

*II International scientific conference "Mechanical Science and Technology Update"
27-28 February 2018. Omsk, Russia*

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Program**

Секция 1. Проблемы прикладной механики

**Председатель – Балакин Павел Дмитриевич, д-р. техн. наук, профессор
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WORK MODELING PROCESSES OF THE HAND-HELD PERCUSSION MACHINES

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MODELLING THE REUSABLE SPACE TRANSPORT SYSTEM FOR SMALL PAYLOADS DELIVERY

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THE DYNAMIC REACTIONS OF THE PISTON MACHINES MECHANICAL DRIVE JOINTS

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UNIVERSAL TECHNIQUE OF ELIMINATION OF POWER PARAMETRIC EXCITATION IN GENERAL MECHANICAL SYSTEMS

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CALCULATION OF PARAMETERS FOR A RESILIENT ELEMENT OF A FLAT-BELT CONTINUOUSLY VARIABLE TRANSMISSION

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EXPERIMENTAL STUDIES OF CORRECTION PROPULSION SYSTEM ELEMENTS FOR SMALL SPACE VEHICLES MANUFACTURED DUE TO ADDITIVE METHOD

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MULTIFUNCTIONAL VIBRATIONAL SOURCE OF SEISMIC WAVES

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DETERMINATION OF THE INTERNAL COMBUSTION ENGINE VALVE GEAR CHARACTERISTICS

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METHOD OF THE CAST-IN-PLACE FRICTION PILE WELL WALLS LOCAL SOIL COMPACTION

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EXPERIMENTAL REGISTRATIONS OF PLAIN SIEVE OPERATION, MAKING TRANSVERSE FLUCTUATIONS

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THE KINEMATICS AND STRENGTH STUDY OF INDEXING BEVEL GEAR MECHANISM IN ROTATING DEVICE DRIVER

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INCREASING EFFICIENCY OF VIBRATION PROTECTION SYSTEM BY USING PNEUMATIC RUBBER CORD DEVICES

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EXPERIMENTAL STUDY OF HEAT TRANSFER ON THE RUBBER-CORD CASED PNEUMATIC ELEMENT SURFACES UNDER THE NATURAL CONVECTION

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COMPARATIVE ANALYSIS OF METHODS OF CARGO VIBRATION DAMPING MOVED BY OVERHEAD CRANE

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STUDIES ON THE DYNAMICS OF IMPACT INTERACTION OF THE MECHANOREOLOGICAL MODEL UNDER ELASTIC PLASTIC TRANSFORMATION OF ITS MECHANICAL SYSTEM

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ATTITUDE MOTION OF SPACE DEBRIS DURING ITS REMOVAL BY ION BEAM TAKING INTO ACCOUNT ATMOSPHERIC DISTURBANCE

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GEOMETRICAL AND COMPUTER MODELING OF THE TECHNICAL WORKPIECES MAIN OBJECTS SHAPING

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EXPERIMENTAL STUDIES ON THE MECHANICAL PROPERTIES OF A WOVEN COMPOSITE MATERIAL FOR SPACE ANTENNA REFLECTOR

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VIBRATION PROTECTION OF A HUMAN-OPERATOR BASED ON THE APPLICATION OF DISTURBANCE-STIMULATED CONTROL MECHANISM

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PECULIARITIES OF MATHEMATICAL MODELING OF CONTACT INTERACTION OF MASSIVE BODIES AND SHELLS

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DEVELOPMENT OF A MATHEMATICAL MODEL OF SOUND INSULATION WITH FLEXIBLE PANELS

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THEORY OF THE PISTON AIR SPRING IN THE BOOM MACHINE WORKING EQUIPMENT

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CALCULATION OF NON-STATIONARY MAGNETIC FIELD OF THE POLARIZED ELECTROMAGNET WITH THE EXTERNAL ATTRACTED ANCHOR

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COMBINED HYDRAULIC POWER VEHICLE TRANSMISSION MODES

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INVESTIGATION OF HEAT AND MASS TRANSFER PROCESS IN THE CLOSED VOLUME WITH DIFFERENT TYPES OF IMPACT ON LIQUID

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INJECTION OF HYDROGEN SULFIDE INTO A POROUS MEDIUM PARTIALLY SATURATED WITH WATER

