Thursday, 20 August

Short Communications and Poster Sessions

Short Communications: Thursday, 20 August, 14:00–14:45

	14:00–14:15	14:15–14:30	14:30–14:45
Sect.: **01**	Lattices and Universal Algebra, *Chair: Marcus A. Kracht*		
MA 042	**Isabella C. Burger** *Boolean algebras and information-dependent entailment relations* *(p.6)*	**Dietmar Dorninger** *On ring-like structures occurring in axiomatic quantum mechanics* *(p.7)*	**Philippe Niederkorn** *Natural dualities for finitely generated varieties of MV-algebras* *(p.8)*
Sect.: **03**	Cyclotomy, *Chair: Stanley J. Gurak*		
MA 311	**Grzegorz, M. Banaszak** *Wild kernel for higher K-groups and arithmetic of square rings* *(p.34)*	**Mónica del Pilar Canales** *Higher levels of Z/p^lZ and cyclotomy* *(p.34)*	**Stanley J. Gurak** *On the factors $\Phi^{(j\delta/m)}(x)$ of the period polynomial for finite fields* *(p.37)*
Sect.: **05**	Special Submanifolds I, *Chair: Takashi Okayasu*		
MA 041	**Vladimir G. Tkachev** *Upper estimates of volume growth for minimal quasigraphs* *(p.82)*	**Liu Ximin** *Positively curved totally complex submanifolds in the Cayley projective space* *(p.75)*	**Takashi Okayasu** *A Bernstein result for minimal graphs of higher codimension* *(p.77)*
Sect.: **06**	Gauge Theory and Low Dimensional Topology, *Chair: Ronald J. Stern*		
H 112	**Yong S. Cho** *Finite Group Actions and Seiberg-Witten Invariants* *(p.87)*	**Nikolai Saveliev** *Casson invariant and surface singularities* *(p.97)*	**Louis H. Kauffmann** *Functional Integrals and the Kontsevich Integral* *(p.90)*
Sect.: **09**	Chaotic Dynamical Systems, *Chair: Mohamed Houssni*		
H 111	**Abdelhak Fahsi** *Saddle loop and chaotic bifurcations in nonlinear oscillators* *(p.175)*	**Jaroslav Smital** *Distributional chaos in dynamical systems generated by iterates of continuous maps* *(p.192)*	**Mohamed Houssni** *Suppression of chaos in a quasi-periodically excited system* *(p.177)*
Sect.: **09**	Periodic Solutions of Differential Equations, *Chair: Mohammad Jahanshahi*		
H 110	**Mihail Emilian Popescu** *Existence and Oribital Stability of Periodic Solutions for Small-Parameter Non-Linear Differential Systems* *(p.186)*	**Sergiy V. Yanchuk** *Conditions for the existence of cycles in some two-dimensional system of differential equations* *(p.195)*	**Mohammad Jahanshahi** *Periodic Solution of a Non-Linear Dynamical System of Second Order with Dimension n* *(p.178)*
Sect.: **11**	Integrable Systems I, *Chair: Renat Z. Zhdanov*		
H 107	**Igor Korepanov** *Integrability in higher dimensions* *(p.238)*	**Iordan P. Michev** *On the Fay identity for Kdv tau functions and the identity for the Wronskian of squared solutions of Sturm-Liouville equation* *(p.240)*	**Renat Z. Zhdanov** *On classification of separable (2+1)-dimensional Schrödinger equations* *(p.246)*
Sect.: **14**	Mathematical Aspects of Computer Science I, *Chair: Stefan Felsner*		
MA 043	**Laxminarayan Das** *Convexity to Invexity* *(p.290)*	**Narayan C. Debnath** *RGPG: A Graph for Software Modeling* *(p.290)*	**Victor Kasyanov** *Hierarchical graphs and visual processing* *(p.292)*
Sect.: **15**	Approximation I, *Chair: Jozsef Grof*		
H 2033	**Alexis Bacopoulos** *On the link among vectorial minimal projections and best approximations* *(p.296)*	**Igor Fedotov** *Another Approach to Quadrature Methods* *(p.300)*	**Jozsef Grof** *Einige Verallgemeinerungen bzw. Modifizierungen der Szász-Mirakjan-Operatoren* *(p.301)*
Sect.: **15**	Partial Differential Equations I, *Chair: Vladimir V. Shaidurov*		
H 2013	**Christoph Pflaum** *Robust Multilevel Algorithms for Elliptic Differential Equations* *(p.309)*	**Vladimir V. Shaidurov** *Cascade finite element methods for weakly nonlinear elliptic equations* *(p.313)*	**Urve Kangro** *Spectral Convergence of the Interior Source Method with Point Matching* *(p.303)*
Sect.: **16**	Non-linear Wave Propagation, *Chair: Lokenath Debnath*		
H 106	**Mikhail Vasiliev** *Automodelling solutions to the equations of the viscous heat conductive gas flows* *(p.333)*	**Mark C.W. Jones** *Coupled evolution equations and the stability of stratified flows* *(p.325)*	**Lokenath Debnath** *Resonant Phenomena in Linear and Non-linear Water Waves* *(p.321)*

