PIDSTRYHACH INSTITUTE FOR APPLIED PROBLEMS OF MECHANICS AND MATHEMATICS OF NAS OF UKRAINE WESTERN SCIENTIFIC CENTER OF NAS OF UKRAINE AND OF MES OF UKRAINE

INSTITUTE OF MATHEMATICS OF NAS OF UKRAINE
IVAN FRANKO NATIONAL UNIVERSITY OF LVIV
LVIV POLYTECHNIC NATIONAL UNIVERSITY



# XII INTERNATIONAL SKOROBOHATKO MATHEMATICAL CONFERENCE

(September 23 – 25, 2025, Lviv, Ukraine)

PROGRAM.

#### GENERAL INFORMATION

Section 1 Ordinary differential equations and integral equations General Chair: Roman Maciuk Secretary: Roman Andriichuk (page 6)

Section 2 Partial differential equations

General Chairs: Ihor Medynskyi, Oksana Hentosh, Nataliya Protsakh, Volodymyr

Pelykh

Secretary: Anton Kuz, Yurii Taistra

(page 8)

Section 3 Function theory, rational approximations, functional analysis, numerical methods

General Chairs: Iryna Chernega, Volodymyr Shchedryk, Khrystyna Kuchminska

Secretary: Roman Andriichuk, Anton Kuz, Yurii Taistra (page 11)

Section 4 Methods of the differential equation theory in problems of theoretical physics and mechanics

General Chairs: Mykhailo Andriychuk, Roman Plyatsko

Secretary: Roman Andriichuk, Yurii Taistra

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Poster Session (page 16)

#### Conference Timetable

Tuesday	Wednesday	Thursday
September 23	September 24	September 25
9:30-10:15	10:00-12:00	10:00-13:00
opening	plenary	plenary
10:20-12:30	12:00-13:00	
plenary	poster	
14:00-18:30	14:00-18:30	14:00-16:00
sect. II, III, IV	sect. I, II, III	sect. II, III, IV

Tuesday, 9:30 – Opening of the Conference Thursday, 16:10 – Conference Closure

The time in the program is Eastern European Summer Time (EEST, UTC+3).

Plenary and sectional sessions will be held in a mixed format — on site and on-line. To participate on-line on the plenary session and sectional sessions, use the same link:

#### plenary and section session link

For sectional session on-line participation use the button "Join breakout room" (or "More"  $\rightarrow$  "Join breakout room") to select the appropriate section. The poster session will be held only on-site. Paper format for poster presentations – A0 or A1.

#### PLENARY SESSION

Location: assembly hall, 1st floor

# Tuesday, September 23

9:30–10:15 Opening of the Conference

 ${\bf 10:20-10:50}$  Oleksandra Antoniuk, Anatoly Kochubei EXISTENCE AND UNIQUENESS FOR  $p\textsc{-}{\rm ADIC}$  POROUS MEDIUM EQUATION

**10:50–11:00** Joint photo shoot

11:00-11:30 Coffee break

- Chair Roman Plyatsko - Secretary Anton Kuz -

11:30–12:00 Vladimir Mikhalets, Aleksandr Murach
ON AN EXTENDED HILBERT SCALE AND ITS APPLICATIONS

12:00-12:30 Yuriy Povstenko FRACTIONAL NONLOCAL ELASTICITY

# Wednesday, September 24

- Chair Roman Plyatsko - Secretary Anton Kuz -

10:00—10:30 Mykola Bokalo, Taras Bokalo WELL-POSEDNESS OF PROBLEMS FOR NONLINEAR ELLIPTIC-PARA-BOLIC EQUATIONS IN UNBOUNDED DOMAINS

