



INSTITUTE OF
MATHEMATICS
MECHANICS
COMPUTER
SCIENCE

by I.I. Vorovich



Program of Eighth China-Russia Conference

Numerical Algebra with Applications

June 24-27, 2019

I.I. Vorovich Institute of Mathematics, Mechanics, and Computer Science
Southern Federal University
Rostov-on-Don, Russia

June 24 (Monday)

Registration

June 25 (Tuesday)

09:30-10:00	Registration
10:00-10:10	Opening Ceremony
Chairperson	Galina V. Muratova
10:10-10:35	Zhong-Zhi Bai <i>Academy of Mathematics and Systems Science, Chinese Academy of Sciences. , Beijing, P.R. China</i> COMPUTING EIGENPAIRS OF HERMITIAN MATRICES IN PERFECT KRYLOV SUBSPACES <i>Bai Z.-Z., Miao C.-Q.</i>
10:35-11:00	Mikhail I. Karyakin <i>Southern Federal University, Rostov-on-Don, Russia</i> EQUILIBRIUM AND STABILITY OF THE INHOMOGENEOUS NONLINEARLY ELASTIC BODIES <i>Karyakin M., Obrezkov L., Pustovalova O.</i>
11:00-11:25	Guo-Yan Meng <i>Xinzhou Teachers University, Xinzhou, P.R. China</i> THE GENERALIZED HSS METHOD WITH A FLEXIBLE SHIFT-PARAMETER <i>Meng G.-Y., Wen R.-P.</i>
11:25-11:50	Konstantin A. Nadolin <i>Southern Federal University, Rostov-on-Don, Russia</i> COMPUTATIONAL EXPERIMENTS BASED ON REDUCED MODEL OF A LONG AND SHALLOW STREAM <i>Nadolin K.A., Zhilyaev I.V.</i>
11:50-12:15	Zeng-Qi Wang <i>Shanghai Jiao Tong University, Shanghai, P.R. China</i>

	<p>PMHSS PRECONDITIONERS FOR STOKES CONTROL OPTIMIZATION PROBLEMS <i>Wang Z.-Q., Cao S.-M.</i></p>
12:15-13:30	Lunch
Chairperson	Zhong-Zhi Bai
13:30-13:55	<p>Galina V. Muratova <i>Southern Federal University, Rostov-on-Don, Russia</i> MULTIGRID METHOD FOR BIOLOGICAL AND MEDICAL PROBLEMS <i>Muratova G.V., Bavin V.V.</i></p>
13:55-14:20	<p>Dan-Fu Han <i>Hangzhou Normal University, Hangzhou, P.R. China</i> A P-VERSION TWO LEVEL SPLINE METHOD FOR 2D NAVIER-STOKES EQUATIONS</p>
14:20-14:45	<p>Mohamed E. Nassar <i>Southern Federal University, Rostov-on-Don, Russia, Menoufia University, Menouf, Egypt</i> NUMERICAL STUDY OF EFFECTIVE MODULES OF POROUS PIEZOCOMPOSITES WITH METALLIZED INTERFACES IN UNIT CELL WITH CUBIC OR SPHERICAL PORES <i>Nasedkin A.V., Nassar M.E.</i></p>
14:45-15:10	<p>Xiang Zhang <i>Department of Mathematics Science, Guizhou Normal University, P.R. China</i> ON THE QUADRATIC EQUATIONS AND MATRIX FUNCTION</p>
15:10-15:35	<p>Vyacheslav G. Tsybulin <i>Southern Federal University, Rostov-on-Don, Russia</i> CONVECTION IN A POROUS MEDIUM: COSYMMETRY AND ITS CONSERVATION THROUGH A FINITE-DIFFERENCE</p>

	APPROXIMATION
15:35-15:55	<p>Tatyana S. Martynova <i>Southern Federal University, Rostov-on-Don, Russia</i></p> <p>POSITIVE DEFINITENESS AND M-MATRIX CONDITIONS OF A CONVECTION-DIFFUSION DIFFERENCE OPERATOR WITH BOUNDARY CONDITIONS OF THE THIRD KIND</p> <p><i>Chikina L.G., Shabas I.N., Martynova T.S.</i></p>
15:55-16:15	Coffee Break
Chairperson	Tatyana S. Martynova
16:15-16:30	<p>Svetlana V. Revina <i>Southern Federal University, Rostov-on-Don, Russia</i></p> <p>THE REGION OF TURING INSTABILITY IN SCHNAKENBERG SYSTEM</p> <p><i>Lysenko S.A., Revina S.V.</i></p>
16:30-16:45	<p>Nikita E. Krymov <i>National Research University Moscow Power Engineering Institute, Moscow, Russia</i></p> <p>ASYMPTOTIC APPROXIMATIONS FOR ONE RADIATIVE-CONDUCTIVE HEAT TRANSFER PROBLEM</p> <p><i>Amosov A.A., Krymov N.E.</i></p>
16:45-17:00	<p>Michael E. Abramyan <i>Southern Federal University, Rostov-on-Don, Russia</i></p> <p>ABOUT SOME FEATURES OF THE HEURISTIC IMPLEMENTATION OF BRANCH AND BOUND METHOD FOR THE PROBLEM OF NFA MINIMIZATION</p> <p><i>Abramyan M. E., Melnikov B.F.</i></p>
17:00-17:15	<p>Lubov G. Chikina <i>Southern Federal University, Rostov-on-Don, Russia</i></p>