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NUMERICAL STUDY OF THE PROCESS OF INJECTION CARBON DIOXIDE INTO A POROUS FORMATION SATURATED WITH METHANE AND ITS HYDRATE

Секция 2. Машины, процессы и агрегаты. Материаловедение и технологии материалов
Председатель – Еремин Евгений Николаевич, профессор, д-р. техн. наук
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INVESTIGATION OF THE ORIENTATION OF FLOCCULES IN MAGNETIC SUMP DURING CLEANING OF COOLING LUBRICANTS

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INCREASE OF STEEL SURFACE OPERATIONAL PROPERTIES BY COMBINED HARDENING

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SOLID LUBRICANT CERAMIC COATINGS ON ALUMINIUM AND ITS ALLOYS

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INVESTIGATION OF FREE OSCILLATIONS FOR REASONING CONSTRUCTIVE DECISIONS OF MIRROR SEGMENTS OF PARABOLIC ANTENNA

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CONTROL SYSTEMS DESIGN: THE TECHNOLOGY OF STOCHASTIC PERTURBATIONS SIMULATION

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CHOOSING MODES FOR THERMAL TREATMENT OF DEPOSITED COATINGS BASED ON CHROMIUM STEEL WITH CARBIDE-BORIDE-NITRIDE DOPING

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NONLINEAR EFFECTS IN MATERIALS OBTAINED BY THE METHOD OF SELECTIVE LASER MELTING

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THE INFLUENCE OF ULTRASOUND ON PHYSICO- MECHANICAL PROPERTIES OF COMPOSITE MATERIALS REINFORCED WITH CARBONACEOUS FIBERS IN THE FORMATION PROCESS

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STRENGTHENING MICROWAVE MODIFICATION OF STRUCTURAL ELEMENTS OF COMPOSITE MATERIALS REINFORCED WITH SYNTHETIC FIBERS

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FORMATION OF WEAR RESISTANT NANOSTRUCTURAL TOPOCOMPOSITE COATINGS ON METAL MATERIALS BY IONIC-PLASMA PROCESSING

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IMPROVEMENT OF ALUMINOTHERMIC WELDING ON THE BASIS OF THE EXPERIMENTALLY-THEORETICAL RESEARCH OF WELDING SEAM COOLING PROCESS

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COMPARATIVE EROSION TESTS RESULTS OF TITANIUM ALLOY TI-6AL-4V SAMPLES OBTAINED BY USING 3D - PRINTING TECHNOLOGY AND MANUFACTURED BY THE TRADITIONAL TECHNOLOGICAL METHOD

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RESEARCH OF ELECTRO-THERMAL AGING PROCESS OF CROSS-LINKED POLYETHYLENE

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NUMERICAL ANALYSIS OF THERMAL DEFORMATION FOR CONSTRUCTIVE VARIANTS OF MIRROR SEGMENTS IN A PARABOLIC ANTENNA

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RESEARCH ON THE HIGH QUALITY REPLACEMENT CARBIDE PLATES OPERABILITY WITH AL-SI-N HARDENING COATING

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LOW-TEMPERATURE HEAT CAPACITY $VO_{2+\Delta}$ AND SOLID SOLUTIONS $V_{1-x}FE_xO_2$

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METALLOGRAPHICAL RESEARCHES RESULTS OF TITANIUM ALLOY TI-6AL-4V SAMPLES OBTAINED BY USING TRADITIONAL AND ADDITIVE TECHNOLOGIES

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DESIGNING OF SPECIAL CONCRETES FOR MACHINE BUILDING

Секция 3. Автоматизация. Контроль и управление качеством
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METHOD OF NON-DESTRUCTIVE CONTROL OF THE SOLVENT DIFFUSION COEFFICIENT IN PRODUCTS MADE FROM ANISOTROPIC POROUS MATERIALS

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COMPUTER VISUALIZATION OF AUTOMATIZED CALCULATION THE FACTORS OF MASS TRANSFER THE VISCOUS INCOMPRESSIBLE LIQUID WITH CONTACT WIDTH VARIATION

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INFORMATION TECHNOLOGIES USAGE MODELS DURING AGILE SYSTEMS FUNCTIONING

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METHODICAL UNCERTAINTY IN THE TWO-POINT MEASUREMENT OF DETAILS PRISMATIC ELEMENTS LINEAR DIMENSIONS

