

PIDSTRYHACH INSTITUTE FOR APPLIED PROBLEMS OF  
MECHANICS AND MATHEMATICS OF NAS OF UKRAINE  
INSTITUTE OF MATHEMATICS OF NAS OF UKRAINE

IVAN FRANKO LVIV NATIONAL UNIVERSITY  
LVIV POLYTECHNIC NATIONAL UNIVERSITY

WESTERN SCIENTIFIC CENTER OF NAS AND MES OF UKRAINE



## **XI INTERNATIONAL SKOROBOHATKO MATHEMATICAL CONFERENCE**

*(October 26 – 30, 2020, Lviv, Ukraine)*

**PROGRAM**

**GENERAL INFORMATION**

**Section 1** Ordinary differential equations and integral equations

General Chair: Ihor Cherevko

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**Section 2** Partial differential equations

General Chairs: Mykola Bokalo, Zinovii Nytrebych, Mykhailo Symotiuk

Secretary: Anton Kuz

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**Section 3** Function theory, rational approximations, functional analysis, number theory and applications

General Chairs: Khrystyna Kuchminska, Andriy Zagorodnyuk, Nataliia Dzhal-iuk

Secretary: Iryna Chernega, Vira Lozynska

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**Section 4** Numerical methods and methods of the differential equation theory in problems of theoretical physics and mechanics

General Chairs: Myroslav Kutniv, Bohdan Novosyadlyj, Roman Plyatsko

Secretary: Vasyl Beshley

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**Virtual Conference Timetable**

Monday October 26	Tuesday October 27	Wednesday October 28	Thursday October 29	Friday October 30
plenary	sect. I	sect. IV	sect. IV	sect. IV
	sect. II	sect. II	sect. II	sect. II
	sect. III	sect. III	sect. III	sect. III

Monday, 15.00 – Opening of the Conference

Friday, 20.00 – Conference Closure

All meetings start at 15:00 Eastern European Time (EET, UTC+2)  
Connection details for all on-line meetings will be communicated in advance

# PLENARY SESSION

Monday, October 26

– Chair Petro Kalenyuk – Secretary Anton Kuz –

**15.00–15.30** Opening of the Conference

**15.30–16.00** *Dmytro Bodnar*

BRANCHED CONTINUED FRACTIONS WITH INDEPENDENT VARIABLES

**16.00–16.30** *Ihor Medynsky, Stepan Ivasyshen*

STUDIES ON DEGENERATE PARABOLIC KOLMOGOROV-TYPE EQUATIONS

**16.30–17.00** *Vita Baksa, Andriy Bandura, Oleh Skaskiv*

ON EXISTENCE OF MAIN POLYNOMIAL FOR ANALYTIC VECTOR-VALUED FUNCTIONS OF BOUNDED  $L$ -INDEX IN THE UNIT BALL

**17.00–17.30** *Taras Mel'nyk*

ASYMPTOTIC APPROXIMATIONS FOR EIGENVALUES AND EIGENFUNCTIONS OF A SPECTRAL PROBLEM IN A THIN GRAPH-LIKE JUNCTION WITH A CONCENTRATED MASS IN THE NODE