10:30—11:00 Oleh Petruk, Taras Kuzyo SEMI-ANALYTICAL SOLUTION FOR THE MOMENTUM SPECTRUM OF PARTICLES ACCELERATED AT A PARTIALLY-RADIATIVE SHOCK

f 11:00-11:30 Taras Mel'nyk CONVECTION-DOMINATED TRANSPORT PROBLEMS IN THIN GRAPHLIKE NETWORKS

**11:30–12:00** Coffee break

12:00-13:00 Poster session

# Thursday, September 25

- Chair Dmytro Bodnar - Secretary Taras Kuzyo -

ESTABLISHMENT AND DEVELOPMENT OF THE ANALYTICAL THEORY OF BRANCHED CONTINUED FRACTIONS

10:30–11:00 Khrystyna Kuchminska

A SIMPLE ALGORITHM FOR EXPANDING A FORMAL TRIPLE POWER SERIES INTO THE THREE-DIMENSIONAL CORRESPONDING ASSOCIATED CONTINUED FRACTION

11:00-11:30 Takao Komatsu SOME EXPLICIT FORMS OF ALTERNATING Q-MULTIPLE T-VALUES

**11:30–12:00** Coffee break

- Chair Dmytro Bodnar - Secretary Taras Kuzyo -

12:00–12:30 Roman Plyatsko, Mykola Fenyk SOLUTIONS OF THE MATHISSON-PAPAPETROU EQUATIONS IN SCHWA-RZSHILD'S METRIC FOR ULTRARELATIVISTIC PARTICLES

12:30–13:00 Ivan Kyrchei QUATERNION GENERALIZED INVERSE MATRICES

# **SECTION 1.** ORDINARY DIFFERENTIAL EQUATIONS AND INTEGRAL EQUATIONS

# Wednesday, September 24

Location: auditorium 213, 2nd floor

- Chair Roman Matsyuk - Secretary Roman Andriichuk -

**14:00–14:20** Nataliia Ladzoryshyn, Vasyl' Petrychkovych, Halyna Zelisko A SYLVESTER-TYPE MATRIX EQUATION OVER SOME QUADRATIC RINGS

**14:20–14:40** Roman Pykhnivskyi

ON THE CONSTRUCTING POLYNOMIAL LYAPUNOV FUNCTIONS USING GENETIC PROGRAMMING

**14:40–15:00** Roman Skurikhin

DIFFERENTIAL EQUATION  $ay'=by^m$  IN THE RING OF POWER SERIES WITH INTEGER COEFFICIENTS

**15:00–15:20** *Mykola Heneralov* 

IMPLICIT LINEAR DIFFERENCE EQUATIONS OVER ONE FINITE COMMUTATIVE RING OF ORDER  $p^2$ 

**15:20–15:40** *Vladimir Zolotarev* 

INVERSE SCATTERING PROBLEM FOR THIRD ORDER DIERENTIAL OPERATORS WITH LOCAL POTENTIAL ON THE WHOLE AXIS

**15:40–16:00** Olena Atlasiuk, Volodymyr Mikhailets SOBOLEV SPACE ASPECTS OF DIFFERENTIAL EQUATIONS

**16:00–16:30** Coffee break

- Chair Roman Matsyuk - Secretary Roman Andriichuk -

**16:30–16:50** Viktor Feruk

WEAKLY NONLINEAR BOUNDARY-VALUE PROBLEM FOR THE SYSTEM OF FRACTIONAL DIFFERENTIAL EQUATIONS WITH TEMPERED CAPUTO DERIVATIVE

**16:50–17:10** Andrii Romaniv

ON BEZOUT RINGS OF STABLE RANGE 1

17:10–17:30 Nataliia Dzhaliuk, Vasyl' Petrychkovych

POLYNOMIAL MATRICES, THEIR FACTIRIZATIONS AND DIFFERENTIAL EQUATIONS IN INVESTIGATIONS OF LOPATYNS'KII, KAZIMIRS'KII AND MODERN SCIENTISTS

17:30–17:50 Oleksandr Pokutnyi, Yulia Zahorulko BOUNDARY VALUE PROBLEMS FOR LINEAR AND NONLINEAR DIS-CRETE SYSTEMS

# SECTION 2. PARTIAL DIFFERENTIAL EQUATIONS

# Tuesday, September 23

Location: assembly hall, 1st floor

- Chair Ihor Medynsky - Secretary Anton Kuz -

14:00–14:20 Iryna Kmit, Viktor Tkachenko GLOBAL BOUNDED SOLUTIONS TO QUASILINEAR FIRST ORDER HY-PERBOLIC SYSTEMS

