

2016 2nd International Conference on Industrial Engineering, Applications and Manufacturing (ICIEAM 2016)

**Chelyabinsk, Russia
19-20 May 2016**

Pages 1-595



**IEEE Catalog Number: CFP16F42-POD
ISBN: 978-1-5090-1323-4**

**Copyright © 2016 by the Institute of Electrical and Electronics Engineers, Inc
All Rights Reserved**

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

****** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP16F42-POD
ISBN (Print-On-Demand):	978-1-5090-1323-4
ISBN (Online):	978-1-5090-1322-7

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com

TABLE OF CONTENTS

OPTIMAL CONTROL OF CABLE INSULATION COOLING AT EXTRUSION LINE	1
<i>V. N. Mitroshin ; Y. V. Mitroshin</i>	
USE OF THE IEC 61850 SERIES OF STANDARDS TO CREATE PCS HPP IN RUSSIA	
BACKGROUND AND APPLICATION OPPORTUNITIES	5
<i>A. M. Efremov ; T. Yu Subbotina</i>	
THE COMPARATIVE ANALYSIS OF ELECTRODE CONTROL SYSTEMS OF ELECTRIC ARC	
FURNACES AND LADLE FURNACES.....	11
<i>A. A. Nikolaev ; P. G. Tulupov ; G. V. Astashova</i>	
SIMULATION MODELING OF ROBUST CONTROL SYSTEM FOR NONLINEAR NON-AFFINE	
OBJECTS.....	18
<i>Eugenie L. Eremin ; Evgeniy A. Shelenok</i>	
PROJECT MANAGEMENT FOR DIFFERENT STAKEHOLDERS.....	22
<i>Ya. D. Gelrud ; O. V. Loginovskiy</i>	
THE FORMATION OF IT SYSTEMS OF INDUSTRIAL ENTERPRISES ON THE BASIS OF	
STANDARD DESIGN OPTIONS AND UNIFICATION OF SUBSYSTEM INTERCONNECTION	
MODULES.....	27
<i>O. V. Loginovskiy ; Ya. D. Gelrud ; N. V. Plotnikova</i>	
MODEL-BASED PREDICTIVE CONTROL OF TWIN-ROLL STRIP CASTING THERMAL	
MODE.....	31
<i>M. S. Galdin ; S. M. Andreev</i>	
AUTOMATED SYSTEM FOR PREVENTING ACCIDENTS WITH OPEN-PIT TRANSPORT	36
<i>Ya. L. Liberman ; K. Yu. Letnev</i>	
IMPROVING EFFICIENCY OF ULTRA-HIGH POWER ARC FURNACES WITH THYRISTOR	
CONTROL VOLTAGE OF FURNACE TRANSFORMER	41
<i>I. A. Yakimov ; V. L. Gorokhov</i>	
THE METHOD OF SOLVING THE AUTOMATED CONTROL SYSTEM DESIGN PROBLEM	
THROUGH COMPLICATED TECHNOLOGICAL COMPLEX	46
<i>A. L. Rutkowski ; M. A. Kovaleva ; N. V. Tedeeva</i>	
DETERMINATION OF MINIMUM LEVEL OF AVAILABLE CARRYING CAPACITY OF	
SECTIONS WHERE THE EFFECTIVE USE OF CONNECTED TRAIN FORMATION AND	
DRIVING TECHNOLOGY IS POSSIBLE.....	51
<i>E. A. Sotnikov ; A. T. Osminin</i>	
THE RESEARCH OF SYSTEMS WITH INCOMPLETE INFORMATION IN COMPLEX	
CONTROL OBJECT	54
<i>A. L. Rutkowski ; M. A. Kovaleva ; N. V. Tedeeva</i>	
MAIN FUNCTIONS OF CONTROL SYSTEM OF THE INSTALLATION WITH THE DRIVE	
SUCKER ROD PUMP	58
<i>V. B. Sadov ; N. V. Plotnikova</i>	
THE QUESTION OF THE SOLUTION TO THE PROBLEM OF PREDICTION OF THE	
CRITICAL CONDITIONS.....	62
<i>S. V. Galachieva ; A. M. Kumaritov ; E. A. Sokolova</i>	
THE CONFIGURATION GENERATION PROBLEM FOR THE INFORMATIONAL AND	
CONTROL SYSTEMS WITH THE PERFORMANCE REDUNDANCY.....	66
<i>A. B. Klimenko ; D. I. Ivanov ; E. V. Melnik</i>	
PARAMETERS OF THE QUALITY AND POWER EFFICIENCY OF THE AUTOMATIC	
CONTROLLING THE STEAM BOILER WITH THE INDISTINCT ADAPTATION OF THE PID-	
ADJUSTER IN THE FUZZYTECH'S ENVIRONMENT	71
<i>A. V. Bogdanov ; T. V. Sazonova ; A. V. Bondarev</i>	
SEARCH SYSTEM OF FUEL COMBUSTION CONTROL IN INDUSTRIAL FURNACES	76
<i>S. M. Andreev ; B. N. Parsunkin</i>	
CALCULATION METHOD OF AN UNWINDING MACHINE ELECTRIC DRIVE'S BREAKING	
TORQUE ALTERATION ON A REBAR PRODUCTION LINE	82
<i>I. R. Safin ; S. I. Lukyanov ; E. E. Bodrov</i>	
MANAGING THE SYSTEM OF CIRCULATION OF ELECTROLYTE IN THE PLASMA	
GENERATOR WITH LIQUID ELECTRODES.....	86
<i>A. Kh. Tazmeev ; R. N. Tazmeeva</i>	

