



INTERNATIONAL CONFERENCE

CONTINUUM MECHANICS AND RELATED PROBLEMS OF ANALYSIS

to Celebrate the 70th Anniversary of the
Georgian National Academy of Sciences

&

the 120th Birthday of its First President Academician **Nikoloz (Niko) Muskhelishvili**



PROGRAM OF THE CONFERENCE

Tbilisi, September 9-14

2011

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PROGRAM

Tbilisi, September 9–14
2011

Organizers:

<i>Ministry of Education and Science of Georgia</i>	<i>Georgian National Academy of Sciences</i>	<i>I. Javakhishvili Tbilisi State University</i>	<i>Georgian Technical University</i>	<i>Georgian Mathematical Union</i>
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Co-organizers:

<i>A. Razmadze Mathematical Institute</i>	<i>I. Vekua Institute of Applied Mathematics</i>	<i>N. Muskhelishvili Institute of Computational Mathematics</i>
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Sponsor: *Shota Rustaveli National Science Foundation*

Organizing Committee:

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TSU*, Auditorium 107

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C. Differential Equations and Applications
TSU, Auditorium 103

D. Mathematical Physics
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F. Real and Complex Analysis
TSU, Auditorium 108

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H. Singular Integral and Pseudodifferential Equations
TSU, Auditorium 102

* TSU –I. Javakhishvili Tbilisi State University, Department of Mathematics,
Faculty of Exact and Natural Sciences, University Str. № 13, Building XI

Schedule of the Conference

September 09, Friday

10⁰⁰ : 14⁰⁰ – Registration (GNAS*)

14⁰⁰ : 15³⁰ – Opening ceremony

15³⁰ : 16⁰⁰ – **Coffee break**

Evening session (GNAS*)

Chairman: I) R. Duduchava II) N. Vakhania

16⁰⁰ : 16⁵⁰ – H. Mang

17⁰⁰ : 17⁵⁰ – R. Gamkrelidze

18⁰⁰ : 18⁵⁰ – I) V. Kokilashvili & V. Paataashvili II) S. Chobanjan

19⁰⁰ – **Welcome party (GNAS*)**

September 10, Saturday

Morning session (GNAS*)

Chairman: I) V. Kokilashvili II) G. Jaiani

9⁰⁰ : 9⁵⁰ – S. Shataashvili

10⁰⁰ : 10⁵⁰ – I) L.-E. Persson II) R. Bantsuri & N. Shavlakadze

10⁵⁰ : 11²⁰ – **Coffee break**

11²⁰ : 12¹⁰ – I) F.-O. Speck II) B. Bojarski

12²⁰ : 13³⁰ **Visit to pantheon “Mama Daviti”, to the grave of
N. Muskhelishvili**

13³⁰ : 15⁰⁰ – **Lunch (TSU**, University Tower)**

* GNAS - Georgian National Academy of Sciences, Rustaveli avenue 56

** TSU –I. Javakhishvili Tbilisi State University, Department of Mathematics,
Faculty of Exact and Natural Sciences, University Str. № 13, Building XI

Evening session (TSU)

15⁰⁰ : 16³⁰ – A. Continuum Mechanics I (p. 12)

B. Continuum Mechanics II (p. 15)

C. Differential Equations and Applications (p. 17)

D. Mathematical Physics (p. 20)

E. Numerical Analysis and Mathematical Modelling (p.23)

F. Real and Complex Analysis (p. 26)

G. Stochastic Analysis (p. 29)

16³⁰ : 17⁰⁰ – **Coffee break**

17⁰⁰ : 18³⁰ – A. Continuum Mechanics I (p. 12)

B. Continuum Mechanics II (p. 15)

C. Differential Equations and Applications (p. 17)

D. Mathematical Physics (p. 20)

E. Numerical Analysis and Mathematical Modelling (p.23)

F. Real and Complex Analysis (p. 26)

G. Stochastic Analysis (p. 29)

19³⁰ – **Conference dinner (Restaurant)**

September 11, Sunday

9⁰⁰ : 20⁰⁰ **Excursion to Kakheti**

September 12, Monday

Morning session

Chairman: I) D. Natroshvili II) I. Spitkovsky

9⁰⁰ : 9⁵⁰ – J. Toland

10⁰⁰ : 10⁵⁰ – I) P. Podio-Guidugli II) L. Epremidze & E. Lagvilava

10⁵⁰ : 11²⁰ – **Coffee break**

Chairman: I) E. Stephan II) M. Lanza de Cristoforis

11²⁰ : 12¹⁰ – I) I. Elishakoff II) T. Meunargia

12²⁰ : 13¹⁰ – I) N. Vasilevski II) A. Meskhi

13¹⁰ : 15⁰⁰ – Lunch (TSU, University Tower)