**17.30–17.45** *Coffee break*

– Chair Roman Plyatsko – Secretary Anton Kuz –

**17.45–18.15** *Olexandra Osypova, Ihor Cherevko*

INTEGRAL MANIFOLDS AND DECOMPOSITION OF SYSTEMS OF MULTISCALE LINEAR SINGULARLY PERTURBED EQUATIONS

**18.15–18.45** *Mykola Bokalo*

INITIAL-BOUNDARY VALUE PROBLEMS FOR NONLINEAR PARABOLIC EQUATIONS IN UNBOUNDED DOMAINS

**18.45–19.15** *Roman Matsyuk*

FROM THE  $N$ -POINT GEOMETRY UP TO THE INVERSE PROBLEM IN THE CALCULUS OF VARIATIONS

**19.15–19.45** *Vasyl Fedorchuk, Volodymyr Fedorchuk*

ON CLASSIFICATION OF SYMMETRY REDUCTIONS FOR SOME  $P(1, 4)$ -INVARIANT PARTIAL DIFFERENTIAL EQUATIONS

**19.45–20.15** *Mykhaylo Andriychuk, Victor Tkachuk*

OPTIMIZATION OF MULTI-ELEMENT PHASE FIELD TRANSFORMERS

# SECTION 1. ORDINARY DIFFERENTIAL EQUATIONS AND INTEGRAL EQUATIONS

**Tuesday, October 27**

– Chair Ihor Cherevko – Secretary Sofia Repetylo –

**15.00–15.20** *Anar Assanova*

A TWO-POINT BOUNDARY VALUE PROBLEM FOR SECOND ORDER DIFFERENTIAL EQUATION WITH PIECEWISE-CONSTANT ARGUMENT OF GENERALIZED TYPE

**15.20–15.40** *Sergiy Bak*

ABOUT TRAVELLING WAVES IN FERMI-PASTA-ULAM SYSTEM ON 2D-LATTICE

**15.40–16.00** *Olena Atlasiuk, Vladimir Mikhailets*

ON GENERIC INHOMOGENEOUS BOUNDARY-VALUE PROBLEMS IN SOBOLEV SPACES

**16.00–16.20** *Viktor Mazurenko*

SUFFICIENT CONDITIONS FOR THE EMERGENCE OF SOLUTIONS OF PERTURBED BOUNDARY VALUE PROBLEMS FOR QUASI-DIFFERENTIAL EQUATIONS WITH MEASURES AS COEFFICIENTS

**16.20–16.40** *Ihor Parasyuk, Lyudmyla Protsak*

A SINGULAR NONLINEAR BOUNDARY VALUE PROBLEM ON REAL LINE WITH ASYMPTOTIC CONDITIONS AT INFINITY

**16.40–17.00** *Coffee break*

– Chair Ihor Cherevko – Secretary Sofia Repetylo –

**17.00–17.20** *Vitalii Soldatov*

ABOUT APPROXIMATION PROPERTIES OF MULTIPOINT BOUNDARY-VALUE PROBLEMS

**17.20–17.40** *Mohabbat Ali*

ON ALMOST PSEUDO-CONFORMALLY SYMMETRIC RIEMANNIAN MANIFOLDS

**17.40–18.00** *Andrii Goriunov*

ON MULTI-INTERVAL STURM-LIOUVILLE PROBLEMS WITH DISTRIBUTIONAL COEFFICIENTS

**18.00–18.20** *Yaroslav Baranetskiĭ, Petro Kalenyuk*

THE NONLOCAL MULTIPOINT PROBLEM WITH DIRICHLET-TYPE  
CONDITIONS FOR AN ORDINARY DIFFERENTIAL EQUATION OF  
EVEN ORDER WITH INVOLUTION

**18.20–18.40** *Hanna Masliuk*

ON CONTINUITY IN A PARAMETER OF SOLUTIONS TO BOUNDARY-  
VALUE PROBLEMS IN SLOBODETSKY SPACES

## SECTION 2. PARTIAL DIFFERENTIAL EQUATIONS

**Tuesday, October 27**

– *Chair Ihor Medynsky – Secretary Anton Kuz –*

**15.00–15.20** *Anna Anop, Aleksandr Murach*

ON ELLIPTIC PROBLEMS WITH BOUNDARY DATA  
IN GENERALIZED SOBOLEV SPACES

**15.20–15.40** *Iryna Chepurukhina*

ON SOME ELLIPTIC PROBLEMS  
WITH IRREGULAR BOUNDARY DATA

**15.40–16.00** *Olena Vaneeva, Alexander Zhalij, Olena Magda*

TRANSFORMATION PROPERTIES OF GENERALIZED KAWAHARA  
EQUATIONS

**16.00–16.20** *Ihor Medynsky, Olha Voznyak*

FUNDAMENTAL SOLUTIONS OF ULTRAPARABOLIC KOLMOGOROV-  
TYPE EQUATIONS WITH THREE GROUPS OF SPATIAL VARIABLES  
AND DEGENERATION ON THE INITIAL HYPERPLANE

**16.20–16.40** *Vitaliy Dron*

PROPERTIES OF INTEGRALS OF THE TYPE OF DERIVATIVES OF  
VOLUME POTENTIAL FOR ONE CLASS OF DEGENERATE  $2\bar{b}$ -PARA-  
BOLIC EQUATIONS

