

PROGRAMME

MONDAY, JULY 23, 9 FLOOR HALL

08:45-09:30 REGISTRATION

CHAIR: **Eugene Tyrtysnikov**

09:30-09:40 **Guri Marchuk**
Russian Academy of Sciences
WELCOME WORD

09:40-10:30 **Gene H. Golub**
Stanford University, USA
golub@stanford.edu
MATRIX COMPUTATIONS AND THE SECULAR EQUATION

10:30-11:20 **Vyacheslav I. Lebedev**
Institute of Numerical Mathematics, RAS, Moscow
gourmet@inm.ras.ru
ON REPRESENTATION OF THE POLYNOMIALS OF BEST APPROXIMATION WITH THE WEIGHT
AND THEIR EVALUATION

11:20-11:40 COFFEE-TEA BREAK (6 FLOOR)

CHAIR: **Rajendra Bhatia**

11:40-12:30 **Hans Schneider**
Mathematics Department, University of Wisconsin (USA)
hans@math.wisc.edu
SPECTRAL THEORY OF REDUCIBLE NONNEGATIVE MATRICES IN CLASSICAL AND MAX LINEAR
ALGEBRA: A COMPARISON

12:30-13:00 **Sergey P. Suetin**
Steklov Mathematical Institute, RAS, Russia
suetin@mi.ras.ru
ON SOME FUNDAMENTAL PROPERTIES AND APPLICATIONS OF CHEBYSHEV CONTINUED FRACTIONS

13:00-14:30 LUNCH

MONDAY, JULY 23, 9 FLOOR HALL
SECTION “MATRICES AND ALGORITHMS”

CHAIR: **Marc Van Barel**

14:30-15:00 **Yuli Eidelman and Israel Gohberg**
Tel Aviv University, Israel
eideyu@post.tau.ac.il
EFFICIENT GENERATORS OF QUASISEPARABLE MATRICES

- 15:00-15:30 **Drahoslava Janovská** Vladimír Janovský
 Institute of Chemical Technology, Charles University, Prague (Czech Republic)
 Drahoslava.Janovska@vscht.cz, janovsky@karlin.mff.cuni.cz
 ON SINGULAR VALUES OF PARAMETER DEPENDENT MATRICES
- 15:30-16:00 **Dimitrios Noutsos and Paris Vassalos**
 University of Ioannina, Athens University of Business and Economics (Greece)
 dnoutsos@cc.uoi.gr, pvassal@aueb.gr
 BAND PLUS ALGEBRA PRECONDITIONERS FOR BTTB TOEPLITZ SYSTEMS
- 16:00-16:30 COFFEE-TEA BREAK (6 FLOOR)
- CHAIR: **Valery Il'in**
- 16:30-17:00 **Antonio Aricò, Marco Donatelli and Stefano Serra-Capizzano**
 Università degli studi di Cagliari, Università degli Studi dell'Insubria (Italy)
 arico@unica.it, marco.donatelli@uninsubria.it, s.serracapizzano@uninsubria.it
 SPECTRAL ANALYSIS OF THE ANTI-REFLECTIVE TRANSFORM
- 17:00-17:30 **Igor Kaporin and Igor Konshin**
 Computing Center of Russian Academy of Sciences, Moscow, Russia
 kaporin@ccas.ru
 RECURSIVE SCALING, PERMUTATION AND 2×2 -BLOCK SPLITTING IN ILU PRECONDITIONINGS
- 17:30-18:00 **Vera N. Kublanovskaya, Vladimir B. Khazanov**
 St.-Petersburg Branch of the Steklov Math. Inst. RAS;
 St.-Petersburg State Marine Technical University
 verakub@pdmi.ras.ru, khazanovvb@mail.ru
 SOME APPROACHES TO SOLVING INVERSE EIGENVALUE PROBLEMS
- 18:00-18:30 **Federico Poloni** (joint work with Dario A. Bini, Bruno Iannazzo, Beatrice Meini)
 Scuola Normale Superiore, Pisa
 f.poloni@sns.it
 EXPLOITING RANK STRUCTURE IN THE SOLUTION OF A CLASS OF NONSYMMETRIC
 ALGEBRAIC RICCATI EQUATIONS
- MONDAY, JULY 23, 5 FLOOR HALL
 SECTION "ALGEBRA AND MATRICES"
- CHAIR: **Alexander Guterman**
- 14:30-15:00 **Bojan Kuzma**
 Institute of Mathematics, Physics, and Mechanics, Ljubljana, Slovenia
 bojan.kuzma@pef.upr.si
 PRESERVING ZEROS OF JORDAN TRIPLE PRODUCTS
- 15:00-15:30 **Vadim N. Chugunov and Khakim D. Ikramov**
 Institute of Numerical Mathematics, RAS; Moscow State University
 vadim@bach.inm.ras.ru, ikramov@cs.msu.ru
 ON A GENERAL APPROACH TO DERIVING THE KNOWN CLASSES OF NORMAL HANKEL MATRICES
- 15:30-16:00 **Ajda Fošner**
 University of Maribor, Faculty of Natural Sciences and Mathematics, Slovenia
 ajda.fosner@uni-mb.si
 NON-LINEAR COMMUTATIVITY PRESERVING MAPS ON SYMMETRIC MATRICES