Evening session

- 15⁰⁰ : 16³⁰ – A. Continuum Mechanics I (p. 13)
 B. Continuum Mechanics II (p. 16)
 C. Differential Equations and Applications (p. 18)
 D. Mathematical Physics (p. 21)
 E. Numerical Analysis and Mathematical Modelling (p. 24)
 F. Real and Complex Analysis (p. 27)
 H. Singular Integral and Pseudodifferential Equations (p. 30)
- 16³⁰ : 17⁰⁰ – **Coffee break**
- 17⁰⁰ : 18³⁰ – A. Continuum Mechanics I (p. 13)
 B. Continuum Mechanics II (p. 16)
 C. Differential Equations and Applications (p. 18)
 D. Mathematical Physics (p. 21)
 E. Numerical Analysis and Mathematical Modelling (p. 24)
 F. Real and Complex Analysis (p. 27)
 H. Singular Integral and Pseudodifferential Equations (p. 30)

18³⁰ – **Discussion: Why is fundamental research important?**

September 13, Tuesday

Morning session

- Chairman:** I) F. Speck II) J. Toland
- 9⁰⁰ : 9⁵⁰ – I) R. Kienzler II) G. Giorgadze & G. Khimshiashvili
- 10⁰⁰ : 10⁵⁰ – I) E. Stephan II) E. Shargorodsky
- 10⁵⁰ : 11²⁰ – **Coffee break**
- Chairman:** I) E. Shargorodsky II) R. Kienzler
- 11²⁰ : 12¹⁰ – I) G. Hsiao II) M. Lanza de Cristoforis
- 12²⁰ : 13¹⁰ – I) I. Spitkovsky II) G. Jaiani

13¹⁰ : 15⁰⁰ – Lunch (TSU, University Tower)

Evening session (TSU)

- 15⁰⁰ : 16³⁰ – A. Continuum Mechanics I (p. 14)
 C. Differential Equations and Applications (p. 19)
 D. Mathematical Physics (p. 22)
 E. Numerical Analysis and Mathematical Modelling (p. 25)
 F. Real and Complex Analysis (p. 28)
- 16³⁰ : 17⁰⁰ – **Coffee break**
- 17⁰⁰ : 18³⁰ – A. Continuum Mechanics I (p. 14)
 C. Differential Equations and Applications (p. 19)
 D. Mathematical Physics (p. 22)
 E. Numerical Analysis and Mathematical Modelling (p. 25)
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18³⁰ – Closing of the conference

14 September, Wednesday

9⁰⁰ : Departure to Batumi with stopovers in Gelati and Kutaisi

Plenary Talks (GNAS*)

September 09, Friday
Evening session**Chairman: R. Duduchava**

- 16⁰⁰ : 16⁵⁰ – H. Mang. Buckling from a membrane stress state
 17⁰⁰ : 17⁵⁰ – R. Gamkrelidze. Hamiltonian form of the maximum principle in optimal control
 18⁰⁰ : 18⁵⁰ – V. Kokilashvili & V. Paatashvili. Boundary value problems for analytic and harmonic functions in new function spaces

Chairman: N. Vakhania

- 18⁰⁰ : 18⁵⁰ – S. Chobanjan. The method of transference lemma in problems on rearrangements of summands of function theory

September 10, Saturday
Morning session**Chairman: V. Kokilashvili**

- 9⁰⁰ : 9⁵⁰ – S. Shatashvili. Integrability in quantum theories and applications
 10⁰⁰ : 10⁵⁰ – L.-E. Persson. Some new Hardy-type inequalities with applications
 10⁵⁰ : 11²⁰ – **Coffee break**
 11²⁰ : 12¹⁰ – F.-O. Speck. A Riemann surface approach for diffraction from rational wedges

Chairman: G. Jaiani

- 10⁰⁰ : 10⁵⁰ – R. Bantsuri & N. Shavlakadze. The mixed and contact problems of elasticity theory
 10⁵⁰ : 11²⁰ – **Coffee break**
 11²⁰ : 12¹⁰ – B. Bojarski. Taylor expansion and Sobolev spaces