14:20-14:40 Mariia Serdiuk

FUNDAMENTAL SOLUTION FOR A NEW CLASS OF NON-ARCHIMEDEAN PSEUDO-DIFFERENTIAL EQUATIONS

14:40–15:00 Vitaly Dron, Ihor Medynskyi

ON FUNDAMENTAL SOLUTION AND CORRECT SOLVABILITY OF THE CAUCHY PROBLEM FOR DEGENERATED PARABOLIC EQUATIONS OF KOLMOGOROV TYPE OF ARBITRARY ORDER WITH BLOCK STRUCTURE

**15:00–15:20** Sergiy Gefter, Aleksey Piven' COPOLYNOMIALS OVER A COMMUTATIVE RING AND THEIR APPLICATIONS TO NONLINEAR PARTIAL DIFFERENTIAL EQUATIONS

15:20–15:40 Oleksandr Hnatiuk, Volodymyr Kyrylych, Olga Peliushkevych DEGENERATE PROBLEMS FOR COUNTABLE 1D HYPERBOLIC SYSTEMS

 ${\bf 15:40{-}16:00}$   $Yan\ Rybalko$  GLOBAL WELL-POSEDNESS OF THE TWO-COMPONENT NOVIKOV SYSTEM

**16:00–16:30** Coffee break

- Chair Ihor Medynsky - Secretary Anton Kuz -

16:30-16:50 Larissa Fardigola, Kateryna Khalina CONTROLLABILITY AND APPROXIMATE CONTROLLABILITY OF THE HEAT EQUATION ON A HALF-PLANE

16:50–17:10 Dmytro Bobyliev NUMERICAL HOMOGENIZATION AND COMPUTATIONAL EXPERIMENTS FOR MULTISCALE POROUS MEDIA MODELS **17:10–17:30** *Nadiia Huzyk* 

COEFFICIENT INVERSE PROBLEMS FOR DEGENERATE PARABOLIC EQUATION

# Wednesday, September 24

Location: assembly hall, 1st floor

- Chair Oksana Hentosh - Secretary Yurii Taistra -

14:00-14:20 Oksana Hentosh

RATIONALLY FACTORIZED LAX TYPE FLOWS RELATED WITH THE CENTRALLY EXTENDED LIE ALGEBRA OF FRACTIONAL INTEGRODIFFERENTIAL OPERATORS AND INTEGRABLE BENNEY TYPE HYDRODYNAMIC SYSTEMS

14:20–14:40 Ivan Savka, Mykhailo Mytrofanov

TIME-PERIODIC HEAT CONDUCTION PROBLEM WITH ROBIN BOUNDARY CONDITIONS IN A MULTILAYERED DOMAIN

14:40–15:00 Oleksandr Diachenko, Valerii Los

ON SOME MATRIX PARABOLIC PROBLEMS IN SOBOLEV SPACES OF GENERALIZED SMOOTHNESS

**15:00–15:20** *Volodymyr Fedorchuk* 

ON SYMMETRY REDUCTION OF THE (1+3)-DIMENSIONAL MONGEAMPERE EQUATION TO ALGEBRAIC EQUATIONS

15:20–15:40 Halyna Pasichnyk, Ihor Medynskyi

ON THE CLASSICAL FUNDAMENTAL SOLUTION OF THE CAUCHY PROBLEM FOR A DISSIPATIVE ULTRAPARABOLIC EQUATION WITH TWO GROUPS OF DEGENERATE VARIABLES AND WITH COEFFICIENTS INDEPENDENT OF THEM

15:40–16:00 Iryna Karpenko, Dmitry Shepelsky PERIODIC PROBLEM FOR THE CAMASSA-HOLM EQUATION