16:00-16:30 COFFEE-TEA BREAK (6 FLOOR)

CHAIR: **Stéphane Gaubert**

16:30-17:00 **Vassili N. Kolokoltsov**

Moscow Institute of Economics (Russia); Dept. of Stat., University of Warwick (UK)
vkolok@fsmail.net

ON THE CONNECTION BETWEEN THE REGULARITY OF MATRICES OVER IDEMPOTENT SEMIRINGS AND THE SOLUTIONS TO THE ASSIGNMENT PROBLEM

17:00-17:30 **Grigori L. Litvinov, G. B. Shpiz**

Independent University of Moscow
glitvinov@mail.ru

DEQUANTIZATION OF LINEAR OPERATORS

17:30-18:00 **Vladimir Protasov**

Department of Mechanics and Mathematics, Moscow State University, Russia
v-protasov@yandex.ru

BOUNDED SEMIGROUPS OF MATRICES AND THE GRAPH TRACTABILITY PROBLEM

18:00-18:30 **Stéphane Gaubert, Sergeï Sergeev**

INRIA-Rocquencourt, France; Moscow State University, Moscow
Stephane.Gaubert@inria.fr, sergiej@gmail.com

CYCLIC PROJECTORS IN SEMIMODULES OVER THE MAX-PLUS SEMIRING

MONDAY, JULY 23, 7 FLOOR HALL (ROOM 727)

SECTION "MATRICES AND APPLICATIONS"

CHAIR: **Maxim Olshanskii**

14:30-15:00 **Andrey Bogatyrëv**

Institute of Numerical Mathematics of RAS
gourmet@inm.ras.ru

ANALYTIC METHOD FOR COMPUTATION OF MAGNETIC FIELD IN COMPLEX DOMAIN

15:00-15:30 **Oleg V. Diyanov**

Neurok Techsoft, Troitsk, Moscow region, Russia
diyanov@aconts.com

FUZZY GRID METHOD FOR NUMERICAL SOLUTION OF PDE

15:30-16:00 **Yuri Vassilevski, Sergei Goreinov and Vadim Chugunov**

Institute of Numerical Mathematics, Russian Academy of Sciences, Moscow, Russia
vasilevs@dodo.inm.ras.ru

ITERATIVE TECHNOLOGIES FOR STIFF PROBLEMS WITH JUMPING ANISOTROPIC DIFFUSION TENSORS

16:00-16:30 COFFEE-TEA BREAK (6 FLOOR)

CHAIR: **Yuri Vassilevski**

16:30-17:00 **M. E. Ladonkina, Olga Yu. Milyukova, and V. F. Tishkin**

Institute for Mathematical Modeling, Russian Academy of Sciences, Russia
miliukova@imamod.ru

APPLICATION OF THE MULTIGRID METHOD TO SOLVING DIFFUSION-TYPE EQUATIONS

- 17:00-17:30 **Evgenia M. Andreeva, Lev A. Krukier, Galina V. Muratova**
South Federal University, Rostov-on-Don, Russia
muratova@rsu.ru
NEW SMOOTHERS IN MULTIGRID METHODS FOR STRONGLY NONSYMMETRIC LINEAR SYSTEMS
- 17:30-18:00 **Andriy Sokolov, Maxim A. Olshanskii and Stefan Turek**
University of Dortmund (Germany); Lomonosov Moscow State University (Russia)
asokolow@math.uni-dortmund.de, stefan.turek@math.uni-dortmund.de,
maxim.olshanskii@mtu-net.ru
ON DISCRETE PROJECTION METHODS FOR ROTATING INCOMPRESSIBLE FLOW WITH CORIOLIS FORCE
- 18:00-18:30 **Dmitrii O. Logofet**
Institute of atmospheric physics RAS, Moscow State University
danilal@postman.ru
OVERCOMING PRINCIPAL UNCERTAINTIES IN CALIBRATION OF MATRIX POPULATION MODELS
-