September 12, Monday
Morning session**Chairman: D. Natroshvili**

- 9⁰⁰ : 9⁵⁰ – J. Toland. Water waves in the context of shape optimisation problems
 10⁰⁰ : 10⁵⁰ – P. Podio-Guidugli. On nonstandard contact interactions

Chairman: I. Spitkovsky

- 10⁰⁰ : 10⁵⁰ – L. Epremidze & E. Lagvilava. Matrix spectral factorization and wavelets
 10⁵⁰ : 11²⁰ – **Coffee break**

Chairman: E. Stephan

- 11²⁰ : 12¹⁰ – I. Elishakoff. Recent Developments in analysis of uncertainty in theoretical and applied mechanics
 12²⁰ : 13¹⁰ – N. Vasilevski. Commutative algebras of Toeplitz operators in action

Chairman: M. Lanza de Cristoforis

- 11²⁰ : 12¹⁰ – T. Meunargia. On extension of the Muskhelishvili and Vekua–Bitsadze methods for the geometrically and physically nonlinear theory of non-shallow shells
 12²⁰ : 13¹⁰ – A. Meskhi. Integral operators in new function spaces

* GNAS - Georgian National Academy of Sciences, Rustaveli avenue 56

September 13, Tuesday
Morning session

Chairman: F. Speck

- 9⁰⁰ : 9⁵⁰ – R. Kienzler. Consistent theories of isotropic and anisotropic plates
 10⁰⁰ : 10⁵⁰ – E. Stephan. Some finite element approaches for contact/obstacle problems

Chairman: J. Toland

- 9⁰⁰ : 9⁵⁰ – G. Giorgadze & G. Khimshiashvili. Recent advances in Riemann–Hilbert problem
 10⁰⁰ : 10⁵⁰ – E. Shargorodsky. Bernoulli free-boundary problems

10⁵⁰ : 11²⁰ – **Coffee break****Chairman: E. Shargorodsky**

- 11²⁰ : 12¹⁰ – G. Hsiao. Applications of integral equation methods to a class of fundamental problems in mechanics and mathematical physics
 12²⁰ : 13¹⁰ – I. Spitkovsky. Factorization of matrix functions: a survey

Chairman: R. Kienzler

- 11²⁰ : 12¹⁰ – M. Lanza de Cristoforis. Singular perturbation problems in periodically perforated domains
 12²⁰ : 13¹⁰ – G. Jaiani. Mathematical models of elastic cusped shells, plates, and rods

Section
Continuum Mechanics I:
Theory of Elasticity and Hydrodynamics

September 10, Saturday
Evening session (TSU)

Chairman: J. Kaplunov**Auditorium 107**

- 15⁰⁰ : 15³⁰ – V. Kovalev, Y. Radayev. Null Lagrangians in the Field Theories of Continuum Mechanics
 15³⁰ : 16⁰⁰ – S. Mkhitarian. On Complex Potentials and on the Application of Related to them M. G. Krein’s Two Integral Equations in Mixed Problems of Continuum Mechanics
 16⁰⁰ : 16³⁰ – L. Qajaia, Ts. Tsiskreli, N. Chlaidze, K. Chkhikvadze. Using a Nonlinear Static “Pushover” Analysis for Design the High-Rise Building on Seismic Action
 16³⁰ : 17⁰⁰ – **Coffee break**

Chairman: R. Craster**Auditorium 107**

- 17⁰⁰ : 17³⁰ – A. Gachechiladze, R. Gachechiladze. Signorini’s Problem with Natural Nonpenetration Condition in Elasticity
 17³⁰ : 18⁰⁰ – J. Sharikadze, V. Tsutskiridze, L. Jikidze. Pulsation Flow of Incompressible Electrically Conducting Liquid with Heat Transfer
 18⁰⁰ : 18³⁰ – T. Vashakmadze. To Uniform Systems of Equations of Continuum Mechanics and Some Mathematical Problems for Thin-Walled Structure

September 12, Monday
Evening session (TSU)

Chairman: P. Podio-Guidugli Auditorium 107

- 15⁰⁰: 15³⁰ – R. Yu. Amenzadeh, I.T. Pirmamedov. Mixed Variational Principle of Creeping. Theory with Taking into Consideration the Damage, Corrosion and the Volume Deformation
- 15³⁰: 16⁰⁰ – A. Bagdoev, Y. Safaryan, A. Martirosyan. The Application of Methods of Linear and Nonlinear Waves to Investigation of Unsteady Space Deterministic Problems for Mechanics and Electrodynamics of Continua and to Stochastic, Point and Distributed, Processes