**16.40–17.00** *Coffee break*

– *Chair Volodymyr Il'kiv – Secretary Anton Kuz –*

**17.00–17.20** *Stepan Ivasyshen, Halyna Ivasyuk, Tonia Fratavchan*

PROPERTIES OF GREEN'S OPERATORS AND CONJUGATE OPERA-  
TORS GENERATED BY CAUCHY PROBLEM FOR EIDELMAN PARA-  
BOLIC SYSTEMS, THEIR APPLICATIONS

**17.20–17.40** *Stepan Ivasyshen, Natalia Koreniuk*

GREEN'S MATRIX OF A GENERAL MODEL BOUNDARY-VALUE PROB-  
LEM FOR THE EIDELMAN PARABOLIC SYSTEMS

**17.40–18.00** *Andriy Lopushansky, Halyna Lopushanska*

TIME-SPACE FRACTIONAL CAUCHY PROBLEM IN WEIGHT DISTRI-  
BUTIONS

**18.00–18.20** *Halyna Pasichnyk*

ON THE CAUCHY PROBLEM FOR A ULTRAPARABOLIC EQUATIONS WITH INFINITELY INCREASING COEFFICIENTS IN THE GROUP OF LOWEST TERMS AND STRONGLY DEGENERATIONS IN THE INITIAL HYPERPLANE

**18.20–18.40** *Sofia Repetylo, Mykhailo Symotiuk*

DIRICHLET-NEUMANN PROBLEM FOR A LINEAR SYSTEM OF HOMOGENEOUS PARTIAL DIFFERENTIAL EQUATIONS

## Wednesday, October 28

– Chair Zinovii Nytrebych – Secretary Anton Kuz –

**15.00–15.20** *Volodymyr Fedorchuk*

ON SYMMETRY REDUCTION AND INVARIANT SOLUTIONS OF THE EULER-LAGRANGE-BORN-INFELD EQUATION

**15.20–15.40** *Oksana Hentosh, Anatolij Prykarpatski*

THE CENTRALLY EXTENDED LIE ALGEBRA OF FRACTAL INTEGRAL-DIFFERENTIAL OPERATORS AND INTEGRABLE FRACTAL DYNAMICAL SYSTEMS

**15.40–16.00** *Iryna Kmit*

FINITE TIME STABILIZATION OF NONAUTONOMOUS FIRST ORDER HYPERBOLIC SYSTEMS

**16.00–16.20** *Vasyl Marynets, Oksana Kohutych*

ON ONE APPROACH OF BOUNDARY VALUE PROBLEM INVESTIGATION FOR EQUATIONS OF THE HYPERBOLIC TYPE IN DOMAINS WITH A COMPLEX STRUCTURE OF THE BOUNDARY AND A PRE-HISTORY

**16.20–16.40** *Ivan Savka, Ivan Tymkiv*

CONJUGATION PROBLEM WITH TWO MULTIPLE NODES FOR SYSTEM OF HYPERBOLIC EQUATIONS OF HIGHER ORDER IN CYLINDRICAL DOMAIN

**16.40–17.00** *Coffee break*

– Chair Volodymyr Il'kiv – Secretary Anton Kuz –

**17.00–17.20** *Zinovii Nytrebych, Oksana Malanchuk*

ON THE NONEXISTENCE OF SOLUTION OF THE DEGENERATE TWO-POINT IN TIME PROBLEM FOR NONHOMOGENEOUS PDE

**17.20–17.40** *Petro Kalenyuk, Zinovii Nytrebych, Mykhaylo Symotiuk*  
ON A MULTIPOINT PROBLEM FOR THE PARTIAL DIFFERENTIAL  
EQUATION IN COMPLEX DOMAIN

**17.40–18.00** *Nadiia Huzyk, Oksana Brodyak, Oksana Petruchenko*  
DETERMINATION OF THE MINOR COEFFICIENT IN A DEGENERATE  
PARABOLIC EQUATION