TUESDAY, JULY 24, 9 FLOOR HALL

CHAIR: **Hans Schneider**

- 09:00-09:30 **Dario A. Bini**
Università di Pisa (ITALY)
bini@dm.unipi.it
THE CYCLIC REDUCTION ALGORITHM: FROM POISSON'S EQUATION TO STOCHASTIC PROCESSES AND BEYOND
- 09:30-10:00 **Olga Holtz**
Berkeley, USA
oholtz@eecs.berkeley.edu
FAST AND STABLE LINEAR ALGEBRA
- 10:00-10:30 **Ivan Oseledets**
Institute of Numerical Mathematics, RAS, Moscow (Russia)
ivan.oseledets@gmail.com
FAST MULTIPLICATION OF MATRIX POLYNOMIALS AND SOME TRICKS FOR THE COMPUTATION OF THE TRILINEAR DECOMPOSITION IN $GF(2)$
- 10:30-11:00 COFFEE-TEA BREAK (6 FLOOR)
- CHAIR: **Gene Golub**
- 11:00-11:30 **Valery P. Il'in**
Institute of Computational Mathematics and Mathematical Geophysics, SBRAS, Novosibirsk
ilin@sscc.ru
ON THE CONJUGATE AND SEMI-CONJUGATE DIRECTION METHODS WITH PRECONDITIONING PROJECTORS
- 11:30-12:00 **Igor Kaporin**
Computing Center of Russian Academy of Sciences, Moscow, Russia
kaporin@ccas.ru
INCOMPLETE LU FACTORIZATION OF GENERAL SPARSE MATRICES

12:00-12:30 **Lieven De Lathauwer**
Centre National de la Recherche Scientifique, Lab. ETIS, France
delathau@ensea.fr
DECOMPOSITIONS OF A HIGHER-ORDER TENSOR IN BLOCK TERMS

12:30-13:00 **Dmitry V. Savostyanov**
Institute of Numerical Mathematics, RAS, Moscow (Russia)
drraug@gmail.com
MATRIX TRICKS IN TENSOR APPROXIMATION: 3D-CROSS METHOD AND MAXIMUM-VOLUME PRINCIPLE

13:00-14:30 LUNCH

TUESDAY, JULY 24, 9 FLOOR HALL
SECTION "MATRICES AND ALGORITHMS"

CHAIR: **Reinhold Schneider**

14:30-15:00 **Claudio Estatico and Stefano Serra Capizzano**
University of Cagliari, University of Insubria (ITALY)
estatico@dima.unige.it, stefano.serrac@uninsubria.it, serra@mail.dm.unipi.it
SUPEROPTIMAL APPROXIMATION FOR ILL-CONDITIONED LINEAR SYSTEMS WITH UNBOUNDED SYMBOLS

15:00-15:30 **Heinz-Jürgen Flad**
Institut für Informatik, Christian-Albrechts-Universität zu Kiel, Germany
flad@mis.mpg.de
TENSOR PRODUCT APPROXIMATION IN QUANTUM CHEMISTRY

15:30-16:00 **Edouard R. Boudinov, Arkady I. Manevich**
FORTIS Bank (Brussels, Belgium), Dniepropetrovsk National University (Ukraine)
edouard.boudinov@mail.ru, aman@atlantis.dp.ua
A GENERALIZED CONJUGATE DIRECTION METHOD FOR NONSYMMETRIC LARGE ILL-CONDITIONED LINEAR SYSTEMS

16:00-16:30 COFFEE-TEA BREAK (6 FLOOR)

CHAIR: **Lieven De Lathauwer**

16:30-17:00 **Andrei V. Sedov**
The Southern Scientific Center, RAS, Novocherkassk, Rostov Region, Russia
sedov_a.v@mail.ru
THE MATRIX OF BORDERING FUNCTIONS AND THE PROBLEMS OF THE RESTORATION OF SIGNALS ON DISCRETE SAMPLES

17:00-17:30 **Anton Yu. Solodovschikov**
Keldysh Institute of Applied Mathematics, RAS, Moscow
anton_mipt@7ka.mipt.ru
AN APPROACH TO FEATURE-BASED BASIS CONSTRUCTION FOR IMAGE ANALYSIS VIA KARHUNEN-LOEVE TRANSFORM

17:30-18:00 **Cristina Tablino-Possio**
University of Milano, Italy
cristina.tablinopossio@unimib.it
SPECTRAL FILTERING METHODS WITH REFLECTIVE / ANTI-REFLECTIVE BOUNDARY CONDITIONS

18:00-18:30 **Konstantin Usevich, Nina Golyandina**
St.Petersburg State University, Mathematical Department (Russia)
usevich.k.d@gmail.com, nina@gistatgroup.com
SSA-BASED APPROACH TO DECOMPOSITION OF TWO-DIMENSIONAL SCALAR FIELDS

TUESDAY, JULY 24, 5 FLOOR HALL
SECTION "ALGEBRA AND MATRICES"
CHAIR: **Bojan Kuzma**

14:30-15:00 **Ajda Fošner and Maja Fošner**
University of Maribor, Faculty of Logistics, Slovenia
maja.fosner@uni-mb.si
ON SUPERDERIVATIONS AND LOCAL SUPERDERIVATIONS

15:00-15:30 **Tatjana Petek**
University of Maribor, Slovenia
tatjana.petek@uni-mb.si
MAPPINGS PRESERVING THE IDEMPOTENCY OF PRODUCTS OF OPERATORS