16⁰⁰: 16³⁰ – R. Craster, J. Kaplunov. High Frequency Homogenization

16³⁰: 17⁰⁰ – **Coffee break**

Chairman: Y. Radayev Auditorium 107

- 17⁰⁰: 17³⁰ – G. Gabrichdze, G. Samsonidze. Dynamics of the Defect Structure of Solids under Variable External Load
- 17³⁰: 18⁰⁰ – L. Shapakidze. On Some Problems of Instability and Bifurcations in the Heat-Conducting Flows between Two Rotating Permeable Cylinders
- 18⁰⁰: 18³⁰ – N. Khomasuridze, R. Janjgava, N. Zirakashvili. Some Thermoelasticity Problems for Cylindrical Bodies with Non-Classical Conditions on the Surface

September 13, Tuesday
Evening session (TSU)

Chairman: M. Zhuravkov Auditorium 107

- 15⁰⁰: 15³⁰ – L. Bitsadze. Boundary Value Problems of the Plane Theory of Thermoelasticity with Microtemperatures for a Half-Plane
- 15³⁰: 16⁰⁰ – V. Hakobyan, A. Simonyan. Stresses Near the Absolutely Rigid Thin Inclusion in the Orthotropic Plane
- 16⁰⁰: 16³⁰ – G. Khatiashvili. Complete Solutions of Saint-Venant's Problems for Two-Layer Confocal Elliptic Tube

16³⁰: 17⁰⁰ – **Coffee break**

Chairman: R. Bantsuri Auditorium 107

- 17⁰⁰: 17³⁰ – V. Popov. The Dynamic Contact Problem which Reduce to the Singular Integral Equation with Two Fixed Singularities
- 17³⁰: 18⁰⁰ – K. Svanadze. Solution of a Mixed Problem of the Linear Theory of Elastic Mixture for a Polygon a Part of Which Boundary Is an EquiStrong Arc
- 18⁰⁰: 18³⁰ – M. Zhuravkov. Development approaches of academic Muskhelishvili in researches of Belarusian Mechanic

Section

Continuum Mechanics II: Shells, Plates, and Beams

September 10, Saturday

Evening session (TSU)

Chairman: **G. Jaiani** Auditorium 105

15⁰⁰ : 15³⁰ – S. Ambartsumian, M. Belubekyan. The Vibration of the Shallow Spherical Panel with the Account of the Inner Rotation

15³⁰ : 16⁰⁰ – S. M. Galileev, E. Salikhova. Exact Two- and Three-Dimensional Models Beams, Plates and Shells of Layered Composites and Nanostructures

16⁰⁰ : 16³⁰ – E. T. Kiyasbeyli, G. Y. Mehdiyeva, L. F. Fatullayeva. The Buckling of a Long Multilayer Viscoelastic Shell under the Action of Nonuniform External Pressure

16³⁰ : 17⁰⁰ - Coffee breakChairman: **S. M. Galileev** Auditorium 105

17⁰⁰ : 17³⁰ – S. Kukudzanov. Some Problems of Thermostability of Shells of Revolution, Close by Their Forms to Cylindrical Ones, with an Elastic Filler

17³⁰ : 18⁰⁰ – F.S. Latifov, M.A. Mehdiyev. Nonlinear Parametric Vibrations of Viscoelastic Medium Contacting Cylindrical Shell Stiffened with Annular Ribs and with Respect Lateral Shift

18⁰⁰ : 18³⁰ – S. Sargsyan. Mathematical Models of Thin Shells on the Basis of Asymmetric Theory of Elasticity

September 12, Monday

Evening session (TSU)

Chairman: **I. Elishakoff** Auditorium 105

15⁰⁰ : 15³⁰ – E. Abramidze. On a Numerical Solution of a Problem of Non-Linear Deformation of Elastic Plates Based on the Refined Theory

15³⁰ : 16⁰⁰ – A. Alifov. Stability of Plates with Holes

16⁰⁰ : 16³⁰ – N. Chinchaladze. Vibration of Elastic Plates with Variable Thickness on a Basis of the Refined Theories

16³⁰ : 17⁰⁰ - Coffee breakChairman: **T. Vashakmadze** Auditorium 105

17⁰⁰ : 17³⁰ – P. Drygas. R-Linear Problem and its Application to Composites with Imperfect Contact

17³⁰ : 18⁰⁰ – N. Odishelidze, G. Kapanadze, F. Criado-Aldeanueva. Problem of the plane theory of elasticity for a isosceles trapezium with partially unknown boundary

