approach in a two-stage supply chain when demand rates are static	Mohd Kamarul Irwan Abdul Rahim and El-Houssaine Aghezzaf	850100
Interdendritic spacing in growth processes with a mushy layer	D.V. Alexandrov and A.V. Britousova	850101
Mathematical modeling of a mushy layer at the inner core boundary of the Earth. Part 1. Analytical solutions	D.V. Alexandrov, A.P. Malygin and I.V. Alexandrova	850102
Mathematical modeling of a mushy layer at the inner core boundary of the Earth. Part 2. Theoretical description	D.V. Alexandrov, A.P. Malygin and I.V. Alexandrova	850103
On the Janko group J_4 generated by $(2, 3, t)$ generators	Faryad Ali and Mohammed A. Al-Kadhi	850104
A new flux splitting scheme for Euler equations of gas dynamics	Xindong Li, Zongmin Hu and Zonglin Jiang	850105
Use of OpenMP to parallelise a one-dimensional multiphase flow code	Stamatis Kalogerakos, Mustapha Gourma and Ninghong Jia	850106
The role of crystallite withdrawal rate and external sources on nucleation and growth of crystals	D.V. Alexandrov, A.A. Ivanov and I.G. Nizovtseva	850107
The stefan problem on evaporation of a volatile component in the gas-melt-solid system	A.P. Malygin and I.G. Nizovtseva	850108
Numerical investigation of heat transfer in air cooled permanent magnet electrical machines	Lotfi Abdelhakim	850109
Landscape disruption effects in a meta-epidemic model with non-steady state demographics and migrations saturation	Veronica Aimar, Sara Borlengo, Silvia Motto and Ezio Venturino	850110
Active disturbance rejection controller for chemical reactor	Roxana Both, Eva H. Dulf and Cristina I. Muresan	850111
An efficient mathematical model for a generalized production process	Wei Weng, Cheng Chen, Gang Rong and Shigeru Fujimura	850112
A TOF-based automatic passenger counting approach in public transportation systems	Denis Klauser, Günter Bärwolff and Hartmut Schwandt	850113

Conceptual optimization using genetic algorithms for tube in tube structures Bianca Roxana Pârv, Radu Hulea and Cristian Mojolic	850114
Solution of a quadratic nonlinear problem with multiple scales Lindstedt-Poincare method Mehmet Pakdemirli and Gözde Sarı	850115
Mixed finite element formulation of the compressible charged porous media K. Malakpoor and J.M. Huyghe	850116
A framework for stochastic simulation of distribution practices for hotel reservations George E. Halkos and Kyriaki D. Tsilika	850117
A proof of a conjecture on monotonic behavior of the largest eigenvalue of a number-theoretic matrix Ercan Altınışık and Şerife Büyükköse	850118
Experimental and theoretical study on melting kinetics of spherical aluminum particles in liquid aluminum Marco Ramírez-Argáez, Enrique Jardón, A.N. Conejo and Carlos González-Rivera	850119
A combinatorial proof of a generalized folding lemma Oranit Panprasitwech	850120
Convergence of two relaxed alternating methods G.H. Cheng, T.Z. Huang and L. Li	850121
Ribosomal DNA analysis by Wavelet Transform Norbert Maggi, Patrizio Arrigo and Carmelina Ruggiero	850122
The type-2 fuzzy logic control of the induction motor Souad Rafa, Najib Essounbouli and Abdelaziz Hamzaoui	850123
Numerical analysis of wind flow and erosion in flow around the bump terrain Renata Gnatowska and Sylwia Sikora	850124
Numerical analysis of heat transfer around 2D circular cylinder in pulsation inflow Renata Gnatowska and Tobiasz Rybak	850125
Numeric modelling of the temperature distribution of moulded piece in the simulation of injection molding process Adam Gnatowski, Marcin Golas and Renata Gnatowska	850126
Impact analysis performance injection in polymer composites processing shrinkage Adam Gnatowski, Agnieszka Ziewiec and Renata Gnatowska	850127

An adaptive extended finite element method for the analysis of agglomeration of colloidal particles in a flowing fluid	Young Joon Choi, Razzi Movassaghi Jorshari and Ned Djilali	850128
Reliability block diagrams based analysis: A survey	Osman Hasan, Waqar Ahmed, Sofiène Tahar and Mohamed Salah Hamdi	850129
New results on the cauchy problem for a class of hyperbolic equations in the half-space	Annamaria Barbagallo and Vincenzo Esposito	850130
Stabilizability of planar affine systems with control singularities	Alexey E. Golubev and Alexander P. Krishchenko	850131
Numerical investigation of molten glass in a square cavity using finite element method	Thanh Tung Duong, Nobuyoshi Tsuzuki, Gaku Hashimoto, Hideki Kawai and Hiroshige Kikura	850132
Numerical studies on the performance of a flow distributor in tank	Soo Jai Shin, Young In Kim, Seungyeob Ryu, Youngmin Bae and Keung Koo Kim	850133
Omni vehicle dynamics model: Object-oriented implementation and verification	Ivan Kosenko and Kirill Gerasimov	850134
Micromechanical analysis of unidirectional fiber-reinforced composites	Mayank N. Ajugia, G. Bharat and Yogesh M. Desai	850135
High-frequency combination coding-based steady-state visual evoked potential for brain computer interface	Feng Zhang, Guang-Hua Xu, Xin Zhang, Jun Xie, Yeping Li, Chengcheng Han, Li Lili and Jing Wang	850136
Limb volume measurements for the assessment of lymphedema. Methodological issues	Dimitris Sfetsioris and T.E. Simos	850137
Implicit three-step methods with phase-lag and its derivatives equal to zero for the numerical solution of the Schrödinger equation and related problems	Ibraheem Alolyan and T.E. Simos	850138
Preface of the “Second symposium on numerical calculations on theoretical magnetism”	Gülistan Mert	850139
Numerical calculations for Heisenberg ferromagnet on honeycomb lattice using Oguchi’s method	Gülistan Mert and H. Şevki Mert	850140