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Sect.: **03**	FUNCTION FIELDS AND CURVES I, *Chair: Franck Leprévost*		
MA 311	**Florian Heß** *Effective construction of Riemann-Roch spaces in global function fields (p.38)*	**Ryutaro Horiuchi** *On Weierstrass Points of the Fermat Curve (p.38)*	**Franck Leprévost** *On some elliptic surfaces and elliptic curves related to discriminants of cubic or quartic polynomials (p.41)*
Sect.: **05**	SPECIAL SUBMANIFOLDS II, *Chair: Ivko M. Dimitric*		
MA 041	**Valentin Gabriel Cristea** *Totally umbilical graded submanifolds (p.66)*	**S.M.B. Kashani** *Cohomogeneity One Revolution Hypersurfaces of the Euclidean Space (p.72)*	**Ivko M. Dimitric** *Low-type submanifolds of non-flat complex space forms (p.67)*
Sect.: **06**	KNOTS AND 3-MANIFOLDS, *Chair: Jonathan A. Hillman*		
H 112	**Joel Hass** *The number of Reidemeister Moves Needed for Unknotting (p.89)*	**Cherry Kearton** *Alexander ideals of classical knots (p.90)*	**Michelangelo Vaccaro** *Unicity of the topological type of the simply connected 3-manifolds (p.99)*
Sect.: **09**	BOUNDARY VALUE PROBLEMS RELATED TO FDE, *Chair: Zhanyuan Hou*		
H 111	**Manuel J. Alves** К вопросу о разрешимости двухточечной краевой задачи для сингулярного функционально-дифференциального уравнения *(p.169)*	**Sergei A. Brykalov** *Solution sets of problems with nonlinear functional boundary conditions (p.173)*	**Zhanyuan Hou** *L^p-Perturbation of Linear Functional Differential Equations (p.176)*
Sect.: **09**	PERIODIC SOLUTIONS OF FDE, *Chair: Mustapha Yebdri*		
H 110	**Nataliya Bantsur** *Existence and stability of the periodic and almost periodic solutions of differential equations with maxima (p.171)*	**Joao S.P. Munembe** *Computationally verifiable conditions of the existence of stabilizable solutions for linear differential systems with periodic parameters (p.184)*	**Mustapha Yebdri** *The linear stability of slowly oscillating periodic solutions of a delay differential equation (p.195)*
Sect.: **11**	STATISTICAL MECHANICS, *Chair: Ali E Özlük*		
H 107	**Daniel Marinov Danchev** *FSS Properties of an Exactly Solvable Quantum Model (p.231)*	**Valentina Goloubeva** *On algebraic similarity of Calogero and Sutherland models (p.234)*	**Ali E Özlük** *A Farey Fraction Spin Chain (p.242)*
Sect.: **14**	MATHEMATICAL ASPECTS OF COMPUTER SCIENCE II, *Chair: Clemens Gröpl*		
MA 043	**Guy Merlin Mbakop** *An Efficient Algorithm for Solving Real Polynomial Equations: The Complete Intersection Case (p.294)*	**Bernard Mourrain** *Multivariate polynomial equations and duality (p.294)*	**Emil J Volcheck** *Computing with algebraic curves: a survey of recent results (p.295)*
Sect.: **15**	APPROXIMATION II, *Chair: Alexei A. Mailybaev*		
H 2033	**Alois Heinz** *Efficient function approximation by tree-structured neural networks (p.302)*	**Peter Kirrinnis** *Fast algorithms for partial fractions (p.305)*	**Alexei A. Mailybaev** *Transformation of Families of Matrices to Normal Forms (p.306)*
Sect.: **15**	PARTIAL DIFFERENTIAL EQUATIONS II, *Chair: Jürgen Fuhrmann*		
H 2013	**Bodo Erdmann** *Mesh Controlling Strategy for Solving Nonlinear Evolution Problems (p.299)*	**Christian Wieners** *Adaptive multigrid methods for Prandtl-Reuß-plasticity (p.318)*	**Jürgen Fuhrmann** *Numerically Stable Finite Volume Discretizations for Nonlinear Parabolic Problems (p.300)*
Sect.: **16**	GEOPHYSICAL AND ENVIRONMENTAL MODELS, *Chair: Jinqiao Duan*		
H 106	**Verdiana Grace Masanja** *A Mathematical Model and Simulation of Transport of Dust Particles in Dar es Salaam City (p.329)*	**Vitaly G. Il'ichev** *Delta-functions and analysis of ecological interactions in a variable environment (p.324)*	**Jinqiao Duan** *Dynamical Behavior of Quasigeostrophic Models (p.322)*