ANALYSIS POSSIBILITIES FOR USING FIBER OPTIC SENSORS IN INTELLIGENT BUILDING CONTROL SYSTEM.....	90
<i>I. Yu. Kvyatkovskaya ; G. A. Popov ; Nguyen Xuan Manh</i>	
THE DEVELOPMENT OF COMPLEX NAVIGATION SYSTEM OF THE UNMANNED AERIAL VEHICLE FOR OPERATION IN THE CONDITIONS OF MOUNTAIN TERRITORIES	96
<i>M. M. Buzarov ; S. B. Voloshin ; U. F. Shevrikuko</i>	
MOBILE EXTRUSION MACHINE FOR THE PRODUCTION OF COMPOSITE FILAMENTS FOR 3D PRINTING	100
<i>E. Teterin ; D. Zhuravlev ; D. Berchuk</i>	
AUTOMATED SUPPORT SYSTEM FOR ADMINISTRATION OF STEEL PROCESSING IN THE LADLE FURNACE WITH A FUNCTION OF PROCESS STAFF TRAINING.....	104
<i>M. Yu. Ryabchikov ; E. S. Ryabchikova ; V. V. Grebennikova</i>	
PI-CONTROLLER PARAMETERS TUNING METHOD TO REJECT DISTURBANCES ACTING ON HEATING FURNACES.....	110
<i>Y. I. Eremenko ; A. I. Glushchenko ; A. V. Fomin</i>	
A METHOD OF CONSTRUCTING NEURO-FUZZY CONTROLLER BASED ON ADAPTIVE ALGORITHM OF SELF-ORGANIZING NETWORK TO CONTROL THE ANGLE OF HEEL OF THE UNMANNED AERIAL VEHICLE.....	115
<i>L. Emaletdinova ; A. N. Kabirova ; R. S. Konopelko</i>	
STUDY OF THE EFFICIENCY OF THE CONTROL SYSTEM WITH SMITH PREDICTOR USING A SIMULATOR BASED ON CONTROLLER OWEN PLC.....	120
<i>V. F. Kuzishchin ; E. I. Merzlikina ; Hoang Van Va</i>	
THE CONTROL OF COMPLEX SYSTEMS WITH ACCOUNT OF RELATIONS STABILIZATION	124
<i>N. V. Abramov ; V. F. Dyagilev</i>	
PROVIDING THE INTEGRITY AND AVAILABILITY IN THE PROCESS OF DATA TRANSFER IN THE ELECTRONIC DOCUMENTS MANAGEMENT SYSTEMS OF TRANSPORT-LOGISTICAL CLUSTERS	130
<i>A. Nyrkov ; S. Sokolov ; S. Chernyi ; A. Chernyakov ; A. Karpina</i>	
SYSTEM MODEL ANALYSIS OF THE MANAGEMENT EFFECTIVENESS OF THE TERRITORIAL PRODUCING COMPANY AND CONSIDERING THE INTERRELATIONS WITH THE MACROENVIRONMENT.....	134
<i>A. A. Gavrilova ; A. G. Salov ; D. V. Ivanova</i>	
ALGORITHM OF SET-VALUED STATE ESTIMATION FOR STRAPDOWN INERTIAL NAVIGATION SYSTEMS	140
<i>V. Shiryayev ; E. Podivilova</i>	
DEVELOPMENT OF SOFTWARE FOR SELF-LEARNING TECHNOLOGICAL SYSTEM	146
<i>D. I. Petreshin ; A. V. Handozhko ; O. N. Fedonin</i>	
APPLICATION OF CONSTRAINT STABILIZATION TO NONHOLONOMIC MECHANICS	151
<i>I. E. Kaspirovich</i>	
CONTROL OF SYSTEM DYNAMICS AND CONSTRAINTS STABILIZATION	155
<i>R. G. Mukharlyamov</i>	
AUTOMATED CONTROL SYSTEM OF A FACTORY RAILWAY TRANSPORT BASED ON ZIGBEE.....	161
<i>I. Barankova ; U. Mikhailova ; G. Lukianov</i>	
REFACTORING AS COMPLEXITY DECREASING INSTRUMENT OF REPRESENTATION OF TRAFFIC FLOW MODELS BASED ON CELLULAR AUTOMATA.....	166
<i>A. Shinkarev</i>	
NEW TECHNOLOGY OF RUNWAY FRICTION COEFFICIENT MEASUREMENT AND ITS TOWED IMPLEMENTATION	171
<i>V. V. Putov ; A. D. Stotckaia ; V. N. Sheludko</i>	
APPLICATION OF INDUCTION HEATING PROCESSES OF METAL DEFORMATION.....	176
<i>L. S. Zimin ; A. S. Yeghiazaryan</i>	
SENSORS FOR AUTOMATIC MOISTURE MEASUREMENT OF BULK AND LIQUID MATERIALS	180
<i>O. Bolshunova ; A. Korzhev</i>	
MODELING OF DYNAMICS OF MANIPULATORS WITH GEOMETRICAL CONSRAINTS AS A SYSTEMS WITH REDUNDANT COORDINATES.....	184
<i>A. Ya. Krasinskiy ; E. M. Krasinkaya</i>	
LIGHTING REGULATION CONSIDERING VISUAL FUNCTIONS	190
<i>A. V. Kudryashov ; A. S. Kalinina ; G. N. Yagovkin</i>	