15:30-16:00 **Sergei N. Ilyin, D. R. Timurshin**
Kazan State University, Russia
Sergey.Ilyin@ksu.ru
ON REGULARITY IN THE SENSE OF VON NEUMANN OF COMPLETE MATRIX SEMIRINGS OVER
ADDITIVELY REGULAR SEMIRINGS

16:00-16:30 COFFEE-TEA BREAK (6 FLOOR)

CHAIR: **Vladimir Protasov**

16:30-17:00 **Elena Kreines**
Moscow State University
kreines@itep.ru
DESSINS D'ENFANTS, GENERALIZED CHEBYSHEV POLYNOMIALS, AND ANTI-VANDERMONDE
SYSTEMS OF EQUATIONS

17:00-17:30 **Grigori L. Litvinov**
Independent University of Moscow
glitvinov@mail.ru
LINEAR METHODS AND ERROR AUTOCORRECTION IN RATIONAL APPROXIMATION

17:30-18:00 **Elena I. Bunina, Pavel P. Semenov**
Department of Mechanics and Mathematics, Moscow State University, Russia
helenbunina@yandex.ru
AUTOMORPHISMS OF THE SEMIGROUP OF INVERTIBLE MATRICES WITH NONNEGATIVE ELE-
MENTS OVER COMMUTATIVE PARTIALLY ORDERED RINGS

18:00-18:20 **Nadya Zharko**
Mech.-Math. Faculty, Kiev National University, Ukraine
n.zharko@mail.ru
POSITIVITY CRITERIA GENERALIZING THE LEADING PRINCIPAL MINORS CRITERION

TUESDAY, JULY 24, 7 FLOOR HALL (ROOM 727)
SECTION "MATRICES AND APPLICATIONS"

CHAIR: **Roland Masson**

14:30-15:00 **Ildar B. Badriev, O. A. Zadvornov**

Kazan State University, Russia

Ildar.Badriev@ksu.ru

SPLITTING ALGORITHM FOR SOLVING VARIATIONAL INEQUALITIES WITH INVERSELY STRONGLY MONOTONE OPERATORS

15:00-15:30 **Mikhail Botchev**

University of Twente, the Netherlands

m.a.botchev@math.utwente.nl

AN APPROACH TO SOLUTION OF NONLINEAR HELMHOLTZ EIGENVALUE PROBLEMS STEMMING FROM INTEGRATED OPTICS WITH JACOBI-DAVIDSON SOLVERS

15:30-16:00 **Alexander Grebennikov**

Benemérita Universidad Autónoma de Puebla, Facultad de ciencias Físico Matemáticas, Mexico

agrebe@fcfm.buap.mx

APPLICATION OF RADON TRANSFORM FOR FAST SOLUTION OF BOUNDARY VALUE PROBLEMS FOR ELLIPTIC PDE IN DOMAINS WITH COMPLICATED GEOMETRY

16:00-16:30 COFFEE-TEA BREAK (6 FLOOR)

CHAIR: **Oleg Diyankov**

16:30-17:00 **N. Bochkarev, O. Diyankov, V. Pravilnikov, B.Beckner, A. Usadi,**

I. Mishev, S. Maliassov

Neurok Techsoft, Russia; ExxonMobil Upstream Research Company, USA

diyankov@aconts.com

MULTI-LEVEL PARTITIONING ALGORITHMS

17:00-17:30 **Sven Gross**

IGPM, RWTH Aachen University, Germany

gross@igpm.rwth-aachen.de

SIMULATION OF TWO-PHASE INCOMPRESSIBLE FLOW: DISCRETIZATION AND PRECONDITIONING

17:30-18:00 **Roland Masson, Y. Achdou, P. Bonneau, P. Quandalle**

Institut Français du Pétrole, France; University Paris VII

roland.masson@ifp.fr

ALGEBRAIC MULTIGRID METHODS AND BLOCK PRECONDITIONING FOR MIXED ELLIPTIC HYPERBOLIC LINEAR SYSTEMS, APPLICATIONS TO STRATIGRAPHIC AND RESERVOIR SIMULATIONS

18:00-18:30 **Ivan Kapyrin**

Institute of Numerical Mathematics, RAS, Moscow

ivan.kapyrin@gmail.com

MONOTONE MATRICES AND FINITE VOLUME SCHEMES FOR DIFFUSION PROBLEMS PRESERVING NON-NEGATIVITY OF SOLUTION

WEDNESDAY, JULY 25, 9 FLOOR HALL

CHAIR: **Olga Holtz**

09:00-09:50 **Rajendra Bhatia**
Indian Statistical Institute, New Delhi, India
rbh@isid.ac.in
AVERAGING OPERATIONS ON MATRICES

09:50-10:20 **Victor Pan**
Dept. of Math. and Comp. Sci., Lehman College of the City University of New York, USA
v_y_pan@yahoo.com
ADDITIVE PRECONDITIONING AND AGGREGATION IN MATRIX COMPUTATIONS

