

**Report on 4th International Conference**  
**“Analytic Methods of Analysis and Differential Equations”**  
**(AMADE-2006),**  
**devoted to centenary of academician F.D. Gakhov**  
**– Minsk, Belarus, September 13-19, 2006**

The 4th International Conference “Analytic Methods of Analysis and Differential Equations” took place on September 13-19, 2006 in Minsk, Belarus. It continued the tradition of the International Conferences: “Boundary Value Problems, Special Functions and Fractional Calculus”, devoted to 90th birthday of academician F.D. Gakhov (Minsk, Belarus, February 15-20, 1996); “Analytic Methods of Analysis and Differential Equations” – AMADE-1999 (Minsk, Belarus, September 14-18, 1999); AMADE-2001 (Minsk, Belarus, February 15-19, 2001); AMADE-2003 (Minsk, Belarus, September, 4-9, 2003). AMADE-2006 was organized by Belarusian State University together with Institute of Mathematics of Belarusian National Academy of Sciences and Moscow State University. It was held at the Olympic Sport Center “Staiki”, situated in 10 km from Minsk, the capital of Belarus.

The Conference was organized under the guidance of the International Society for Analysis, its Applications and Computation (ISAAC) and was included into the calendar of the events of the European Mathematical Society.

Information on the Conference was published in the Journal “Fractional Calculus and Applied Analysis”, and in the bulletin “Orthogonal Polynomials and Special Functions” of SIAM Activity Group on Orthogonal Polynomials and Special Functions. The information was updated on the Web-site [www.amade-bsu.com](http://www.amade-bsu.com).

396 mathematicians from Europe, Africa, America and Asia confirmed their interest in the Conference. 244 representatives of Algeria, Armenia, Belarus, Canada, France, Germany, Great Britain, Israel, Italy, Japan,

Kazakhstan, Lithuania, Mexico, Poland, Portugal, Russia, Serbia, Slovenia, Ukraine and USA took part in AMADE-2006.

Four sections were working at the conference:

1. Integral Transforms and Special Functions.
2. Differential Equations and Applications.
3. Integral, Difference, Functional Equations and Fractional Calculus.
4. Real and Complex Analysis.

The conference was open by the co-chairman of AMADE-2006, rector of Belarusian State University Professor V.I. Strazev. The plenary session was open by the report about the life and scientific activity of academician F.D. Gakhov:

- Kilbas A.A. (Minsk, Belarus) Fedor Dmitrievich Gakhov (to centenary of birthday).

There were 28 plenary invited lectures and 171 sectional talks devoted to different problems of modern analysis, differential equations and their applications.

Plenary invited lectures were given by the following mathematicians:

- Aksentiev L.A., Elizarov A.M. (Kazan, Russia) The role of F.D. Gakhov in the creation of the theory of inverse boundary value problems.
- Alekhno A.G. (Minsk, Belarus) Homogeneous Riemann boundary value problem with real coefficient having infinite set of boundary solutions.
- Begehr H. (Berlin, Germany) Polyharmonic Green functions and Dirichlet problems.
- Burenkov V.I. (Cardiff, UK) General spectral stability theorems of non-negative selfadjoint operators.
- Butzer P.P., Stens R.L. (Aachen, Germany) Prediction in terms of samples from the past: error estimates by a modulus covering discontinuous signals.
- Glaeske H.-J. (Jena, Germany) On convolutions and orthogonal polynomials.
- Izobov N.A., Mazanik S.A. (Minsk, Belarus) An asymptotic equivalence of linear differential systems under exponential perturbations.
- Karlovich Y.I. (Cuernavaca, Mexico) Pseudodifferential operators with non-regular symbols and their applications to the Riemann and Haseman boundary value problems.
- Kilbas A.A. (Minsk, Belarus) Method of integral transforms in the theory of fractional differential equations.
- Korzyuk V.I., Cheb E.S. (Minsk, Belarus) Generalized-classical solutions of boundary value problems for a hyperbolic equation of the second order.
- Lanza de Cristoforis M. (Padova, Italy) Comparison of the eigenvalues of closed non-negative selfadjoint operators.
- Laurincikas A. (Vilnius, Lithuania) The joint universality of periodic Hurwitz zeta-functions.
- Mityushev V.V. (Krakow, Poland) Solution to the Riemann

boundary value problem with piecewise constant matrix. • Nasyrov S.R. (Kazan, Russia) Development of F.D.Gakhov's ideas in the topological theory of functions of the complex variable. • Obnosov Yu.V. (Kazan, Russia) Some generalizations of Milne-Tomson theorem. • Panov E.Yu. (Velikiy Novgorod, Russia) Existence of strong traces for quasi-solutions of scalar conservation laws. • Prilepko A.I. (Moscow, Russia) Prediction-observation and non-local problems for evolution systems with distributed parameters. • Radkevich E.V., Palin V.V. (Moscow, Russia) On a behaviour of solutions to systems of parabolic equations with relaxation on large instants. • Rogosin S.V. (Minsk, Belarus) Complex-analytic methods in applied sciences. • Rutkauskas S. (Vilnius, Lithuania) On the Dirichlet type problems to systems of degenerate elliptic equations. • Samko S.G. (Faro, Portugal) Classical operators of analysis - maximal, singular and potential - operators in variable exponent spaces. • Shkalikov A.A. (Moscow, Russia) Spectral portraits of nonselfadjoint Sturm-Liouville operators in the quasi-classical limit. • Silvestrov V.V. (Moscow, Russia), Antipov Y.A. (Louisiana, USA) Method of Riemann surfaces in fluid and solid mechanics. • Soldatov A.P. (Belgorod, Russia) On singular integral operators with a weight. • Szeszko M. (Lublin, Poland) On solution in closed form of a class of singular integral equations with Cauchy kernel of the first kind. • Vu Kim Tuan (Carrollton, USA) Uncertainty principles for the Hankel transforms. • Wegert E., von Wolfersdorf L. (Freiberg, Germany) A solution method for the linear Chandrasekhar equation. • Yurchuk N.I. (Minsk, Belarus) A priori estimates and a continuous dependence of solutions of evolution equations on the changes of the boundary conditions.

During the conference a special session "Qualitative Theory of Partial Differential Equations" was organized by Profs. M. Reissig (Germany), F. Hirose (Japan), E.V. Radkevich (Russia).

The proceedings of AMADE-2006 are planning to be published in "Proceedings of Institute of Mathematics" of the Belarusian National Academy of Sciences. A part of the reports was recommended to publication in the Journal "Integral Transforms and Special Functions".

The participants of the conference pointed out its high scientific level. At the final meeting the participants suggested to organize the next AMADE-Conference in 2008.

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