CONTROL SYNTHESIS OF ROBOTIC MANIPULATOR BY LYAPUNOV'S DIRECT METHOD IN CONDITIONS OF INCOMPLETE INFORMATION	193
<i>V. I. Shiriaev ; A. A. Bragina</i>	
NEW MODES OF INCUBATION AND THEIR IMPLEMENTATION METHODOLOGY	198
<i>S. M. Lapeev ; S. V. Gvetadze ; A. P. Pahomov</i>	
MULTI-ZONE PULSE REGULATOR.....	205
<i>O. G. Brylina</i>	
ADAPTIVE NONLINEAR CONTROLLER OF ROTOR POSITION IN ACTIVE HYBRID BEARINGS	209
<i>D. Shutin ; R. Polyakov</i>	
ELLIPTIC COMPONENT ANALYSIS	215
<i>L. S. Kazarinov ; T. A. Barbasova</i>	
ON DEVELOPMENT OF METHOD TO CALCULATE TIME DELAY VALUES OF NEURAL NETWORK INPUT SIGNALS TO IMPLEMENT PI-CONTROLLER PARAMETERS NEURAL TUNER	219
<i>Y. I. Eremenko ; A. I. Glushchenko ; A. V. Fomin</i>	
AUTOMATION OF DIESEL ENGINE TEST PROCEDURE	225
<i>L. A. Galiullin ; R. A. Valiev</i>	
CONTROL OF PRECISION POSITIONING OF LOW RIGID HIGH INERTIA OBJECTS	229
<i>A. D. Lukyanov ; M. S. Minkin ; T. S. Onoyko</i>	
ONE OF POSSIBLE APPROACHES TO ESTIMATE AVAILABILITY OF DISTRIBUTED HARDWARE AND SOFTWARE SYSTEMS	234
<i>D. M. Sonkin ; R. V. Meita ; S. A. Khrul</i>	
PATTERN-DESIGN SOFTWARE OF AUTOMATED CONTROL SYSTEMS	240
<i>R. A. Valiev ; Sh. Sh. Khuzyatov</i>	
METHOD OF PARAMETRIC OPTIMIZATION OF PROGRAM CONTROL ACTIONS IN BOUNDARY VALUE PROBLEMS OF OPTIMAL CONTROL FOR DISTRIBUTED PARAMETER SYSTEMS.....	244
<i>E. Ya. Rapoport ; Yu. E. Pleshivtseva</i>	
ON THE MEASUREMENT NOISES ADAPTATION OF SET-MEMBERSHIP STATE ESTIMATION	249
<i>V. Shiryayev ; D. Khadanovich</i>	
FEATURES OF THE CONTROL SYSTEM OF TECHNOLOGICAL PROCESS OF PRODUCTION OF MECHATRONIC DRIVE BASED ON THE TESTING OF THE MAGNETIC PROPERTIES OF THE STRUCTURAL ELEMENTS.....	254
<i>D. Shaykhutdinov ; R. Leukhin ; I. Stensenko</i>	
THE CONTROL PARAMETERS OF AUTOMATIC CONTROL SYSTEM OF THE PROCESS OF PRODUCING FERROMAGNETIC POWDERS BY PLASMA EROSION OF A METALLIC ANODE.....	257
<i>R. I. Akhmetsagirov ; R. T. Nasibullin</i>	
HIGHLY RELIABLE INFORMATION NETWORK FOR DISTRIBUTED CONTROL SYSTEMS.....	261
<i>A. M. Romanov ; B. V. Slashev ; A. I. Zolotykh</i>	
CONTROL ALGORITHMS OF INELASTIC RESISTANCE FORCES OF HYDROPNEUMATIC SPRINGS.....	266
<i>A. V. Pokhlebin ; A. V. Pozdeev ; I. A. Golyatkin</i>	
REDUCING RESOURCE CONSUMPTION IN HEATING SYSTEMS BY OPTIMIZATION OF THEIR DYNAMICS	272
<i>V. L. Kodkin ; A. A. Baldenkof ; A. Y. Kachalin</i>	
THE CONTROL SYSTEM FOR MECHATRONIC UNIT OF IMPLANTABLE LEFT VENTRICLE ASSIST DEVICE	276
<i>A. Zhdanov ; L. Belyaev ; V. Morozov</i>	
INTELLIGENT CONTENT MANAGEMENT SYSTEM FOR DISCUSSION FORUM	280
<i>A. Kozko</i>	
DISCRETE ROBUST CONTROL ALGORITHM FOR ONE CLASS OF NON-AFFINE NONLINEAR SISO SYSTEMS	284
<i>E. L. Eremin ; E. A. Shelenok</i>	
THE AUTOMATIC DIAGNOSTIC SYSTEM OF GAS WELL FLOODING	289
<i>M. Yu. Prakhova ; A. N. Krasnov ; E. A. Khoroshavina</i>	
RESEARCH OF VECTOR-PULSE START SYSTEM OF SYNCHRONOUS MOTOR WITH INTERMEDIATE TRANSFORMER AND SENSORLESS DETERMINATION OF ANGULAR ROTOR POSITION WITH MATHEMATICAL METHODS.....	293
<i>S. N. Baskov ; K. V. Litsin</i>	

