5th INTERNATIONAL SYMPOSIUM ON MATHEMATICAL ANALYSIS AND ITS APPLICATIONS

$\mathcal{MAA}\,5$

Niška Banja, October 2–6, 2002

Following the tradition of the previous four symposia on Mathematical Analysis and its Applications held in Aranđelovac '84, Budva '86, Herceg-Novi '88 and Aranđelovac '97[1], and under the auspices of the Union of Mathematical Societies of Yugoslavia, the Faculty of Science and Mathematics, University of Niš, organized the **Fifth Symposium on Mathematical Analysis and its Applications (MAA5)** in the spa of Niška Banja, 10 km from Niš, from Wednesday, 2nd October, to Sunday, 6th October, 2002.

The Program committee consisted of *V. Rakočević*, Niš (Chair), *Z. Kadelburg*, Beograd, *Ž. Pavićević*, Podgorica and *S. Pilipović*, Novi Sad. The Organizing committee consisted of *D. Đorđević* (Chair), *D. Cvetković*, *S. Janković*, *I. Jovanović*, *M. Jovanović*, *E. Malkowsky*, *J. Manojlović*, *M. Milosavljević*, *S. Tričković* and *S. Vujović*.

The scientific program consisted of lectures (45 minutes) and research talks (20 minutes). The work of the Symposium was devided into four sections: *Functional Analysis and Operator Theory, Real and Complex Analysis, Differential Equations* and *Applications of Analysis.* There were all together 81 lectures held in three days.

A booklet with the Program and with all the abstracts was available during the Symposium. The present issue of "Matematički Vesnik" is devoted to the selected papers from the Symposium which were submitted by the authors and which passed the usual refereeing process.

We give the full list of lectures delivered during the Symposium.

Those which are included in the present issue (possibly with an alternate title) are marked by an asterix.

Vojislav Marić: *The 100th anniversary of the birthday of academician Jovan Karamata.*

Eve Oja: *Approximation property revisited*, Pietro Aiena: *Fredholm theory and single valued extension property**, Bhagwati Duggal: *Generalized derivations and elementary operators satisfying Weyl's theorem**, Märt Põldvere: *Uniqueness of*

[1]For the Proccedings of these Symposia see Matematički Vesnik **37**, 1 (1985); **38**, 4 (1986); **40**, 3–4 (1988) and **49**, 3–4 (1997).

Hahn-Banach extensions and intersection properties of ball sequences, Rainis Haller: *On the geometry of higher duals of Banach spaces*, Zoran Kadelburg and Stojan Radenović: *On a question of D. Vogt**, Milorad Mijatović and Stevan Pilipović: *Some remarks on the classes of distributions semigroups.*

Takasi Kusano: *Nonoscillation theory for second-order half-linear communication differential equations in the framework of regular variation*, Aleksandar Ivić: *Spectral theory and the fourth moment of the Riemann zeta-function*, Neda Bokan: *Harmonic maps and geodesic balls on analytic manifolds*, Slobodanka Janković and Tatjana Ostrogorski: *Hardy's class and the property of good decomposition*, Slobodanka Janković and Tatjana Ostrogorski: *The extended* Γ *class*, Endre Pap and Arpad Takači: *The pseudo Laplace transformation and the g-Mikusiński operators*, Endre Pap and Đurđica Takači: *The pseudo–Mikusiński operator field.*

Bogoljub Stanković: *Solution of convolution equations by localization**, Harald Wimmer: *Parametrization of sets of solutions of algebraic Riccati equations and shorted operators.*

Miodrag Mateljević: *Some geometric problems related to harmonic and QC mappings*, Miroljub Jevtić: *An invariant submean-value property and almost hyperbolically-subharmonic functions*, Milutin Obradović: *On a certain convolution in the class of univalent functions.*

Milutin Dostanić: *Boundedness of the Bergman projection on the* l^p *space with the radial weight*, Robin Harte: *Variation on a theme of Kaplansky*, Vladimir Danilov: *Propagation and interaction of nonlinear waves*, Dragoljub J. Kečkić: *Orthogonality in* $B(H)$, Ratko Kravarušić, Milorad Mijatović and Stevan Pilipović: *Perturbation and characterization of the generators of integrated semigroups of unbounded operators**.

Zoran Pop-Stojanović: *Minimal distance martingale measures and optimal portfolios*, Gradimir V. Milovanović: *Orthogonal polynomials with respect to the complex weight functions*, Dušan Georgijević: *Interpolation of Stieltjes functions*, G. A. Chechkin and T. P. Chechkina: *Homogenization problems in microbiology*, Borko Ilievski: *On a linearization of an areolaire equation.*