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SOFTWARE ARCHITECTURE FOR ENERGY EFFICIENT CONTROL OVER PROCESS PARAMETERS OF MIMO SYSTEMS ON A SET OF FUNCTIONING STATES

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A QUANTITATIVE CRITERION FOR QUALITY ASSESSMENT OF MIXING FOR THE EFFECTIVE UNIT OF MIXED PRODUCTS

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DIAGNOSTICS AND EVALUATION OF THE RESIDUAL LIFE OF AN INDUCTION MOTOR ACCORDING TO ENERGY PARAMETERS

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ANALYSIS OF STRAIN STATE PRISMATIC SAMPLES FOR MECHANICAL TESTING OF THE BIAXIAL STRETCHING METHOD DIGITAL IMAGE CORRELATION

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ESTIMATION OF THE FAILURE-FREE OPERATION FOR DEPLOYMENT OF TRANSFORMABLE SPACE STRUCTURES

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IMPROVING THE PROCESSING ACCURACY OF THE VALVE SEATS OF INTERNAL COMBUSTION ENGINES USING DIAGNOSTIC MEASUREMENTS

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THE SAPPHIRE TIPS OF THE ACTIVE CONTROL DEVICES OF DETAIL'S DIMENSIONS OF PRODUCED WITH HOLLOW AND RIDGES, WITH THE POSSIBILITY OF DETERMINING THE LATERAL APPROXIMATION OF RIDGES

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AUTOMATED GEOMETRIC AND COMPUTER-AIDED NON-CIRCULAR GEAR FORMATION MODELING

Andrey G Malyutin, Andrey A Lavrukhin, Andrey S Okishev

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ARCHITECTURE OF THE AUTOMATED INFORMATION SYSTEM FOR MONITORING AND RESOURCES ACCOUNTING

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CALCULATION OF LINEAR TECHNOLOGICAL DIMENSIONS BASED ON THE RESULTS OF WORKPIECE CONTROL

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DYNAMIC LOADING OF COGWHEELS AT THE TIME OF START-UP

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A METHOD FOR THE MEASUREMENT OF THE DIAMETERS OF LARGE-SCALED SHAFTS

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MEASUREMENT OF THE MACRO GEOMETRY OF LARGE-SCALE ROTARY WORKPIECES TYPE "RING"

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THE ACOUSTIC WAVES PROPAGATION LAWS IN THE FORCE-FIT CONNECTIONS FOR TEST OF THE INTERFERENCE FIT

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COMPUTER VISUALIZATION OF QUALITY ESTIMATION THE COLOR REPRODUCTION IN DIGITAL PRINTING SYSTEMS MEASURING COLOUR GAMUT OF THE COLOR-REPRODUCING SYSTEM: INTERPRETATION ASPECTS

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TESTING THE PRINTING SYSTEMS FOR ENLARGING COLOR REPRODUCTION

Секция 4. Микромеханические системы и элементы

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A SMALL SPACECRAFT MICROENGINE WITH SHF IMPACT ON WORKING MEDIUM: COOLING AND DILATOMETRIC EVAPORATOR VALVE

I S Vavilov, A I Lukyanchik, P S Yachmenev, A V Pavlenko, A V Lysakov, R N Litau

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SMALLSAT'S DILATOMETRIC MICROMOTOR: ESTIMATION OF CHARACTERISTICS

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APPLICABILITY OF KRAMERS RATE FORMULAS IN THE ENERGY DIFFUSION REGIME

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MODELLING OF A TEMPERATURE DISTRIBUTION IN OPTOMECHANICAL THERMAL MICROSYSTEMS

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THE KRAMERS PROBLEM IN THE ENERGY DIFFUSION REGIME: TRANSIENT TIMES

Секция 5. Алгоритмы и вычисления в математических моделях

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A NEW ALGORITHM OF FAST SSD CALCULATION FOR MOTION ESTIMATION

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DEM CALIBRATION APPROACH: IMPLEMENTING CONTACT MODEL

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ON EQUATIONS OVER BRANDT SEMIGROUPS

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PERFORMANCE CHARACTERISTICS DESCRIBE THE STRUCTURE OF DESCRIPTORS

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MATHEMATICAL MODELING OF THE USING OF THE INNOVATIVE INTERMEDIATE PRODUCTS AT THE STAGE OF PRODUCTION OF GROSS REGIONAL PRODUCT