**16:00–16:30** Coffee break

- Chair Nataliya Protsakh - Secretary Yurii Taistra -

**16:30–16:50** *Dmitry Shepelsky* 

NONLINEAR FOURIER SPECTRUM CHARACTERIZATION OF TIME-LIMITED SIGNALS

**16:50–17:10** Nataliia Protsakh, Halyna Ivasiuk, Tonia Fratavchan ON DETERMINATION OF RIGHT-HAND SIDE FUNCTION OF THIRD ORDER WAVE EQUATION

17:10–17:30 Oleksandra Lokaziuk SYMMETRIES AND TRANSFORMATION PROPERTIES OF LINEAR SYS-TEMS OF SECOND-ORDER ORDINARY DIFFERENTIAL EQUATIONS

17:30–17:50 Oleksandra Vinnichenko SYMMETRY ASPECTS OF INTEGRABLE NIZHNIK MODELS

# Thursday, September 25

Location: assembly hall, 1st floor

- Chair Volodymyr Pelykh - Secretary Anton Kuz -

**14:00–14:20** *Hennadii Hrabchak* 

ASYMPTOTICS OF THE SPECTRUM OF SCHRÖDINGER OPERATORS WITH SINGULAR POTENTIALS AND SINGULAR WEIGHT FUNCTIONS

14:20–14:40 Petro Boyko, Halyna Lopushanska, Petro Pukach ON INITIAL INVERSE PROBLEMS WITH INTEGRAL CONDITIONS

 ${f 14:40-15:00}$  Anton Kuz, Mykhailo Symotiuk FACTORIZED EVOLUTION EQUATIONS WITH EXPONENTIAL INTEGRAL CONSTRAINTS

15:00–15:20 Volodymyr Ilkiv, Nataliia Strap, Iryna Volianska SOLVABILITY OF BOUNDARY VALUE TWOPOINT PROBLEM FOR A DIFFERENTIAL EQUATION WITH PARAMETER IN A REFINED SOBOLEV SCALE

**15:20–15:40** Sofiia Repetylo DIRICHLET-NEUMANN PROBLEM FOR A HIGH-ORDER PARTIAL DIFFERENTIAL EQUATION IN AN UNBOUNDED LAYER

**15:40–16:00** Petro Kaleniuk, Zinovii Nytrebych, Mykhailo Symotiuk INTEGRAL PROBLEM FOR A SYSTEM OF PARTIAL DIFFERENTIAL EQUATION IN AN UNBOUNDED LAYER

### SECTION 3. FUNCTION THEORY, RATIONAL APPROXIMATIONS, FUNCTIONAL ANALYSIS, NUMERICAL METHODS

# Tuesday, September 23

Location: auditorium 709, 7th floor

- Chair Iryna Chernega - Secretary Yurii Taistra -

14:00–14:20 Ihor Borachok, Roman Chapko
MFS-BASED ITERATIVE METHOD FOR A NON-LINEAR INVERSE HEAT
CONDUCTION PROBLEM

14:20–14:40 Iryna Chernega SUPERSYMMETRIC ANALYTIC FUNCTIONS OF INFINITELY MANY VARIABLES

**14:40–15:00** Pavlo Malashnyak

WELL-POSEDNESS OF THE VARIATIONAL FORMULATION OF THE BOUNDARY VALUE PROBLEM OF CYLINDRICAL SHELL STATICS VIA THE H-ADAPTIVE FINITE ELEMENT METHOD

15:00-15:20 Zoriana Novosad DYNAMICAL SYSTEMS ASSOCIATED WITH THE LOGISTIC MAP

15:20–15:40 Vitaliy Bihun, Daryna Dolishniak, Andriy Zagorodnyuk ZEROS OF SUBSYMMETRIC POLYNOMIALS ON  $\ell_p$ 

15:40–16:00 Volodymyr Sharan ON GENERALIZATIONS OF THEOREMS OF FUCHS AND KAHANE

**16:00–16:30** Coffee break

- Chair Iryna Chernega - Secretary Yurii Taistra -

**16:30–16:50** Yevhen Bryhidyr, Mykhailo Yadzhak
APPLICATION OF THE PYRAMIDS METHOD FOR SOLVING THE PROBLEM OF DIGITAL DATA FILTERING