**18.00–18.20** *Nataliya Protsakh*  
DETERMINING OF MINOR COEFFICIENT IN SEMILINEAR EIDELMAN  
TYPE EQUATION

## Thursday, October 29

– Chair Oleh Buhrii – Secretary Mykhailo Symotiuk –

**15.00–15.20** *Oleh Buhrii, Oksana Kholyavka*  
HYPERBOLIC STOKES SYSTEM WITH VARIABLE EXPONENT OF NON-  
LINEARITY

**15.20–15.40** *Grzegorz Kuduk*  
NONLOCAL PROBLEM WITH INTEGRAL CONDITIONS FOR EVOLU-  
TION EQUATIONS OF HIGHER ORDER

**15.40–16.00** *Victor Revenko*  
GENERAL SOLUTION OF SYSTEMS EQUATIONS IN PARTIAL DERIVA-  
TIVES DESCRIBING STRESS STATES FOR ORTHOTROPIC BODIES

**16.00–16.20** *Anton Kuz, Mykhailo Symotiuk*  
A PROBLEM WITH INTEGRAL CONDITIONS FOR FACTORIZED PAR-  
TIAL DIFFERENTIAL EQUATIONS

**16.20–16.40** *Volodymyr Il'kiv, Ivanna Skovronska, Nataliya Strap*  
THE TWO-POINT PROBLEM FOR THE PARTIAL DIFFERENTIAL EQUA-  
TION OF AN EVEN ORDER

**16.40–17.00** *Coffee break*

– Chair Halyna Lopushanska – Secretary Mykhailo Symotiuk –

**17.00–17.20** *Khrystyna Mamalyha, Mykhailo Osyphchuk*  
ON SINGLE LAYER POTENTIALS FOR SOME PSEUDO-DIFFERENTIAL  
EQUATIONS

**17.20–17.40** *Volodymyr Il'kiv, Mykhailo Symotiuk, Iryna Volyanska*  
NONLOCAL BOUNDARY-VALUE PROBLEM FOR PARTIAL DIFFEREN-  
TIAL EQUATION IN AN UNBOUNDED STRIP

**17.40–18.00** *Maria Negrych*

LOCAL TWO-POINT PROBLEM FOR THE EQUATION WITH THE OPERATOR OF GENERALIZED DIFFERENTIATION

**18.00–18.20** *Oksana Chmyr*

THE FIRST BOUNDARY VALUE PROBLEM FOR EQUATION  $\frac{\partial u}{\partial t} - \Delta u = |u|^q \varrho^\gamma(x)$  IN THE CLASS OF GENERALIZED FUNCTIONS