10:20-10:50 COFFEE-TEA BREAK (6 FLOOR)

CHAIR: **Victor Pan**

10:50-11:30 **Vadim Olshevsky**
University of Connecticut, USA
olshevsky@math.uconn.edu
QUASISEPARABLE MATRICES/POLYNOMIALS AND LIPSHITZ STABILITY OF JORDAN BASES

11:30-12:10 **Stefano Serra-Capizzano**
Università degli Studi dell'Insubria (Italy)
s.serracapizzano@uninsubria.it
MIRSKY-BASED TOOLS FOR THE EIGENVALUE DISTRIBUTION IN A NON-HERMITIAN SETTING

12:10-13:30 LUNCH

13:30-18:00 EXCURSION TO KREMLIN

THURSDAY, JULY 26, 9 FLOOR HALL

CHAIR: **Leonid Knizhnerman**

09:00-09:30 **Walter Gander**
ETH Zürich
gander@inf.ethz.ch
COMPUTING ZEROS OF POLYNOMIALS

09:30-10:00 **Maxim Olshanskii**
Lomonosov Moscow State University
maxim.olshanskii@mtu-net.ru
AUGMENTED LAGRANGIAN APPROACH FOR SADDLE-POINT PROBLEMS WITH INDEFINITE (1,1)-BLOCK

10:00-10:30 **Frank Uhlig**
Department of Mathematics, Auburn University (USA)
uhligfd@auburn.edu
ON THE INNER AND OUTER GEOMETRY OF THE FIELD OF VALUES USING GEOMETRIC COMPUTING METHODS

10:30-11:00 COFFEE-TEA BREAK (6 FLOOR)

CHAIR: **Frank Uhlig**

- 11:00-11:30 **J. Vic Batson, Oleg V. Diyankov**
 Sparsix Corporation, San Francisco, USA
 diyankov@acounts.com
 CONSTRUCTING A SPARSE LINEAR SYSTEM HARDWARE ACCELERATOR
- 11:30-12:00 **Vladimir Druskin, Leonid Knizhnerman, Mikhail Zaslavsky**
 Schlumberger-Doll Research, USA; Central Geophysical Expedition, Russia
 druskin1@boston.oilfield.slb.com, mmd@cge.ru, mzaslavsky@slb.com
 HOW TO ECONOMICALLY SOLVE A MULTI-FREQUENCY PROBLEM WITH A NONNEGATIVE DEFINITE OPERATOR
- 12:00-12:30 **Nicola Mastronardi, Marc Van Barel, Raf Vandebril**
 Istituto per le Applicazioni del Calcolo "M. Picone" Bari, Italy;
 Katholieke Universiteit Leuven, Department of Computer Science, Belgium
 n.mastronardi@ba.iac.cnr.it, Marc.VanBarel@cs.kuleuven.ac.be,
 raf.vandebril@cs.kuleuven.be
 A FAST ALGORITHM FOR COMPUTING THE NULLSPACE OF SOME STRUCTURED MATRICES
- 12:30-13:00 **Reinhold Schneider**
 University of Kiel, Germany
 as@informatik.uni-kiel.de
 EXPONENTIAL PARAMETRIZATION AND LINEAR SCALING DENSITY FUNCTIONAL THEORY IN BIGDFT
- 13:00-14:30 LUNCH

THURSDAY, JULY 26, 9 FLOOR HALL
 SECTION "MATRICES AND ALGORITHMS"

CHAIR: **Stefano Serra-Capizzano**

- 14:30-15:00 **Alexander Rogozhin**
 IBM, Moscow, Russia
 a.rogozhin@mail.ru
 SINGULAR VALUES FOR THE FINITE SECTIONS OF NON-FREDHOLM TOEPLITZ OPERATORS
- 15:00-15:30 **Sergey Sukhoverkhov, Igor B. Simonenko**
 Southern Federal University, Rostov-on-Don, Russia
 ssukhoverkhov@gmail.com
 ASYMPTOTIC SOLUTION OF LARGE TOEPLITZ SYSTEMS WITH AN INFINITELY DIFFERENTIABLE SYMBOL
- 15:30-16:00 **Alexei Setuha**
 The Jukowsky Military Air Engineering Academy, Moscow
 setuhaav@rambler.ru
 DISCRETE SCHEME FOR SOME 2D INTEGRAL EQUATIONS WITH HYPER-SINGULAR INTEGRALS
- 16:00-16:30 COFFEE-TEA BREAK (6 FLOOR)