Eberhard Malkowsky: *Mixed normed spaces of diference sequences**, Stevan Pilipović: *General concept of GF algebras and symmetry group analysis of weak solutions*, Dragana S. Cvetković-Ilić, Dragan S. Đorđević and Vladimir Rakočević: *Some generalizations of Schur complements*, Marija Orovčanec and Biljana Načevska: *The invariant subspace lattice of an algebraic operator**, Biljana Jolevska-Tuneska: *About neutrix convolution product*, Ivana Stanojević: *The measure of noncompactness of matrix transformations on the spaces* $c^p(\Lambda)$ *and* $c^p_\infty(\Lambda)$ $(1 < p < \infty)$, J. J. Koliha and Vladimir Rakočević: *Invertibility of the difference and sum of idempotents*, Robin Harte: *Polaroid operators and Weyl's theorem*, Ljiljana Gajić: *Fixed point theory of ultrametric spaces**, Ivan Jovanović, Eberhard Malkowsky and Vladimir Rakočević: *Bounded point evaluation and cyclic polynomials on the spaces* $\hat{F}$, Ivan D. Arandjelović: *On locally bounded spaces and their products*, Ivan D. Arandjelović and Marina M. Milovanović-Arandjelović: *Functions of noncompactness on random paranormed spaces*, Olivera Đorđević: *Convergence of deriva-*

*tives of spectral expansions arising by self-adjoint extension of a one-dimensional Schrödinger operator**, Dragan S. Đorđević: *On the pseudo-inverse solution of the Davis-Kahan-Weinberg theorem**, Snežana Živković-Zlatanović: *On the quotient norm induced by the perturbation class associated with upper (lower) semi-Fredholm operators.*

Slavko Simić: *Logarithmic convexity and Appel polynomials*, Žarko Pavićević and Jela Šušić: *Dynamical systems and boundary properties of functions on the unit disc*, Romeo Meštrović: *Invariant subspaces of some spaces of holomorphic functions*, David Kalaj: *On the Nitsche's conjecture for harmonic mappings in* $\mathbb{R}^2$ *and* $\mathbb{R}^3$, Momčilo Bjelica: *Asymptotic planarity of some mean values*, Nikola Pandeski: *Bounded analytic functions and inner Blaschke products*, Nikola Tuneski: *Starlikeness of a function using differential subordination*, Ivan Anić: *Uniformly bounded maximal* φ*-disks, bers space and harmonic maps*, Vesna Manova Eraković: *Distributions generated with boundary values of functions of the Nevanlinna space**, Ljubica Oparnica: *Generalized fractional calculus with applications in mechanics**, Aneta Bučkovska: *Extension of trilinear Hilbert transform*, Nenad Teofanov: *Elliptic pseudodifferential operators and modulation spaces*, Marko Nedeljkov: *Conservation law systems, delta shock waves and interactions**, Slobodan B. Tričković: *Integral transforms and summation of some Schlömilch series**, Đorđe R. Đorđevic and Srbislav D. Nešic: *Error dispersion by using weight-involved probability method for rasterization of pictures.*

Katica Stevanović-Hedrih: *Generilazation of the Rayleigh's dissipation function of a nonconservative system of mass particles*, Katica Stevanović-Hedrih: *Homoclinic orbits and trigger of coupled singularities of the multistep reductor nonlinear dynamics*, Danijela Rajter-Ćirić: *One-dimensional nonlinear stochastic wave equation in Colombeau algebra and triviality effect**, Biljana Č. Popović and Miroslav M. Ristić: *Ordinary and reversed residuals of the multivariate autoregressive processes: the covariance structure and applications*, Ljubiša Kocić: *Data variation in fractal interpolation*, Ljubica Velimirović, Svetislav Minčić and Mića Stanković: *On infinitesimal deformations of geometric objects at non-symmetric affine connection space**, Mića S. Stanković, Svetislav M. Minčić and Ljubica S. Velimirović: *On holomorphically projective mappings of generalized Kahlerian spaces**, Vesna Veličković: *Wavelet analysis on integers.*

Nebojša Lažetić: *On classical solutions of mixed boundary problems for one-dimensional hyperbolic equations of second order*, Predrag M. Rajković, Miomir S. Stanković and Slađana D. Marinković: *Mean valued theorems in q-calculus**, Svetlana Janković and Miljana Jovanović: *Stochastic differential equations with functional perturbations*, Dejan Ilić and Svetlana Janković; *An analytic approximation of solutions of the Ito stochastic differential equations*, Predrag S. Stanimirović, Nebojša V. Stojković and Marko D. Petković: *Two modifications of revised simplex method**, Predrag S. Stanimirović and Nebojša V. Stojković: *Transformations of dual problem and decreasing dimension in linear programming**.

Hajnalka Péics and János Karsai: *Positive solutions of neutral delay differential equation*, Julka Knežević-Miljanović: *Stability of nonlinear oscillations with* *the first degree of freedom*, Mališa Žižović and Dragan Đurčić: *The sequence of exponents of O-regularly varying convergence*, Dragan Đurčić and Nebojša Elez: *Representation theorem of classes functions* R_∞, Jelena Manojlović: *Integral averages technique for the oscillation of second order sublinear differential equations with damping*, J. Pašić: *A note on singular shoch wave interactions.*

Niš, December 2002 *Vladimir Rakočević*