PRINCIPLES OF CONSTRUCTION OF CONTROL DEVICES FOR MECHATRONIC PIPE-LAY COMPLEXES	297
<i>M. E. Shoshiashvili ; I. S. Shoshiashvili</i>	
AUTONOMOUS OMNI-WHEELED MOBILE ROBOTS	301
<i>K. V. Ignatiev ; M. M. Kopichev ; A. V. Putov</i>	
SERVODRIVE ROBOTIC DEVICES LOAD LIMIT	305
<i>E. Ya. Omelchenko ; S. S. Enin ; V. Ya. Proskurin</i>	
ON MODELING OF THE DYNAMICS OF A MOBILE MANIPULATOR AS A MECHATRONIC SYSTEM.....	309
<i>M. Je. Krasinskaja ; A. N. Ilyina ; A. S. Rukavishnikova</i>	
THE SIMPLE HYDRAULIC DRIVE MODEL OF THE TYPICAL INDUSTRIAL MECHATRONIC SYSTEM.....	313
<i>S. S. Voronin ; E. A. Maklakova ; V. R. Gasiyarov ; A. S. Maklakov</i>	
PROBLEMS OF INTERNAL CALIBRATION OF PRECISION LASER TRIANGULATION 2D SCANNERS.....	318
<i>D. S. Lavrinov ; A. I. Khorkin</i>	
BASIC CONCEPTS OF POWER ANTHROPOMORPHIC GRIPPERS CONSTRUCTION AND CALCULATION	322
<i>I. M. Kutlubayev ; I. G. Zhydenko ; A. A. Bogdanov</i>	
APPLICATION OF METHOD OF THE SLIDING AVERAGING FOR TRUCK LOADER CRANE INSTALATION MANAGEMEMENT SYSTEM HANDHOLDS POSITION SENSORS INDICATIONS PROCESSING	326
<i>V. V. Kiselev ; V. D. Volodin ; A. A. Sharonov</i>	
DESIGN AND IMPLEMENTATION OF A VISION-BASED CONTROL FOR A BALL AND PLATE SYSTEM	329
<i>Salah Reda Bdoor ; Osama Ismail ; Magdy Raouf Roman ; Yehia Hendawi</i>	
DEVELOPMENT CONTROL FOR AN INDIVIDUAL-WHEEL-DRIVE VEHICLE	333
<i>A. D. Chernyshev ; A. S. Kulmukhametova</i>	
SIMULTANEOUS LOCALIZATION AND MAPPING IN UNKNOWN ENVIRONMENT USING DYNAMIC MATCHING OF IMAGES AND REGISTRATION OF POINT CLOUDS.....	337
<i>A. Vokhmintsev ; M. Timchenko ; K. Yakovlev</i>	
TRACKING AMPLITUDE RESOLVER-TO-DIGITAL CONVERTERS	343
<i>Y. S. Smirnov ; E. V. Yurasova ; V. V. Safronov</i>	
FUZZY CONTROL SYSTEM OF ROBOT ANGULAR ATTITUDE	349
<i>M. V. Bobyr ; S. A. Kulabukhov ; N. A. Milostnaya</i>	
FUZZY ALGORITHM OF A MOBILE ROBOT'S MOTION	355
<i>M. V. Bobyr ; A. S. Yakushev ; N. A. Milostnaya</i>	
VECTOR FORM DESCRIPTION OF HYDRAULIC CYLINDERS INTERACTION WITH LINKS OF ACTUATING UNIT	360
<i>I. Bagautdinov ; E. Bogdanov ; S. Zhilin ; E. Zhuravlev</i>	
IMPROVEMENT OF METROLOGICAL CHARACTERISTICS OF THE LASER PATTERN GENERATORS WITH CIRCULAR SCANNING MODE BY THE USE OF HYBRIDE ANGULAR ENCODER	364
<i>A. V. Kiryanov ; V. P. Kiryanov</i>	
USAGE OF THE SOLAR RADIATION POTENTIAL IN THE REPUBLIC OF BASHKORTOSTAN OF RUSSIAN FEDERATION.....	369
<i>V. Vavilov ; R. Aflyatonov ; A. Yakupov</i>	
RESEARCHES OF INDICATORS RELIABILITY AND PROBABILISTIC CHARACTERISTICS OF ELEMENTS ELECTRIC EQUIPMENT OF SHOP ELECTRIC NETWORKS	374
<i>E. I. Gracheva ; O. V. Naumov</i>	
APPLICATION OF MULTI AGENT IN SOLVING PROBLEMS FOR OPERATION OF A SMART GRID.....	378
<i>Y. Kubarkov ; Ya. Makarov</i>	
ACCOUNTING FOR THE LONGITUDINAL REGIMES OF ASYMMETRY TO DESIGNING THE BACKUP PROTECTION OF POWER DISTRIBUTION GRID.....	382
<i>I. V. Nagay ; V. I. Nagay ; P. S. Kireev</i>	
EVALUATION METHOD OF THE SPATIAL CONFIGURATION OF INDUCTION INTERFERENCE	385
<i>E. D. Berezkin ; V. I. Nagay ; S. V. Sarry</i>	
DEVELOPMENT OF MATHEMATICAL MODELS OF DIGITAL PROTECTION DEVICES FROM A SINGLE PHASE EARTH FAULTS IN NETWORKS WITH VOLTAGE 6-10 KV	390
<i>B. B. Utegulov</i>	