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UNIVERSAL INPUT OF KNAPSACK PROBLEM FOR GROUPS

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CRITERION OF EQUATIONALLY NOTHERIAN PROPERTY FOR POSETS

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E-CIENT TOPOLOGICAL GENERATION IN COMPACT LIE GROUPS

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ALGORITHMS AND SOFTWARE FOR OBTAINING DISSIMILAR ORDER AND HIGH ORDER OF SYMBOLIC SEQUENCES

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LIMIT COMBINATORICS AS A METHOD FOR INVESTIGATING OF MATHEMATICAL MODELS

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GENERIC NP-INCOMPLETE PROBLEMS

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A MATHEMATICAL MODEL OF CHANGES OF PARAMETERS OF HANDWRITTEN PATTERNS DEPENDING ON THE SIGNERS STATES

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MATHEMATICAL MODELS FOR ESTIMATING PRODUCTION RISKS

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PERSPECTIVES OF SUBJECTS' PSYCHOPHYSIOLOGICAL STATE IDENTIFICATION USING DYNAMIC BIOMETRIC FEATURES

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GENERATION OF A BIOMETRICALLY ACTIVATED DIGITAL SIGNATURE BASED ON HYBRID NEURAL NETWORK ALGORITHMS

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DECIDABILITY OF KNAPSACK PROBLEM FOR BAUMSLAG-SOLITAR GROUP

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ON NP-COMPLETENESS OF SUBSET SUM PROBLEM FOR LAMPLIGHTER GROUP

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LOGICAL ASPECTS OF MACHINE LEARNING

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HIGH-ACCURACY FINITE ELEMENT

Секция 6. Вычислительная математика

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OPTIMIZATION OF ENERGY CONSUMPTION AT THERMAL VACUUM LIQUID EVAPORATION IN THE CLOSED VOLUME

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"REGULAR ELEMENT" GLOBAL SLAE OF THE FINITE ELEMENT METHOD WHEN SIMULATING ELECTROMAGNETIC PROCESSES OF ELECTRIC DEVICES

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THE STUDY OF COMPENSATION FOR CHANGES IN AIR FLOW BY INCREASING THE OXYGEN CONCENTRATION IN A FUEL CELL OXIDIZER

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THE DESCRIPTION OF THE INDUSTRY 4.0 CYBER AND PHYSICAL PRODUCTION DIVISION BASED ON PETRI NET MODELS

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THE RESEARCH OF THE AUTOMATIC TEMPERATURE CONDITION CONTROL SYSTEMS FOR LCD SCREENS OF AVIONICS INDICATION EQUIPMENT

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THE RESEARCH OF STATISTICAL DISTRIBUTION OF THE IMAGE TRISTIMULUS VALUES DISPLAYED ON THE AVIONICS INDICATION EQUIPMENT

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AN APPLICATION OF THE EXPONENTIAL SPLINE FOR THE APPROXIMATION OF A FUNCTION AND ITS DERIVATIVES IN THE PRESENCE OF A BOUNDARY LAYER

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NUMERICAL MODELING OF THE DYNAMICS OF MULTI-STOrey BUILDINGS WITH ELASTOPLASTIC SEISMIC INSULATORS

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ITERATION OF DATABASE RELATIONS FOR QUERIES OF SPECIAL FORM

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SIMULATED ANNEALING FOR COMPETITIVE P-MEDIAN FACILITY LOCATION PROBLEM

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ЧИСЛЕННОЕ МОДЕЛИРОВАНИЕ СТРУКТУРИРОВАНИЯ ПЕЧАТНОЙ КРАСКИ
NUMERICAL STUDY OF PRINTING INK STRUCTURING

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DYNAMIC CONTROL OF TUG-DEBRIS TETHERED SYSTEM AFTER THE CAPTURING OF THE DEBRIS

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NUMERICALLY-ANALYTICAL SOLUTION OF PROBLEM GAMING CONFRONTATION HARDWARE-
REDUNDANT DYNAMIC SYSTEM WITH THE ENEMY OPERATING IN CONDITIONS OF INCOMPLETE
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ANALYSIS OF APPROACHES FOR SYNTHESIS OF NETWORKS-ON-CHIP BY USING CIRCULANT TOPOLOGIES

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RESEARCH AND SOFTWARE DEVELOPMENT USING AR TECHNOLOGY

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GROWING GRAPHS WITH ADDITION OF COMMUNITIES