## **Friday, October 30**

– *Chair* Mykola Bokalo – *Secretary* Anton Kuz –

**15.00–15.20** *Vladyslav Litovchenko, Anna Shkolyarenko*

ON ONE PROBLEM OF THE INTERACTION OF MOVING OBJECTS

**15.20–15.40** *Mykola Yaremenko*

GENERAL SOLUTION OF SECOND-ORDER QUASI-LINEAR ELLIPTIC PARTIAL DIFFERENTIAL EQUATION UNDER FORM-BOUNDARY CONDITIONS

**15.40–16.00** *Iryna Skira*

FOURIER PROBLEM FOR NONLINEAR EVOLUTION SUBDIFFERENTIAL INCLUSIONS

**16.00–16.20** *Olha Sus*

OPTIMAL CONTROL PROBLEM FOR EVOLUTIONARY VARIATIONAL INEQUALITIES WITH VOLTERRA TYPE OPERATORS

**SECTION 3. FUNCTION THEORY,  
RATIONAL APPROXIMATIONS,  
FUNCTIONAL ANALYSIS,  
NUMBER THEORY AND APPLICATIONS**

**Tuesday, October 27**

– Chair Khrystyna Kuchminska – Secretary Vasyl Beshley –

**15.00–15.20** *Tamara Antonova, Roman Dmytryshyn*

TRUNCATION ERROR BOUNDS FOR BRANCHED CONTINUED FRACTION OF SPECIAL FORM

**15.20–15.40** *Khrystyna Kuchminska*

MULTIDIMENSIONAL ASSOCIATED AND REGULAR C-FRACTIONS AND MULTIPLE POWER SERIES

**15.40–16.00** *Olga Sus'*

ON THE METHOD OF FUNDAMENTAL INEQUALITIES FOR THE TWO-DIMENSIONAL CONTINUED FRACTIONS

**16.00–16.20** *Mykhaylo Pahirya*

REPRESENTATION OF A ONE CLASS FUNCTIONS OF TWO VARIABLES BY BICONTINUED FRACTIONS

**16.20–16.40** *Natalya Hoyenko, Oleksandra Manziy, Levko Ventyk*

APPROXIMATION OF APPELL FUNCTION  $F_4(1, 2; 2, 2, Z_1, Z_2)$  BY MULTIDIMENSIONAL C-FRACTION

**16.40–17.00** *Iryna Bilanyk, Olha Voznyak*

ON THE CONVERGENCE OF MULTIDIMENSIONAL S-FRACTIONS WITH INDEPENDENT VARIABLES

**17.00–17.20** *Coffee break*

– Chair Khrystyna Kuchminska – Secretary Vasyl Beshley –

**17.20–17.40** *Volodymyr Dilnyi, Khrystyna Voitovych*

DECOMPOSITION OF FUNCTIONS OF SMALL EXPONENTIAL TYPE IN PALEY - WIENER SPACES

**17.40–18.00** *Olena Shavala*

ON THE CONSTRUCTION OF SOLUTIONS OF THE EQUATION  $f'' + Af = 0$  ACCORDING TO GIVEN SEQUENCES

**18.00–18.20** *Mykola Zabolotskyi, Mariana Mostova*

REGULAR BEHAVIOR OF ZERO ORDER ENTIRE FUNCTIONS ALONG  
CURVES OF REGULAR ROTATION

**18.20–18.40** *German Dzyubenko*

A COUNTEREXAMPLE IN COCONVEX APPROXIMATION OF PERI-  
ODIC FUNCTIONS

**18.40–19.00** *Kanail Mahato*

CONTINUITY OF WAVELET TRANSFORM ON SOBOLEV TYPE SPACES

**19.00–19.20** *Md. Nasiruzzaman*

APPROXIMATION BY PARAMETRIC EXTENSION OF PHILLIPS-OPE-  
RATORS INVOLVING THE APPELL POLYNOMIALS

## Wednesday, October 28

– Chair Andriy Zagorodnyuk – Secretary Vira Lozynska –

**15.00–15.20** *Iryna Chernega*

SOME PROPERTIES OF THE SPECTRUM OF THE ALGEBRA OF BO-  
UNDED TYPE SYMMETRIC ANALYTIC FUNCTIONS

**15.20–15.40** *Vira Lozynska*

FUNCTIONAL CALCULUS IN ALGEBRA OF  $\omega$ -ULTRADISTRIBUTIONS

**15.40–16.00** *Anna Hihliuk, Andriy Zagorodnyuk*

ENTIRE ANALYTIC FUNCTIONS OF UNBOUNDED TYPE ON BANACH  
SPACES

**16.00–16.20** *Liubov Kopylchuk, Viktoriia Kravtsiv*

ALGEBRAIC BASIS OF THE ALGEBRA OF BLOCK-SYMMETRIC POLY-  
NOMIALS ON THE SPACES  $\ell_{p_1} \oplus \dots \oplus \ell_{p_n}$

**16.20–16.40** *Yuriy Chopyuk, Volodymyr Hladkyi, Bohdan Shlikhutka, Andriy  
Zagorodnyuk*

SUPERSYMMETRIC POLYNOMIALS, MULTISSETS, AND COMPLEX DY-  
NAMICS

**16.40–17.00** *Svitlana Halushchak*

ON THE ISOMORPHISM AND SOME OTHER PROPERTIES OF THE  
FRÉCHET ALGEBRAS OF ENTIRE FUNCTIONS OF BOUNDED TYPE  
ON BANACH SPACES