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Sect.: **02**	NOETHERIAN RINGS, *Chair: Kurt Rosenbaum*		
MA 311	**Vijay Kodiyalam** *Asymptotic behaviour of Castelnuovo-Mumford regularity (p.20)*	**Syed Tariq Rizvi** *On noetherian and artinian rings (p.26)*	**Sylvia M. Wiegand** *Building Noetherian domains using completions (p.31)*
Sect.: **04**	TORIC VARIETIES, *Chair: Klaus Altmann*		
MA 042	**Anette A'Campo-Neuen** *Quasi–Projective Reduction of Toric Varieties (p.49)*	**Jürgen Hausen** *Toric Quotients (p.53)*	**Evgeni Nikolaevich Materov** *One estimate for dimension of* $H^n(\mathbf{C}^n \setminus V, \mathbf{C})$ *(p.56)*
Sect.: **07**	SYMMETRIC SPACES, *Chair: Walter J. Michaelis*		
H 112	**Sergei S. Platonov** *Invariant subspaces of some function spaces on symmetric spaces (p.109)*	**Shigeru Aoki** *Invariant Eigendistributions on* $U(1,2)/(U(1,1) \times U(1,1))$ *(p.101)*	**Adam Koranyi** *Equivariant differential operators on homogeneous vector bundles over G/MAN (p.107)*
Sect.: **08**	SOBOLEV- AND FUNCTION SPACES, *Chair: Michal Wojciechowky*		
H 110	**Ritva Hurri-Syrjanen** *Generalizations of Poincaré inequality (p.131)*	**Evgueni M. Semenov** *Disjoint Systems and Complemented Subspaces in Rearrangement Invariant Spaces (p.155)*	**Michal Wojciechowky** *The multidimensional Marcinkiewicz multiplier theorem for* H^1 *spaces on product domains (p.164)*
Sect.: **08**	INTEGRAL TRANSFORMS I, *Chair: Vakhtang M. Kokilashvili*		
MA 041	**Jagdish N. Pandey** *The Hilbert Transform of Almost Periodic Functions and Distributions (p.146)*	**Alexander N. Meskhi** *Solution of some weight problems for the Riemann-Liouville and Weyl operators defined on SHT (p.141)*	**Vakhtang M. Kokilashvili** *Solutions of Two-Weight Problems on Boundedness and Compactness for Integral Transforms (p.135)*
Sect.: **08**	VARIATIONAL PROBLEMS, *Chair: Julian P. Revalski*		
MA 309	**Hong-Kun, H.K. Xu** *Asymptotic behavior of a gradient flow (p.164)*	**Mikhail A. Sytchev** *Characterization of homogeneous scalar variational problems solvable for all boundary data (p.158)*	**Julian P. Revalski** *Porosity and variational principles (p.152)*
Sect.: **08**	TOPOLOGICAL VECTOR SPACES AND ALGEBRAS, *Chair: Wieslaw Zelazko*		
MA 043	**Aboubakr Bayoumi** *Quasi-Differentiability and Applications in Locally Bounded Spaces (p.116)*	**Mati Abel** *Structure of locally pseudoconvex algebras (p.112)*	**Wieslaw Zelazko** *A supersimple algebra (p.166)*
Sect.: **10**	SYSTEMS I, *Chair: Yakov Krasnov*		
H 111	**Gennadii V. Demidenko** *Systems not of Cauchy–Kovalevskaya type (p.201)*	**Abduhamid Dzhuraev** *On partial differential equations in the unit ball of* $\mathbb{C}^n$*, which are singular at the origin and on the boundary (p.202)*	**Yakov Krasnov** *Symmetries of Cauchy-Riemann-Füter Equation (p.211)*
Sect.: **12**	INTERACTING PARTICLE SYSTEMS, *Chair: Hans-Otto Georgii*		
H 107	**Jochen Geiger** *The genealogy of a cluster in the multitype voter model (p.251)*	**Alejandro F. Ramirez** *Diffusion and saturation processes in random media (p.267)*	**Kenji Handa** *A lower bound for time correlation of lattice gas (p.252)*
Sect.: **12**	LIMIT THEOREMS, *Chair: Ludwig Paditz*		
H 1029	**Alexander V. Bulinski** *Limit laws for arrays (p.249)*	**Oleg I. Klesov** *A general form of the strong law of large numbers (p.256)*	**Michael P. Voit** *Ultraspherical expansions and central limit theorems for unit spheres (p.271)*
Sect.: **13**	COMBINATORICS OF WORDS, *Chair: Emo Welzl*		
H 106	**Julien Cassaigne** *On the conjectured subword complexity of the Kolakoski sequence (p.275)*	**Martin Klazar** *Combinatorics of a containment relation that generalizes Davenport–Schinzel sequences (p.279)*	**Alexander Sergeevich Makarenko** *The complexity measure of individual geometrical and algebraical objects (p.281)*
Sect.: **15**	WAVELETS II (organized by Andreas Rathsfeld), *Chair: Jacques Liandrat*		
H 2013	**Rudolph A. Lorentz** *On the nonexistence of compactly supported Sobolev prewavelets for box spline multiresolution analyses (p.306)*	**Gunther Schmidt** *Representation of multidimensional potentials by approximate wavelets (p.312)*	**Wayne M. Lawton** *Energy functions on graphs, wavelets, and multilevel algorithms (p.305)*
Sect.: **17**	NONLINEAR OPTIMIZATION I, *Chair: Jürgen Guddat*		
H 2033	**Leonid Faybusovich** *Interior-point algorithms and Euclidean Jordan algebras (p.341)*	**Bernd Kummer** *Metric Regularity in Optimization: Trivial and Nontrivial Situations (p.344)*	**Ider Tsevendorj** *Sufficient Global Optimality Conditions for Nonconvex Nonsmooth Problems (p.353)*