 $\textbf{16:50--17:10} \quad Rostyslav \ Vdovych$ 

ON THE IMPLEMENTATION OF SOME PARALLEL FILTERING ALGORITHMS ON COMPUTERS WITH SHARED AND DISTRIBUTED MEMORY

17:10-17:30 Anna Veselovska

SIGMA-DELTA QUANTIZATION AND DIGITAL HALFTONING OF IMAGES

**17:30–17:50** Dmytro Seliutin

FIXED POINT THEOREM IN AN ARBITRARY TOPOLOGICAL VECTOR SPACE

17:50-18:10 Vira Lozynska

WEYL OPERATOR CALCULUS FOR EXPONENTIAL TYPE DISTRIBUTIONS

**18:10–18:30** Viktoriia Kravtsiv, Pavlo Dolishniak, Rostyslav Stakhiv WARING-GIRARD FORMULAS FOR BLOCK-SYMMETRIC POLYNOMIALS

# Wednesday, September 24

Location: auditorium 709, 7th floor

- Chair Volodymyr Shchedryk - Secretary Anton Kuz -

14:00–14:20 Igor Cherevko, Oleksandr Krasnokutskyi, Nazarii Malysh APPROXIMATION SCHEMES FOR DIFFERENTIAL-DIFFERENCE EQUATIONS AND ALGORITHMS OF THEIR APPLICATIONS

14:20–14:40 Vitalii Stelmashchuk, Roman Petryshyn

DIMENSIONLESS VARIABLES IN FINITE ELEMENT ANALYSIS OF LORD-SHULMAN THERMOPIEZOELECTRICITY TIME-DEPENDENT PROBLEM

**14:40–15:00** *Maksym Kyselov* 

ERROR ESTIMATES FOR TRUNCATION LEGENDRE METHOD IN NUMERICAL DIFFERENTIATION

15:00-15:20 Romanna Malets

NUMERICAL MODELLING OF STEADY-STATE HARMONIC OSCILLATIONS IN THERMOVISCOELASTIC THIN-WALLED SHELLS

**15:20–15:40** *Svyatoslav Lavryk* 

ON THE INTEGRAL EQUATIONS APPROACH FOR THE NUMERICAL SOLUTION OF THE 3D PARABOLIC LATERAL CAUCHY PROBLEM

**15:40–16:00** Oksana Palianytsia

ON THE NUMERICAL SOLUTION OF THE PARABOLIC VOLTERRA PIDE WITH WEAK SINGULAR KERNELS

#### **16:00–16:30** Coffee break

- Chair Volodymyr Shchedryk - Secretary Anton Kuz -

16:30–16:50 Rostyslav Ponomarov, Taras Vasylyshyn

ALGEBRAS OF SYMMETRIC POLYNOMIALS ON CARTESIAN PRODUCTS OF REAL AND COMPLEX BANACH SPACES OF LEBESGUE INTEGRABLE FUNCTIONS

**16:50–17:10** *Svitlana Vasylyshyn* 

ON TOPOLOGICAL ISOMORPHISM OF SOME COUNTABLY GENERATED ALGEBRAS OF ENTIRE FUNCTIONS ON BANACH SPACES

17:10-17:30 Bohdan Shavarovskii

REDUCTION OF A MATRIX ORIENTED BY CHARACTERISTIC ROOTS TO A FORM WITH GIVEN CHARACTERISTICS

17:30-17:50 Ruslan Khats'

COMPLETENESS OF THE SYSTEMS OF BESSEL FUNCTIONS OF INDEX -m-1/2 WITH  $m\in\mathbb{N}$ 

# Thursday, September 25

Location: auditorium 709, 7th floor

- Chair Khrystyna Kuchminska - Secretary Roman Andriichuk -

**14:00–14:20** *Nataliya Hoyenko* 

PARABOLIC CONVERGENCE REGION OF SOME EXPANSION INTO BRANCHED CONTINUED FRACTION FOR APPELL HYPERGEOMETRIC FUNCTION  $F_4(1,2;2,2,z_1,z_2)$ 