CHAIR: **Harald Wimmer**

- 16:30-17:00 **Drahoslava Janovská, Gerhard Opfer**
 Institute of Chemical Technology, Dept. of Math., Prague, Czech Republic; University Hamburg
 Drahoslava.Janovska@vscht.cz
 ON THE QUATERNIONIC EQUATION $AX + BXC + XD = E$
- 17:00-17:30 **Houssam Khalil, Bernard Mourrain, Michelle Schatzman**
 Inst. Camille Jordan, Université Claude Bernard Lyon1; INRIA, Sophia Antipolis (France)
 khalil@math.univ-lyon1.fr, mourrain@sophia.inria.fr, schatz@math.univ-lyon1.fr
 TOEPLITZ AND TOEPLITZ-BLOCK-TOEPLITZ MATRICES AND THEIR CORRELATION WITH SYZYGIES OF POLYNOMIALS
- 17:30-18:00 **Yu. S. Barkovskii, Michail Yu. Tyaglov, M. V. Shubnyi**
 Southern Federal University, Rostov-on-Don (Russia);
 Technische Universität Berlin, Institut für Mathematik (Germany)
 tyaglov@gmail.com
 STABLE RATIONAL FUNCTIONS AND HURWITZ-LIKE FORMULAS FOR HURWITZ MATRICES

THURSDAY, JULY 26, 5 FLOOR HALL
 SECTION "ALGEBRA AND MATRICES"

CHAIR: **Elena Bunina**

- 14:30-15:00 **Vladimir B. Khazanov**
 St.-Petersburg State Marine Technical University
 khazanovvb@mail.ru
 ON SOLVING SPECTRAL PROBLEMS FOR NONLINEAR MULTIPARAMETER MATRICES
- 15:00-15:30 **Tatjana Nahtman, Dietrich von Rosen**
 University of Tartu (Estonia); Swedish University of Agricultural Sciences (Sweden)
 dietrich.von.rosen@bt.slu.se
 ON A CLASS OF SINGULAR STRUCTURED MATRICES WITH INTEGER SPECTRA
- 15:30-16:00 **Olga V. Markova**
 Moscow State University, Mathematics and Mechanics Dept., Russia
 ov_markova@mail.ru
 MATRIX ALGEBRAS AND THEIR LENGTH
- 16:00-16:30 COFFEE-TEA BREAK (6 FLOOR)

CHAIR: **Vladimir Sergeichuk**

- 16:30-17:00 **Elena I. Bunina**
 Moscow State University, Russia
 helenbunina@yandex.ru
 AUTOMORPHISMS OF ADJOINT CHEVALLEY GROUPS OVER LOCAL RINGS
- 17:00-17:30 **Evgeny E. Marenich**
 Murmansk State Pedagogic University
 marenich1@yandex.ru
 CALCULATION OF THE SCHEIN RANK FOR BOOLEAN MATRICES
- 17:30-18:00 **Vladimir M. Prokip**
 Institute for Applied Problems of Mechanics and Mathematics, Lviv (Ukraine)

vprokip@mail.ru

REDUCTION OF MATRICES OVER A DOMAIN OF PRINCIPAL IDEALS TO THE SMITH NORMAL FORMS BY MEANS OF THE SAME ONE-SIDED TRANSFORMATIONS

THURSDAY, JULY 26, 7 FLOOR HALL (ROOM 727)
SECTION "MATRICES AND APPLICATIONS"

CHAIR: **Michail M. Khapaev**

14:30-15:00 **Michael Ermakov**

Institute for Problems in Mechanics RAS, Moscow, Russia
ermakov@ipmnet.ru

MATRIX METHODS FOR SOLUTION AND STABILITY ANALYSIS IN CONVECTIVE PROBLEMS

15:00-15:30 **Sofia Y. Gogoleva**

S.P.Korolev Samara State Aerospace University, Samara, Russia
gogoleva_s@mail.ru

THE DIRECT PROJECTION METHOD AND ITS MODIFICATION FOR SOLVING SYSTEMS OF LINEAR EQUATIONS WITH SPARSE UNSTRUCTURED MATRICES

15:30-16:00 **Vadim Sokolov** (with Biswa Datta, Sien Deng, Moody Chu and Daniil Sarkissian)

Northern Illinois University, DeKalb, USA
sokolov83@gmail.com

A NEW METHOD FOR A QUADRATIC INVERSE EIGENVALUE PROBLEM IN STRUCTURAL DYNAMICS

16:00-16:30 COFFEE-TEA BREAK (6 FLOOR)

CHAIR: **Michail Botchev**

16:30-17:00 **Alexey Chernov and Christoph Schwab**

Seminar for Applied Mathematics, ETH Zürich, Zürich, Switzerland
achernov@math.ethz.ch, schwab@math.ethz.ch

p -SPARSE BEM FOR WEAKLY SINGULAR INTEGRAL EQUATION ON RANDOM BOUNDARY

17:00-17:30 **Michail M. Khapaev, M. Yu. Kupiyanov**

Moscow State University, Russia
vmhap@cs.msu.su

SPARSE APPROXIMATION OF FEM MATRIX FOR SHEET CURRENT INTEGRO-DIFFERENTIAL EQUATION

17:30-18:00 **Oleg N. Kirillov**

Moscow State Lomonosov University, Institute of Mechanics, Russia
kirillov@imec.msu.ru