Short Communications: Thursday, 20 August, 17:15–18:00

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Sect.: **02**	RINGS AND MODULES I, *Chair: Sylvia M. Wiegand*		
MA 311	**Toma Albu** *Global Krull dimension and global dual Krull dimension of rings (p.12)*	**Jilyana Cazaran** *Sufficient conditions for finite commutative rings to be principal ideal rings and an application to error-correcting codes (p.14)*	**Reinhard Börger** *Infinitary Linear Combinations in Cotorsion Modules (p.14)*
Sect.: **04**	SINGULARITIES I, *Chair: Gert-Martin W. Greuel*		
MA 042	**Sabir M. Gusein-Zade** *On the index of a gradient vector field at an isolated complete intersection singularity (p.53)*	**Ludwig Balke** *Open book fibrations of lens spaces and deformations of cyclic quotient singularities (p.50)*	**Claus Hertling** *Variational Torelli result for hypersurface singularities (p.53)*
Sect.: **07**	LIE GROUPS, *Chair: Adam Koranyi*		
H 112	**Dietrich Burde** *Affine and projective structures on Lie groups (p.103)*	**Michael Wüstner** *Lie groups with surjective exponential function (p.111)*	**Walter J. Michaelis** *The exponential matrices of non-commuting matrices may commute (p.108)*
Sect.: **08**	ANALYTIC FUNCTIONS I, *Chair: Žarko Pavićević*		
H 110	**Shigeyoshi Owa** *Some Properties for Convulutions (p.146)*	**Yaroslav Ya. Prytula** *Generalization of Lindelöf Theorem (p.149)*	**Žarko Pavićević** *Meromorphic Functions Generating Normal Families in an Arbitrary Open Subset of the Unit Disk, with respect to any Subgroup of the Group of Conformal Automorphisms of the Unit Disk (p.147)*
Sect.: **08**	OPERATOR ALGEBRAS, *Chair: Huzihiro Araki*		
MA 041	**Grigori Amosov** *Cocycle conjugacy classes of Powers' semiflow of shifts (p.113)*	**Alexandr V. Kosyak** *On von Neumann algebras, generated by regular representations of infinite-dimensional groups (p.137)*	**Huzihiro Araki** *Factor types of infrared representations of the XY-model (p.114)*
Sect.: **08**	CONVEXITY, SEMIGROUPS, AND BLOCKING, *Chair: Karl-Goswin Grosse-Erdmann*		
MA 309	**Farhad V. Hüsseinov** *Closedness of convex hull and its applications (p.131)*	**Nobuhisa Sakakibara** *Perfectness of conelike $*$-semigroups in Q^k (p.153)*	**Karl-Goswin Grosse-Erdmann** *The blocking technique and the weighted Hardy inequality (p.127)*
Sect.: **08**	ORTHOGONAL POLYNOMIALS AND WAVELETS, *Chair: Thomas C. Kriecherbauer*		