14:20–14:40 Iryna Bilanyk, Olha Voznyak

SOME CONVERGENCE THEOREMS FOR BRANCHED CONTINUED FRACTIONS OF THE SPECIAL FORM

14:40–15:00 Yuliia Myslo, Mykhaylo Pahirya

THIELE'S INTERPOLATION. CASES OF DEGENERACY OF THE FRACTION

15:00-15:20 Olena Shavala

ON FUNDAMENTAL SYSTEMS OF SOLUTIONS OF THE EQUATION f'' + Af = 0 ACCORDING TO GIVEN SEQUENCES

15:20–15:40 Anastasiya Nedashkovska

SOLVING A SYSTEM OF TWO POLYNOMIAL EQUATIONS VIA CONTINUED FRACTIONS

# **SECTION 4.** METHODS OF THE DIFFERENTIAL EQUATION THEORY IN PROBLEMS OF THEORETICAL PHYSICS AND MECHANICS

# Tuesday, September 23

Location: institute library, 9th floor

- Chair Mykhailo Andriychuk - Secretary Roman Andriychuk -

14:00–14:20 Borys Protsiuk, Volodymyr Shufliak UNSTEADY HEAT CONDUCTION PROBLEM FOR A PIECEWISE-HO-MOGENEOUS THERMOSENSITIVE MEDIUM

 ${\bf 14:20-14:40}$   $\,\,$   $\,$   $\,$   $\,$   $\,$   $\,$   $\,$  APPLICATION OF CLASSICAL ORTHOGONAL POLYNOMIALS IN FRACTIONAL CALCULUS

14:40–15:00 Roman Andriichuk, Taras Kuzyo, Viktor Mischenko
DETERMINATION OF MECHANICAL PARAMETERS OF A DISC-SIZED
NON-CONTRAST INCLUSION OF VARIABLE THICKNESS IN AN ELASTIC MATRIX FROM THE AMPLITUDES OF SCATTERED TORSION WAVES

**15:00–15:20** *Ihor Zhbadynskyi* 

BIEM FOR ELASTIC PROBLEM OF TIME-HARMONIC LOADING OF ONE-PERIODIC LATTICE WITH PAIRED COMPLIANT DISK-SHAPED INCLUSIONS

15:20–15:40 Roman Kushnir, Borys Protsiuk, Yuriy Protsyuk METHODOLOGY FOR DETERMINING THE QUASI-STATIC THERMOE-LASTIC STATE OF A MULTILAYER PLATE UNDER NONLINEAR THERMAL CONDITIONS

**15:40–16:00** Viktor Mykhas'kiv ON SOLUTION OF INTEGRO-DIFFERENTIAL EQUATION DESCRIB-ING SURFACE TENSION IN DYNAMIC CRACK THEORY

**16:00–16:30** Coffee break

- Chair Mykhailo Andriychuk - Secretary Roman Andriychuk -

**16:30–16:50** Mykhailo Marchuk, Volodymyr Bodnar, Vira Pakosh RESOLVING DIFFERENTIAL EQUATION FOR FLUTTER OF A PLATE-STRIP COMPLIANT TO TRANSVERSE SHEAR.

**16:50–17:10** Mykola Makhorkin STRESS FIELD SINGULARITY IN AN ANISOTROPIC COMPOSITE WEDGE SUBJECTED TO ANTIPLANE DEFORMATION

17:10–17:30 Taras Holubets, Volodymyr Yuzevych
THE POSSIBILITY OF RESOLVING OF INVERSE PROBLEM IN THE
ONE-DIMENSIONAL CASE BASED ON THE ONE COMPONENT LINEAR DIFFUSION EQUATION BY EXAMPLE OF CONCRETE COMPOSITE CERAMIC