**17.00–17.20** *Coffee break*

– Chair Andriy Zagorodnyuk – Secretary Iryna Chernega –

**17.20–17.40** *Marian Dmytryshyn*

ANALYTICAL ESTIMATES OF SPECTRAL APPROXIMATIONS OF SOME CLASSES OF DEGENERATE ELLIPTIC OPERATORS

**17.40–18.00** *Rostyslav Hryniv, Yaroslav Mykytyuk*

INVERSE SCATTERING FOR REFLECTIONLESS SCHRÖDINGER OPERATORS AND GENERALIZED KDV SOLITONS

**18.00–18.20** *Yaroslav Mykytyuk, Nataliya Sushchuk, Mykhailo Kazanivsky*

NON-CLASSICAL TRANSFORMATION OPERATORS FOR STURM-LIOUVILLE OPERATORS

**18.20–18.40** *Maria Martsinkiv, Vitalia Zalizhchuk*

SUPERCYCLIC OPERATORS ON FREE BANACH SPACE

**18.40–19.00** *Oles Dobosevych*

DIRECT AND INVERSE SPECTRAL PROBLEMS FOR SINGULAR RANK-ONE PERTURBATION OF A SELF-ADJOINT OPERATOR

**19.00–19.20** *Mykhaylo Mytrofanov*

ANALYTICAL AND \*-ANALYTICAL APPROXIMATION IN NORMED SPACES

**19.20–19.40** *C. Sivashanmugaraja*

FUZZY GENERALIZED  $\beta$ -CONTINUITY AND FUZZY GENERALIZED  $\beta$ - $\gamma$ -CONTINUITY IN FUZZY TOPOLOGICAL SPACES

## Thursday, October 29

– Chair Ivan Kyrchei – Secretary Vira Lozynska –

**15.00–15.20** *Ivan Kyrchei*

QUATERNION CORE INVERSE AND ITS GENERALIZATIONS

**15.20–15.40** *Natalija Ladzoryshyn, Vasyl' Petrychkovych*

THE STANDARD FORM OF MATRICES OVER IMAGINARY EUCLIDEAN QUADRATIC RINGS WITH RESPECT TO  $(\mathbb{Z}, K)$ -EQUIVALENCE

**15.40–16.00** *Bohdan Shavarovskii*

CANONICAL FORM OF A REDUCED MATRIX WITH ALL NON-ZERO SUB-DIAGONAL ELEMENTS

**16.00–16.20** *Andrii Gatalevych, Volodymyr Shchedryk*

ON ADEQUACY OF FULL MATRICES OVER ADEQUATE RINGS

**16.20–16.40** *Andrii Bilous*

STABLE RANGE OF SOME CLASSES OF NON COMMUTATIVE RINGS

**16.40–17.00** *Iryna Raievska, Maryna Raievska*

ON LOCAL NEARRINGS OF ORDER  $p^3$

**17.00–17.20** *Coffee break*

– *Chair* Nataliia Dzhaliuk – *Secretary* Yurii Taistra –

**17.20–17.40** *Artemii Abramov, Vladislav Yurashev*

ON FINITE SEMI-DISTRIBUTIVE NEARRINGS

**17.40–18.00** *Nataliia Dzhaliuk*

EQUIVALENCE OF MATRICES IN THE RING OF THE BLOCK TRIANGULAR MATRICES

**18.00–18.20** *Andriy Romaniv*

DIVISIBILITY OF INVARIANT FACTORS OF A MATRIX AND ITS SUBMATRIX

**18.20–18.40** *Elena Guseva, Zhanna Panteleeva, Olga Rykova*

DIOPHANTINE APPROXIMATION OF ZERO BY VALUES OF REDUCIBLE POLYNOMIALS

**18.40–19.00** *Vitaliy Bondarenko, Victoria Haiduk*

ON DEFORMATION CENTERS OF DYNKIN DIAGRAMS

**19.00–19.20** *Maryna Styopochkina*

ON THE COEFFICIENTS OF TRANSITIVENESS OF THE POSETS MINIMAX ISOMORPHIC TO SUPERCRITICAL POSETS

## Friday, October 30

– *Chair* Khrystyna Kuchminska – *Secretary* Yurii Taistra –

**15.00–15.20** *Olesya Zubaruk*

ON 0-PARAMETER AND 1-PARAMETER SEMIGROUPS OF SPECIAL FORM

**15.20–15.40** *Nazar Pyrch*

ON LINEAR HOMEOMORPHISMS BETWEEN FUNCTION SPACES AND THEIR SUBSPACES

**15.40–16.00** *Tetiana Osipchuk*

ON LINEAR CONVEXITY IN COMMUTATIVE ALGEBRAS