MA 043	**Mohsen Taghavi** *Exact values of the autocorrelation coefficients of the Rudin-Shapiro polynomials (p.159)*	**Ahmed I Zayed** *Wavelets in Closed Forms (p.166)*	**Thomas C. Kriecherbauer** *Asymptotics of Orthogonal Polynomials via Integrable Methods (p.137)*
Sect.: **10**	FLUIDS, *Chair: Mitsuo Morimoto*		
H 111	**Song Jiang** *Large-time behavior of solutions to the equations of a one-dimensional viscous polytropic ideal gas in unbounded domains (p.207)*	**Anatoli Merzon** *A complete solution of the Ursell problem (p.213)*	**Hiroko Morimoto** *On the Existence of Steady Navier-Stokes Flow in 2D Tube-like Domain under General Outflow Condition (p.214)*
Sect.: **12**	PARTICLE APPROXIMATIONS, STOCHASTIC EVOLUTIONS, *Chair: Alfred Liemant*		
H 107	**Terry J. Lyons** *Branching particle approximations to smoothing and filtering (p.259)*	**Krystyna Twardowska** *Applications of support theorems to invariance measure theory (p.270)*	**Wolfgang Wagner** *Stochastic particle systems approximating the stationary Boltzmann equation (p.271)*
Sect.: **12**	LIMIT THEOREMS, INEQUALITIES, AND MARTINGALES, *Chair: Sergei Nagaev*		
H 1029	**Anatoly N. Kochubei** *Limit Theorems for Sums of p-Adic Random Variables (p.257)*	**Toshitada Shintani** *Uniform integrability of L^1-bounded matingales (p.269)*	**Sergei Nagaev** *Probability inequalities for sums of dependent Banach space valued random variables (p.263)*
Sect.: **13**	INDEPENDENT SETS AND COLORING, *Chair: Heinz Adolf Jung*		
H 106	**Stephan Brandt** *Pach's Theorem on triangle-free graphs revisited (p.274)*	**Kevin A. Broughan** *Computing the minimal colouring of large graphs (p.274)*	**Ebadollah S. Mahmoodian** *Defining sets in graph colorings (p.281)*
Sect.: **15**	DIFFERENTIAL ALGEBRAIC SYSTEMS, *Chair: Ulrich Nowak*		
H 2013	**Rainald Ehrig** *Recent advances in extrapolation methods for large scale differential algebraic problems (p.299)*	**Friedrich Grund** *Sparse-Matrix-Techniken für Parallelrechner (p.301)*	**Tatyana Shtykel** *On the criterion of asymptotical stability for index-1 tractable DAE (p.313)*
Sect.: **17**	CONVEX OPTIMIZATION, *Chair: Bernd Kummer*		
H 2033	**Anatoly Antipin** *To Solving of Equilibrium Programming Problems (p.335)*	**Evgeny G. Belousov** *On Hausdorff continuity of convex polynomial mappings (p.336)*	**Patrick L. Combettes** *Some convergence principles in convex optimization (p.338)*