17:30–17:50 Victor Revenko
CONSTRUCTION OF PHYSICALLY GROUNDED PARTIAL SOLUTIONS
OF THE SYSTEM OF NAVIER EQUATIONS

17:50–18:10 Yuliia Maksymiv, Valerii Matus, Vasyl Porochovskyj INTERACTION OF A PERIODIC SYSTEM OF THIN NON-CONTRAST INCLUSIONS WITH A HALF-SPACE, THE MOTION OF WHICH IS DE-SCRIBED BY THE HELMHOLTZ EQUATION

# Thursday, September 25

Location: auditorium 213, 2nd floor

- Chair Roman Plyatsko - Secretary Yurii Taistra -

**14:00–14:20** Mykhaylo Andriychuk ON THE INTEGRAL EQUATION OF THE ANTENNA SYNTHESIS PROBLEM WITH RESTRICTION

14:20–14:40 Taras Kuzyo SIMULATING TURBULENCE WITH SYNTHETIC NOISE

 ${\bf 14:40-15:00}$  Roman Matsyuk VARIATIONAL EXTENSION & VARIATIONAL CHECK IN TWO EXAMPLES

15:00–15:20 Yurii Taistra, Volodymyr Pelykh
COMPATIBILITY OF EQUATIONS WHICH DESCRIBE EINSTEIN-MAXWELL
PETROV TYPE II SPACE-TIMES IN THE CASE OF ONE-WAY NULL
ELECTROMAGNETIC FIELD

# Thursday, September 25

 ${f 16:10}$  CLOSING OF THE CONFERENCE Zoom connection is the same as for the Plenary Session

#### POSTER SESSION

# Wednesday, September 24

Location: institute hall, 1st floor

#### 12:00-13:00

Taras Goy

CERTAIN COMBINATORIAL IDENTITIES INVOLVING MERSENNE NUMBERS AND MULTINOMIAL COEFFICIENTS

Vyacheslav Ryabichev, Nataliya Mayko

THE CAYLEY TRANSFORM METHOD FOR AN ABSTRACT EVOLUTION EQUATION WITH A FRACTIONAL DERIVATIVE

Ruslan Khats', Valentyn Yarmoshyk

TWO-TERM ASYMPTOTICS OF THE LOGARITHMIC DERIVATIVE OF ENTIRE FUNCTIONS WITH IMPROVED DISTRIBUTION OF ZEROS

Roman Rabosh

ASSYMPTOTIC MODEL OF DYNAMIC PROCESSES IN A PIEZOELECTROMAGNETIC MATRIX WITH A THIN METAL LAYER

Kyrylo Loboda, Tetiana Khodanen

ON THE SOLUTION OF THE SYSTEM OF PDE RELATED TO A PIEZO-ELECTRIC BIMATERIAL WITH AN INTERFACE ELECTRODE

Maksym Bebiya

ON LOCAL ASYMPTOTIC STABILIZATION OF A CERTAIN CLASS OF INHERENTLY NONLINEAR SYSTEMS WITH UNKNOWN PARAMETERS

Ivanna Bondar

WEAKLY PERTURBED BOUNDARY VALUE PROBLEMS FOR SYSTEMS OF INTEGRO-DIFFERENTIAL EQUATIONS IN THE GENERAL CASE. AN EQUIVALENT SYSTEM OF ALGEBRAIC EQUATIONS

Halyna Tuluchenko

ANALYSIS AND PATCH TEST VERIFICATION OF A NON-CONFORMING QUADRATIC BASIS FOR THE OCTAHEDRAL FINITE ELEMENT

Vasyl' Davydovych

CONDITIONAL SYMMETRIES AND EXACT SOLUTIONS OF A SIMPLIFIED SHIGESADA-KAWASAKI-TERAMOTO MODEL

 $\begin{array}{c} \textit{Grzegorz Kuduk} \\ \textit{PROBLEM WITH INTEGRAL CONDITION FOR NONHOMOGENEOUS} \\ \textit{PARTIAL DIFFERENTIAL EQUATIONS OF THIRD ORDER} \end{array}$ 

 $Oleh\ Buhrii,\ Oksana\ Kholyavka,\ Ihor\ Kutsevol$ INITIAL-BOUNDARY VALUE PROBLEM FOR SYSTEM OF EQUATIONS WITH SHIFT