STABILIZING AND DESTABILIZING EFFECT OF BREAKING THE HAMILTONIAN AND REVERSIBLE SYMMETRY

19:00 CONFERENCE DINNER AT RAS TOWER (LENINSKI PROSPEKT, 32 A)

FRIDAY, JULY 27, 9 FLOOR HALL
SECTION "MATRICES AND ALGORITHMS"

CHAIR: **Nicola Matronardi**

- 09:00-09:30 **Bruno Iannazzo**
 Università dell'Insubria, Italy
 iannazzo@mail.dm.unipi.it
 RATIONAL ITERATIONS FOR MATRIX FUNCTIONS
- 09:30-10:00 **Yuri I. Kuznetsov**
 ICM and MG SB RAS, Novosibirsk
 sur@ommfao1.sssc.ru
 SEPARATION OF VARIABLES IN NONLINEAR FERMI EQUATION
- 10:00-10:30 **Andrei V. Sedov**
 The Southern Scientific Center, RAS, Novocherkassk, Rostov Region, Russia
 sedov_a.v@mail.ru
 THE PROPERTY OF THE QUASI-ORTHOGONALITY OF VECTORS AND THE QUASI-UNITARY MATRICES AT THE MODELLING OF SIGNALS
- 10:30-11:00 COFFEE-TEA BREAK (6 FLOOR)
- CHAIR: **Dario Bini**
- 11:00-11:30 **Rafig Agaev**
 Institute of Control Sciences, RAS, Moscow
 arpoye@rambler.ru
 ON THE SPECTRA OF THE LAPLACIAN MATRICES OF A CERTAIN CLASS
- 11:30-12:00 **Andrey A. Chesnokov and Marc Van Barel**
 Moscow State University; Katholieke Universiteit Leuven
 andrey.chesnokov@cs.kuleuven.be, marc.vanbare1@cs.kuleuven.be
 CONTINUATION METHOD TO SOLVE SYMMETRIC INDEFINITE TOEPLITZ SYSTEMS
- 12:00-12:30 **Yuri M. Nechepurenko, Alena S. Potyagalova, Irina A. Karaseva**
 INM RAS; Cadence Design Systems LLC; Moscow Inst. of Phys. and Tech. (Russia)
 yumn@inm.ras.ru, alena@cadence.com, irina_kar@bk.ru
 SPECTRAL MODEL ORDER REDUCTION FOR CONTROL SYSTEMS MODELLING PASSIVE INTEGRATION CIRCUITS
- 12:30-13:00 **Harald K. Wimmer**
 Mathematisches Institut, Universität Würzburg, D-97074 Würzburg, Germany
 wimmer@mathematik.uni-wuerzburg.de
 AN ENESTRÖM-KAKEYA THEOREM FOR HERMITIAN POLYNOMIAL MATRICES

FRIDAY, JULY 27, 5 FLOOR HALL
SECTION "ALGEBRA AND MATRICES"

CHAIR: **Evgeny E. Marenich**

09:00-09:30 **Iya N. Klochkova**

Institute of Atmospheric Physics, RAS, Moscow
iyanickel@gmail.com

SPECIAL TYPES OF NONNEGATIVE MATRICES, ITS CHARACTERISTICS AND APPLICATION

09:30-10:00 **Valentina E. Marenich**

Murmansk State Pedagogic University
VMarenich@yandex.ru

LATTICES OF MATRIX ROWS AND MATRIX COLUMNS

10:00-10:30 **Maxim Bershadsky**

Ben-Gurion University of the Negev, Sapir Academic College,
maximb@bgu.ac.il, maximb@mail.sapir.ac.il

ON RANKS OF SPATIAL MATRICES

10:30-11:00 COFFEE-TEA BREAK (6 FLOOR)

CHAIR: **Grigori Litvinov**

11:00-11:30 **Evgeny S. Balmassov**

Moscow State University, Russia
helenbunina@yandex.ru

ELEMENTARY EQUIVALENCE OF UNITARY LINEAR GROUPS

11:30-12:00 **Olga A. Vaysman**

Lomonosov Moscow State University
science@land.ru

FACTOR RANK OF NON-NEGATIVE MATRICES WITH FIXED CLASSICAL RANK

12:00-12:30 **Sergeï Sergeev**

Moscow State University, Russia
sergiej@gmail.com

ON EXTENSIONS OF THE CLOSURE OPERATION FOR MATRICES OVER THE MAX-PLUS SEMIRING

12:30-13:00 **Laurent Truffet**

Ecole des Mines de Nantes, Dpt Automatique et Productique, Nantes (France)
Laurent.Truffet@emn.fr

MONOTONICITY OF OPERATOR WITH RESPECT TO PREORDERING GENERATED BY COUPLING
OF SUBADDITIVE MEASURES

FRIDAY, JULY 27, 7 FLOOR HALL (ROOM 727)
SECTION "MATRICES AND APPLICATIONS"