Poster Session: Thursday, 20 August, 14:00–15:45

Sect.: **02**	ALGEBRA		
MA 144	**Shavkat A. Ayupov** *Nilpotent Leibniz algebras of low dimension* *(p.13)*	**Valerii Vaclavovich Benyash-Krivetz** *On decomposing some finitely generated groups into amalgamated free products* *(p.13)*	**Matyas Domokos** *Determinantal ideals of certain subspace arrangements* *(p.16)*
	Kiyomitsu Horiuchi *An expansion of lattice* *(p.19)*	**Andrei Marcus** *Derived equivalences and Dade's conjectures* *(p.22)*	**Shigeki Matsumoto** *Solutions of Sylvester Equations $AX - XB = C$ whose coefficients matrices A and B may have common eigenvalues* *(p.23)*
	Marek Niezgoda *An unified approach to some majorization inequalities* *(p.25)*	**Yasushi Ninomiya** *Group algebras and nilpotency indices of their radicals* *(p.25)*	**Carlos Renteria-Marquez** *The a-invariant of some Reed-Muller codes* *(p.26)*
	Constatin I. Sonin *Krull Dimension of Malcev-Neumann Rings* *(p.29)*	**Christophe Soulé** *Filtrations on Higher Algebraic K-theory* *(p.29)*	**Masamichi Tokizawa** *Set product residue semigroups* *(p.30)*
	Roman Zapatrin *Duality and set representations for partially ordered sets* *(p.32)*	**Konstantin A. Zubrilin** *The structure theory of algebras that satisfy Capelli identities* *(p.33)*	

Poster Session: Thursday, 20 August, 16:15–18:00

Sect.: **03**	NUMBER THEORY AND ARITHMETIC ALGEBRAIC GEOMETRY		
MA 144	**Francis W. Clarke** *Closed formulas for representing primes by binary quadratic forms* *(p.35)*	**Herbert Gangl** *Polylogarithmic identities in cubical higher Chow groups* *(p.36)*	**Noriaki Kimura** *A simple proof of Carlitz's congruence of Vandiver type* *(p.39)*
	Tatsuya Okada *Explicit formulas for a generalized digital sum problem* *(p.44)*	**Margaret M. Robinson** *Igusa local zeta functions* *(p.45)*	