	<p>THE SECOND ORDER DIFFERENCE SCHEME OF THE 3D CONVECTION-DIFFUSION PROBLEM WITH THE ROBIN'S BOUNDARY CONDITIONS</p> <p><i>Chikina L.G., Shabas I.N., Chikin A.L.</i></p>
17:15-17:30	<p>Litovchenko D.E. <i>Southern Federal University, Rostov-on-Don, Russia</i></p> <p>ABOUT SOME NEW APPROACHES TO TEXT SENTIMENT ANALYSIS AND TOXICITY ANALYSIS USING DEEP LEARNING METHODS</p> <p><i>Abramyan M.E., Litovchenko D.E.</i></p>

June26 (Wednesday)

Chairperson	Zeng-Qi Wang
10:00-10:25	<p>Sergey I. Garmashov <i>Southern Federal University, Rostov-on-Don, Russia</i></p> <p>COMPUTER SIMULATION OF MIGRATION OF LIQUID CYLINDRICAL INCLUSIONS IN A CRYSTAL IN SOME CASES OF INTERFACIAL ENERGY ANISOTROPY <i>Garmashov S.I., Karpenko A.S.</i></p>
10:25-10:50	<p>Hao Liu <i>Nanjing University of Aeronautics and Astronautics, Nanjing, P.R. China</i></p> <p>MINIMUM NORM PARTIAL QUADRATIC EIGENVALUE ASSIGNMENT FOR VIBRATING STRUCTURES USING RECEPTANCE METHOD <i>Liu H., He B.-X., Chen X.-P.</i></p>
10:50-11:15	<p>Vasiliy N. Govorukhin <i>Southern Federal University, Rostov-on-Don, Russia</i></p> <p>NUMERICAL ANALYSIS OF COSYMMETRY VIOLATION IN FILTRATION CONVECTION PROBLEM</p>
11:15-11:40	<p>Rui-Ping Wen <i>Taiyuan Normal University, Taiyuan, P.R. China</i></p> <p>A THREE-TERM ACCELERATED TECHNIQUE FOR HSS-TYPE METHODS <i>Wen R.-P., Jiang W.</i></p>
11:40-12:00	Coffee Break
Chairperson	Vasiliy N. Govorukhin
12:00-12:15	<p>Olga A. Pichugina <i>Southern Federal University, Rostov-on-Don,</i></p>

	<p><i>Russia</i> NUMERICAL STUDY OF THE SKEW-SYMMETRIC PRECONDITIONERS</p>
12:15-12:40	<p>Xi Yang <i>Nanjing University of Aeronautics and Astronautics, Nanjing, P.R. China</i> A FAST NULLSPACE METHOD BASED ON MATRIX EXPONENTIAL FOR THE UNSTEADY STOKES EQUATIONS</p>
12: 40-12:55	<p>Dmitriy V. Dzama <i>Nuclear Safety Institute, Russian Academy of Science, Moscow, Russia</i> PHYSICAL AND MATHEMATICAL MULTIFUNCTIONAL MODELS, SPECIALIZED NUMERICAL ALGORITHMS AND SOFTWARE FOR MODELING PROPAGATION OF CONTAMINATION, TAKING INTO ACCOUNT THREE-DIMENSIONAL URBAN OR INDUSTRIAL BUILDING <i>Dzama D.V., Sorokovilova O.S., Asfandiyarov D.G.</i></p>
12:55-14:30	Lunch
	Poster Session
1	<p>Chubatov A.A., Karmazin V.N. <i>Armavir State Pedagogical Academy, Armavir, Russia</i> A REGULARIZATION METHOD ON THE BASE AUGMENTED SYSTEM FOR IDENTIFICATION PROBLEM FOR INTENSITY OF ATMOSPHERIC POLLUTION SOURCE</p>
2	<p>Andreeva E.M., Muratova G.V. <i>Southern Federal University, Rostov-on-Don, Russia</i> FOURIER ANALYSIS OF MULTIGRID</p>

	METHOD WITH HSS METHODS AS SMOOTHERS
3	Abramyan M.E. <i>Southern Federal University, Rostov-on-Don, Russia</i> BIPARTITE GRAPHS IN THE PROBLEM OF NFA MINIMIZATION AND ALGORITHMS FOR CALCULATING THEIR NUMBER
4	Kirichenko O.V., Revina S.V INVESTIGATION OF THE STABILITY OF TWO-DIMENSIONAL FLOWS CLOSE TO THE SHEAR.

June27 (Thursday)

Excursion to Azov

June28 (Friday)

Trip to Taganrog. Participation in the meeting of the SFU Academic Council

June29 (Saturday)

Departure