18⁰⁰ : 18³⁰ – N. Emuna, D. Durban. Classical Bending Theories for Orthotropic Beams

Section: Differential Equations and Applications

September 10, Saturday

Evening session (TSU)

Chairman: M.C. Agranovich Auditorium 103

15⁰⁰: 15³⁰ – O. Chkadua, S. Mikhailov, D. Natroshvili. Segregated Direct Boundary-Domain Integral Equations for Variable-Coefficient BVPs in Exterior Domains

15³⁰: 16⁰⁰ – L. Giorgashvili, D. Natroshvili, Sh. Zazashvili. Transmission and Interface Crack Problems of Thermoelasticity for Hemitropic Solids

16⁰⁰: 16³⁰ – T. Buchukuri, O. Chkadua, D. Natroshvili. Mixed Boundary-Value Problems of Piezoelectricity in Domains with Cracks

16³⁰: 17⁰⁰ – **Coffee break**

Chairman: Y. Safarov Auditorium 103

17⁰⁰: 17³⁰ – A. Babayan. Defect Numbers of the Dirichlet Problem for the Properly Elliptic Equation

17³⁰: 18⁰⁰ – A. Reinfelds. Dynamical Equivalence of Impulsive Differential Systems

18⁰⁰: 18³⁰ – T. Kalmenov, D. Suragan. On Representation of the Solution of General Boundary Problem for Two Dimensional Laplace Equation

18³⁰: 19⁰⁰ – G. Chkadua. Screen-Type Boundary-Value Problems for Polymetaharmonic Equations

September 12, Monday

Evening session (TSU)

Chairman: S. Mikhailov Auditorium 103

15⁰⁰: 15³⁰ – M. Agranovich. Mixed Problems and Crack-Type Problems for Strongly Elliptic Second-Order Systems in Domains with Lipschitz Boundaries

15³⁰: 16⁰⁰ – Y. Safarov. Lower Bounds for the Counting Function of an Integral Operator

16⁰⁰: 16³⁰ – A. Cialdea. The Simple Layer Potential Approach to the Dirichlet Problem: an Extension to Higher Dimensions of Muskhelishvili Method and Applications

16³⁰: 17⁰⁰ – **Coffee break**

Chairman: A. Cialdea Auditorium 103

17⁰⁰: 17³⁰ – T. Buchukuri, R. Duduchava, D. Kapanadze, D. Natroshvili. On the Radiation Condition for Anisotropic Maxwell's Equations

17³⁰: 18⁰⁰ – A. Aliev, A. Kazimov. Cauchy Problem for Some System of Hyperbolic equations with Damping Terms

18⁰⁰: 18³⁰ – S. Kharibegashvili, B. Midodashvili. The Cauchy Characteristic Problem for One Class of the Second Order Semilinear Hyperbolic Systems in the Light Cone of the Future

18³⁰: 19⁰⁰ – Z. Usmanov. A Partial Differential Equation with a Closed Parabolic Boundary

September 13, Tuesday
Evening session (TSU)

Chairman: T. Buchukuri Auditorium 103

15⁰⁰ : 15³⁰ – T. Tadumadze, N. Gorgodze. Variation Formulas of Solution for a Controlled Functional-Differential Equation, Considering Delay Perturbation and the Discontinuous Initial Condition

15³⁰ : 16⁰⁰ – M. Ashordia. On the Principle of a Priori Boundedness for Boundary Value Problems for Systems of Nonlinear Generalized Ordinary Differential Equations

16⁰⁰ : 16³⁰ – R. Koplatadze. Oscillation Criteria for Higher Order Nonlinear Functional Differential Equations

16³⁰ : 17⁰⁰ – **Coffee break**

Chairman: T. Tadumadze Auditorium 103

17⁰⁰ : 17³⁰ – B. Iskenderov, G. Akhundova. Asimptotic Expantion of Solution of Cauchy Problem for Barenblatt–Zheltov–Kochina Equation at Large Time

17³⁰ : 18⁰⁰ – B. Kanguzhin, N. Tokmagambetov. On Some Properties of the Root Functions and Eigenvalues

18⁰⁰ : 18³⁰ – H. Hayrapetyan. A Dirichlet Problem in Weighted Spaces and a Uniqueness Theorem for Harmonic Functions

Section: Mathematical Physics

September 10, Saturday
Evening session (TSU)