CHAIR: **Alexander Grebennikov**

09:00-09:30 **Tamara A. Sushkevich, Sergey A. Strelkov, Sveta V. Maksakova**

Keldysh Institute for Applied Mathematics, Russian Academy of Sciences, Russia
tamaras@keldysh.ru

MATRIX APPROACH TO MODEL OF POLARIZED RADIATION TRANSFER IN HETEROGENEOUS
SYSTEMS

- 09:30-10:00 **Alexander I. Zhdanov, T. G. Parchaikina**
 Samara State Aerospace University, Samara, Russia
 zhdanov@ssau.ru
 THE METHOD OF REGULARIZATION OF TIKHONOV BASED ON AUGMENTED SYSTEMS
- 10:00-10:30 **Vladimir N. Zubov, Lev A. Krukier, Galina V. Muratova, T. N. Subbotina**
 Computer Center of Southern Federal University, Rostov-on-Don, Russia
 zubov@rsu.ru, krukier@rsu.ru, tsub@rsu.ru
 THE RADIOACTIVE POLLUTION TRANSPORT MODELING IN AIR NEARBY VOLGODONSK NUCLEAR STATION
- 10:30-11:00 COFFEE-TEA BREAK (6 FLOOR)
- CHAIR: **Tamara Sushkevich**
- 11:00-11:20 **Elena N. Akimova, Irina P. Demeshko, Anatolii V. Konovalov**
 Inst. of Math. and Mech., Inst. of Engineering Science (UrB RAS), Ekaterinburg, Russia
 aen@imm.uran.ru, avk@imach.uran.ru
 DEVELOPMENT OF PARALLEL ITERATIVE ALGORITHMS FOR THE SOLUTION OF 2D ELASTO-PLASTIC PROBLEMS
- 11:20-11:40 **Tatiana V. Kochubey**
 Southern Scientific Center of Russian Academy of Sciences
 tako84@yandex.ru
 THE METHOD OF MAGNETIC FIELD COMPUTATION IN THE PRESENCE OF AN IDEAL CONDUCTIVE MULTILINKED SURFACE USING THE INTEGRO-DIFFERENTIAL EQUATION OF THE FIRST KIND
- 11:40-12:00 **Jan A. Naumenko**
 Southern Scientific Center of Russian Academy of Science, Rostov-on-Don, Russia
 jan@novoch.ru
 OPERATOR EQUATIONS FOR EDDY CURRENTS ON SINGULAR CARRIERS
- 12:00-12:20 **Ekaterina Muravleva**
 Moscow State University, Russia
 catmurav@gmail.com
 FINITE DIFFERENCE SCHEMES FOR BINGHAM FLUID FLOW IN CAVITY
- 12:20-12:40 **Olga V. Podgornova**
 Keldysh Institute of Applied Mathematics RAS, Moscow
 olgapodgornova@gmail.com
 LAGUERRE-PSEUDOSPECTRAL DISCRETIZATION VS FINITE-DIFFERENCES FOR DISCRETE GREEN FUNCTION CALCULATION
- 12:40-13:00 **Kirill S. Shaposhnikov**
 Southern Scientific Center of Russian Academy of Science
 cyr@mail.ru
 THE COMPUTING OF THE STATIONARY MAGNETIC FIELD IN THE PRESENCE OF SURFACE WITH INFINITE PERMEABILITY
- 13:00-14:30 LUNCH
- FRIDAY, JULY 27, 9 FLOOR HALL
- CHAIR: **Vadim Olshevsky**
- 14:30-15:00 **Stéphane Gaubert**
 INRIA-Rocquencourt, France

Stephane.Gaubert@inria.fr
LINEAR PROJECTORS ON TROPICAL SPACES

15:00-15:30 **Vladimir V. Sergeichuk**
Institute of Mathematics, Kiev (Ukraine)
sergeich@imath.kiev.ua
TRIDIAGONAL CANONICAL MATRICES OF BILINEAR AND SESQUILINEAR FORMS

15:30-16:00 **Yvette Vanberghen, Marc Van Barel, Paul Van Dooren**
Katholieke Universiteit Leuven, Department of Computer Science, Belgium
marc.vanbarel@cs.kuleuven.be
PRODUCT/QUOTIENT SVD USING RANK STRUCTURED MATRICES

16:00-16:30 **Alexander E. Guterman**
Moscow State University, Russia
guterman@list.ru
MONOTONE MATRIX TRANSFORMATIONS

16:30-17:00 **Ivan Oseledets, Eugene Tyrtyshnikov, Nikolai Zamarashkin**
Institute of Numerical Mathematics, RAS, Moscow, Russia
ivan.oseledets@gmail.com, tee@inm.ras.ru, kolya@bach.inm.ras.ru
A NEW CLASS OF LOW-TENSOR RANK MATRICES CLOSED UNDER INVERSION

17:00 FAREWELL CHAMPAGNE