**16.00–16.20** *Anatoliy Serdyuk, Ulyana Hrabova*

ORDER ESTIMATES OF THE UNIFORM APPROXIMATIONS BY ZYGMUND SUMS ON THE CLASSES OF CONVOLUTIONS OF PERIODIC FUNCTIONS

**16.20–16.40** *Anatolii Serdyuk, Igor Sokolenko*

ESTIMATES FOR BEST UNIFORM APPROXIMATIONS OF CLASSES OF CONVOLUTIONS OF PERIODIC FUNCTIONS OF HIGH SMOOTHNESS

**16.40–17.00** *Anatoly Serdyuk, Tetiana Stepaniuk*

LEBESGUE INEQUALITIES ON THE CLASSES OF GENERALIZED POISSON INTEGRALS IN THE UNIFORM METRIC

**17.00–17.20** *Coffee break*

– Chair Khrystyna Kuchminska – Secretary Yurii Taistra –

**17.20–17.40** *Aled Williams, Ruslan Skuratovskii*

THE DERIVED SERIES OF SYLOW 2-SUBGROUPS OF THE ALTERNATING GROUPS AND MINIMAL GENERATING SETS OF THEIR SUBGROUPS

**17.40–18.00** *Ruslan Skuratovskii*

VERBAL WIDTH BY SQUARES OF ALTERNATING GROUP  $A_N$

**18.00–18.20** *Taras Vasylyshyn*

SOME CLASSES OF SYMMETRIC FUNCTIONS ON BANACH SPACES

**18.20–18.40** *Robert Frontczak, Taras Goy*

INFINITE SERIES INVOLVING FIBONACCI (LUCAS) NUMBERS AND THE RIEMANN ZETA FUNCTION

**18.40–19.00** *Rishikesh Yadav*

A STUDY ON GENERALIZED BIVARIATE SUMMATION INTEGRAL TYPE OPERATORS IN POLYNOMIAL WEIGHT SPACE

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

**Wednesday, October 28**

– Chair Myroslav Kutniv – Secretary Vasyl Beshley –

**15.00–15.20** *Mukesh Grover*

VARIOUS TYPES OF NUMERICAL METHODS FOR FINDING THE APPROXIMATE SOLUTION OF FRACTIONAL DIFFERENTIAL EQUATIONS

**15.20–15.40** *Shyam Lal, Sharma Priya*

ESTIMATION OF FUNCTIONS BESOV SPACE BY EXTENDED LEGENDRE WAVELET AND ITS OPERATIONAL MATRIX OF INTEGRATION

**15.40–16.00** *Rohit Verma, Sushil Kumar*

NUMERICAL SIMULATION OF PHASE CHANGE TEMPERATURE DISTRIBUTION ON SKIN TISSUE USING EFFECTIVE HEAT CAPACITY AND RADIAL BASIS FUNCTIONS

**16.00–16.20** *Yaroslav Kunets, Valeriy Matus*

EFFECTIVE PARAMETERS OF BENDING WAVES IN PLATES WITH DISTRIBUTED NON-CONTRAST THIN INHOMOGENEITIES

**16.20–16.40** *Coffee break*

– Chair Myroslav Kutniv – Secretary Vasyl Beshley –

**16.40–17.00** *Andrii Kunynets, Myroslav Kutniv, Nadia Khomenko*

IMPLEMENTATION OF EXACT THREE-POINT DIFFERENCE SCHEME FOR STURM-LIOUVILLE PROBLEM

**17.00–17.20** *Dmytro Leshchenko, Tetiana Kozachenko*

PERTURBED MOTIONS OF A RIGID BODY UNDER THE ACTION OF UNSTEADY TORQUES

**17.20–17.40** *Roman Manuilenko*

ELASTIC-PLASTIC PROBLEM OF STATE ROCK MASS NEAR HYDRAULIC CRACK

**17.40–18.00** *Valeriy Matus, Viktor Mishchenko, Vasyl Porochovskyy*

EFFECTIVE DYNAMIC CONDITIONS FOR AN INTERFACE NON-CONTRAST INCLUSION BETWEEN TWO ELASTIC MATERIALS

**18.00–18.20** *Valentin Mozharovsky, Roman Kushnir, Oleksandr Hachkevych, Vladimir Kukareko*

MATHEMATICAL MODELING OF THE PROBLEM OF DETERMINING TEMPERATURE IN A LAYERED OBJECT IN CONTACT FOR FUNCTIONALLY GRADIENT MATERIALS