Chairman: H. Leutwyler Auditorium 205

15⁰⁰ : 15³⁰ – V. Gogokhia. Dynamical Origin of the Jaffe--Witten Mass Gap

15³⁰ : 16⁰⁰ – A.N. Kvinikhidze. Relativistic Quantum Mechanics on the Light-Front Consistent with Quantum Field Theory

16⁰⁰ : 16³⁰ – T. Inagaki. Four-Fermion Interaction Model with Dimensional Regularization

16³⁰ : 17⁰⁰ – **Coffee break**

Chairman: I. Lomidze Auditorium 205

17⁰⁰ : 17³⁰ – N. L. Tsintsadze. Some New Aspects and New Quantum Kinetic Equations of Degenerate Fermi Gas

17³⁰ : 18⁰⁰ – T. Vekua. Low Energy Behavior of 1D Superconductor at Magnetic Field Induced Quantum Phase Transition

September 12, Monday
Evening session (TSU)**Chairman: V. Kartvelishvili Auditorium 205**15⁰⁰ : 15³⁰ – I. Lomidze, V. Jikia. The New Properties of Dirac Delta and Euler Beta Functions15³⁰ : 16⁰⁰ – M.V. Kozyulin, Z.K. Silagadze. Light Bending by a Coulomb Field and the Aichelburg-Sexl Ultraboost16⁰⁰ : 16³⁰ – J. Mebonia, V. Jikia. Unitary Approximate Solution of the Many Particle Integral Equation16³⁰ : 17⁰⁰ – **Coffee break****Chairman: T. Inagaki Auditorium 205**17⁰⁰ : 17³⁰ – G. Popov, V. Reut, N. Vaysfel'd. The Exact Solution of the Dynamic Mixed Three-Dimensional Elasticity Problem for a Wedge - Shaped Thick Plate17³⁰ : 18⁰⁰ – I. Lomidze, J. Javakhishvili. On Hydrodynamics and Thermodynamics of the Barochronic Flow of Ideal Fluid (Gas)18⁰⁰ : 18³⁰ – R. Yu. Amenzadeh, G. M. Panahov, E. M. Abbasov. Wave in an Elastic Tube of Variable Cross Section with a Two-Phase Viscous Fluid Flows**September 13, Tuesday**
Evening session (TSU)**Chairman: N. Tsintsadze Auditorium 205**15⁰⁰ : 15³⁰ – P. Kopp, W. Polyzou. Euclidean Relativistic Quantum Mechanics15³⁰ : 16⁰⁰ – J. Gegelia. Resonances in Effective Field Theory16⁰⁰ : 16³⁰ – R. Jafarov. The Equations for Multi-Particle Relativistic Systems in the Framework of Multi-Local Source Formalism16³⁰ : 17⁰⁰ – **Coffee break****Chairman: A.N. Kvinikhidze Auditorium 205**17⁰⁰ : 17³⁰ – V. Kartvelishvili. Singular Value Decomposition for Data Unfolding in High Energy Physics17³⁰ : 18⁰⁰ – H. Leutwyler. On the History of the Strong Interaction

Section: Numerical Analysis and Mathematical Modelling

September 10, Saturday
Evening session (TSU)

Chairman: R. Bochorishvili Auditorium 108

15⁰⁰ : 15³⁰ – G. Avalishvili, M. Avalishvili. On One Nonclassical Two-Dimensional Model of Thermoelastic Shell

15³⁰ : 16⁰⁰ – T. Chilachava, N. Kereselidze. Continuous Non-Linear Mathematical Model of Information Warfare

16⁰⁰ : 16³⁰ – T. Davitashvili, G. Gubelidze, D. Gordeziani, A. Papukashvili, T. Davitashvili, M. Sharikadze. On Modelling of Liquid-Phase Formation in Gas Pipelines for Nonstationary Flow

16³⁰ : 17⁰⁰ – **Coffee break**

Chairman: E. Stephan Auditorium 108

17⁰⁰ : 17³⁰ – V. Didenko. Stability of Approximation Methods for Muskhelishvili and Sherman–Lauricella Equations

17³⁰ : 18⁰⁰ – G. Geladze. Numerical Modelling of Some Ecometeorologically Actual Processes

18⁰⁰ : 18³⁰ – D. Gordeziani, T. Davitashvili, H. Meladze. On Some Methods of Decomposition for Approximate Solution of Problems of Mathematical Physics

18³⁰ : 19⁰⁰ – A. Sahakyan. Method of Discrete Singularities for Solution of Singular Integral and Integro-differential Equations

September 12, Monday
Evening session (TSU)