## Thursday, October 29

– *Chair* Bohdan Novosyadlyj – *Secretary* Vasyl Beshley –

**15.00–15.20** *Surajit Chattopadhyay*

A DARK ENERGY MODEL INSPIRED BY FIELD THEORY AND ITS COSMOLOGICAL CONSEQUENCES

**15.20–15.40** *Volodymyr Pelykh, Yurii Taistra, Igor Skorobohatko*

A CLASS OF SOLUTIONS FOR THE MAXWELL EQUATIONS IN THE KERR SPACETIME AND THEIR PHYSICAL CONSEQUENCES

**15.40–16.00** *Roman Plyatsko*

CONSEQUENCES OF THE MATHISSON-PAPAPETROU EQUATIONS IN COMOVING TETRADES REPRESENTATION

**16.00–16.20** *Mykola Fenyk*

NUMERICAL INTEGRATION OF THE MATHISSON-PAPAPETROU EQUATIONS

**16.20–16.40** *Coffee break*

– *Chair* Bohdan Novosyadlyj – *Secretary* Vasyl Beshley –

**16.40–17.00** *Roman Neomenko*

STABILITY OF THE COSMOLOGICAL PERTURBATIONS OF INTERACTING DARK COMPONENTS IN THE RADIATION DOMINATED EPOCH

**17.00–17.20** *Oleh Petruk*

APPROXIMATIONS FOR A SOLUTION OF THE NON-STATIONARY EQUATION WHICH DESCRIBES THE NON-LINEAR ACCELERATION OF PARTICLES

**17.20–17.40** *Vasyl Beshley, Oleh Petruk*

MATHEMATICAL MODELING OF THE STOKES PARAMETERS IN SN 1006

**17.40–18.00** *Taras Kuzyo, Oleh Petruk*

THREE-DIMENSIONAL SIMULATIONS OF MAGNETIC FIELD IN SN 1572

## Friday, October 30

– Chair Roman Matsyuk – Secretary Vasyl Beshley –

**15.00–15.20** *Roman Rabosh, Yaroslav Kunets, Yuliia Maksymiv*  
SH-WAVES SCATTERING BY A PERIODIC ARRAY OF PIEZOELECTRIC INCLUSIONS

**15.20–15.40** *Volodymyr Shcherbak, Iryna Baraniukova*  
IDENTIFICATION OF VAN DER POL OSCILLATOR PARAMETERS

**15.40–16.00** *Olha Terendii*  
ONE COMPUTER AUTOMIZED SYSTEM FOR SUPPORT PROCESSES IN THE DIAGNOSTIC DOMAIN

**16.00–16.20** *Volodymyr Prokip*  
A NOTE ON SEMISCALAR EQUIVALENCE OF POLYNOMIAL MATRICES

**16.20–16.40** *Coffee break*

– Chair Roman Matsyuk – Secretary Vasyl Beshley –

**16.40–17.00** *Iana Varga*  
CONSTRUCTIVE EXISTENCE ANALYSIS OF SOME NON-LINEAR INTEGRAL BVPS

**17.00–17.20** *Zoryana Vasjunyk, Vitalii Meleshko*  
CLASSIFICATION OF COLORIMETRIC SENSOR DATA ARRAY BY PRINCIPAL COMPONENT ANALYSIS

**17.20–17.40** *Mykhailo Yadzhak*  
ORGANIZATION OF PARALLEL COMPUTING DURING THE RESEARCH OF COMPLEX NETWORK SYSTEMS

**17.40–18.00** *Nadia Zhogoleva*  
COMBINATIONAL SECOND HARMONICS OF NONLINEAR LOVE WAVES IN A CRYSTAL LAYER ON A CRYSTAL HALFSPACE

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## Friday, October 30

**20.00** CLOSING OF THE CONFERENCE  
Zoom connection is the same as for the Plenary Session