Chairman: Tinatin Davitashvili Auditorium 108

15⁰⁰ : 15³⁰ – R. A. Iskenderov. Investigation of the Influence of Preliminary Buckling of Cylindrical Shell Reinforced by a Cross System of Ribs and Filled with Medium on Critical Stresses of General Stability Loss

15³⁰ : 16⁰⁰ – T. Jangveladze, Z. Kiguradze, B. Neta. Investigation and Numerical Resolution of Initial-Boundary Value Problem with Mixed Boundary Conditions for a Nonlinear Integro-Differential System

16⁰⁰ : 16³⁰ – F. Lanzara. Cubature of Volume Potentials Over High-Dimensional Half-Spaces

16³⁰ : 17⁰⁰ – **Coffee break**

Chairman: F. Lanzara Auditorium 108

17⁰⁰ : 17³⁰ – G. Manelidze. On Approximate Solution of One Class of Integro-Differential Equation

17³⁰ : 18⁰⁰ – Y. H. Michlin, G. Grabarnik. Optimum Search in a Discrete

18⁰⁰ : 18³⁰ – A. Papukashvili, T. Davitashvili, M. Sharikadze, G. Kurdghelashvili. An Approximate Solution of One System of the Singular Integral Equations by Collocation Method

18³⁰ : 19⁰⁰ – A. Papukashvili, O. Komurjishvili, N. Khatiashvili, Z. Kutchava, J. Bolqvadze, G. Kurdghelashvili. On the Approximate Solution of 3D Mixed Boundary Value Problem of the Elasticity Theory by means of the Finite-Difference Method and some of its Applications

September 13, Tuesday
Evening session (TSU)

Chairman: T. Vashakmadze Auditorium 108

- 15⁰⁰: 15³⁰ – V. Odisharia. An Approximate Solution of a One-Dimensional Nonlinear Timoshenko System
- 15³⁰: 16⁰⁰ – J. Peradze. An Approximate Algorithm for a Timoshenko Beam Equations
- 16⁰⁰: 16³⁰ – Sh. Tzivion. A Numerical Solution of the Kinetic Collection Equation Using High Spectral Grid Resolution: A Proposed Referenc
- 16³⁰: 17⁰⁰ – **Coffee break**

Chairman: G. Avalishvili Auditorium 108

- 17⁰⁰: 17³⁰ – T. Vashakmadze, A. Tavkheldze, R. Chikashua. New Technologies for Approximate Solution of Ordinary Differential Equations
- 17³⁰: 18⁰⁰ – M. Zakradze, Z. Sanikidze, M. Kublashvili. A Method of Conformal Mapping for Solving the Generalized Dirichlet Problem of Laplace's Equation
- 18⁰⁰: 18³⁰ – M. Yusifov. Parametric Oscillations of a Nonlinear Visco-Elastic Inhomogeneous over the Thickness of the Light Damage-Filled Environment of a Cylindrical Shell under External Pressure
- 18³⁰: 19⁰⁰ – J. Sanikidze. On Approximation Methods for Singular Integrals and Their applications

Section: Real and Complex Analysis

September 10, Saturday
Evening session (TSU)

Chairman: O. Dragicvic Auditorium 109

- 15⁰⁰: 15³⁰ – R. Bandaliev. Compactness Criteria in Weighted Variable Lebesgue Spaces
- 15³⁰: 16⁰⁰ – B. Bilalov and S. Sadigova. P -Systems of Exponents, Cosines and Sines
- 16⁰⁰: 16³⁰ – L. Gogoladze. On the Problem of Convergence of Multiple Functional Series to ∞
- 16³⁰: 17⁰⁰ – **Coffee break**

Chairman: A. Montes-Rodriguez Auditorium 109

- 17⁰⁰: 17³⁰ – Sh. V. Kheladze. On the Convergence of Fourier Series in the Sense of a Metric of $L\varphi(L)$
- 17³⁰: 18⁰⁰ – T. Muradov. Basicity of Systems of Discontinuous Phase Exponents in Generalized Lebesgue Spaces
- 18⁰⁰: 18³⁰ – S. Umarkhadzhiev. Boundedness of Linear Operators in Grand Morrey Spaces with Infinite Measure
- 18³⁰: 19⁰⁰ – A. Perelmuter. Accuracy evaluation in local-global analysis

September 12, Monday
Evening session (TSU)

Chairman: A. Meskhi Auditorium 109

15⁰⁰: 15³⁰ – G. Barsegian. A New Trend in Real Analysis Interlacing with Different Branches of Pure and Applied Mathematics

15³⁰: 16⁰⁰ – Sh. Tetunashvili. On Representation of Multivariate Continuous Functions

16⁰⁰: 16³⁰ – E. Deniz, H. Orhan, M. Caglar, N. Mustafa. Differential Subordinations for Multivalent Functions Associated with an Extended Fractional Differintegral Operator

16³⁰: 17⁰⁰ – **Coffee break**

Chairman: G. Giorgadze Auditorium 109

17⁰⁰: 17³⁰ – O. Dragicevic. Bellman Function and the Bilinear Embedding Recent Examples and Applications

17³⁰: 18⁰⁰ – N. Fujii. A Method to Obtain L^p -Boundedness from Weak Type Conditions

18⁰⁰: 18³⁰ – A. Montes-Rodriguez and H. Hedenmalm. Heisenberg Uniqueness Pairs and Partial Differential Equations

18³⁰: 19⁰⁰ – G. Tephnadze. A Note on the Partial sums of Walsh-Fourier Series

September 13, Tuesday
Evening session (TSU)

Chairman: L. Ephremidze Auditorium 109

15⁰⁰: 15³⁰ – G. Akhalaia and N. Manjavidze. On Generalized Analytic Vectors

15³⁰: 16⁰⁰ – B. Bilalov and T. Hasanova. On Riemann Boundary Value Problem in Hardy Classes with Variable Summability Exponent

16⁰⁰: 16³⁰ – J. Mamedkhanov. On Problem of Gonchar Related Singular Operators

16³⁰: 17⁰⁰ – **Coffee break**

Chairman: G. Barsegian Auditorium 109

17⁰⁰: 17³⁰ – V. Paatashvili. The Hazeman's Problem in Classes of Functions Representable by the Cauchy Type Integral with Density from $L^{p(r)}$

17³⁰: 18⁰⁰ – G. Giorgadze. Some Aspects of the Stable Partial Indices

18⁰⁰: 18³⁰ – G. Makatsaria. Elliptic Systems in the Plane

18³⁰: 19⁰⁰ – A.O. Akdemyr, M.E. Özdemir. Some Hadamard-type inequalities for m-convex functions

Section: Stochastic Analysis**September 10, Saturday****Evening session (TSU)****Chairman: E. Nadaraya Auditorium 102**15⁰⁰: 15³⁰ – V. Kvaratskhelia, V. Tarieladze. Denjoy–Lusin sequences and unconditional convergence in a Banach space15³⁰: 16⁰⁰ – B. Mamporia, V. Tarieladze. Linear stochastic differential equations in a Banach space16⁰⁰: 16⁰⁰ – A. Shangua, V. Tarieladze. Multipliers for the laws of large numbers16³⁰: 17⁰⁰ – **Coffee break****Chairman: V. Kvaratskhelia Auditorium 102**17⁰⁰: 17³⁰ – O. Purtukhia, G. Sokhadze. Cramer–Rao inequalities in a functional space17³⁰: 18⁰⁰ – E. Nadaraya, P. Babilua, Z. Khechinashvili, G. Sokhadze. On limit distribution of a quadratic deviation for nonparametric estimate of the Bernoulli regression**Section: Singular Integral and Pseudodifferential Equations****September 12, Monday****Evening session (TSU)****Chairman: L. Castro Auditorium 102**15⁰⁰: 15³⁰ – V. Vasilyev. Singular Integrals and Pseudo Differential Equations15³⁰: 16⁰⁰ – I. Soldatenkov. Application of Muskhelishvili's Method for Solution of Singular Integral Equations for Contact Problems with Adhesion16⁰⁰: 16⁰⁰ – R. Saks. About Theory Development: from one dimensional elliptic singular integro differential equations to multidimensional generalized elliptic pseudo-differential equations16³⁰: 17⁰⁰ – **Coffee break****Chairman: V. Vasilyev Auditorium 102**17⁰⁰: 17³⁰ – L. Castro. On the Fredholm Property of Wiener-Hopf and Wiener-Hopf-Hankel Operators with Piecewise-Almost Periodic Symbols on Weighted Lebesgue Spaces17³⁰: 18⁰⁰ – R. Duduchava, N. Kverghelidze, M. Tsaava. Fredholmity Criteria for a Singular Integral Operator on an Open Arc in Spaces with Weight17³⁰: 18⁰⁰ – V. Mityushev. R -Linear Problem for Multiply Connected Domains and Alternating Method of Schwarz

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