SERVICING OF THE 500 KV TRANSMISSION LINES WITH THE USE OF CALCULATE CARDS OF INTENSITY DISTRIBUTION IN ELECTRIC FIELD OF INDUSTRIAL FREQUENCY.....	394
<i>S. Sh. Tavarov ; A. I. Sidorov ; V. Yu. Medvedeva</i>	
EXPEDIENCY OF DISAGGREGATION OF WORKSHOP TRANSFORMER SUBSTATIONS.....	398
<i>O. Iontseva ; T. Ancharova</i>	
DEVELOPMENT OF THERMAL EQUIVALENT CIRCUITS FOR CALCULATING THE TEMPERATURE TRANSIENTS OF UNDERGROUND HVCL WITH XLPE INSULATION.....	403
<i>E. S. Zaytsev</i>	
SOLAR POWERED FREE-PISTON STIRLING — LINEAR ALTERNATOR MODULE FOR THE LUNAR BASE	409
<i>E. Y. Loktionov ; A. A. Martirosyan ; M. D. Shcherbina</i>	
THE SYSTEM OF DETERMINING THE FAULT CONNECTION IN THE DISTRIBUTION NETWORK.....	415
<i>V. A. Oshchepkov ; L. V. Vladimirov ; D. V. Batulko</i>	
REMOTE CONTROL DETERMINING THE LOCATION OF POWER LINES DAMAGED WITH SINGLE PHASE GROUND FAULT	420
<i>V. A. Oshchepkov ; V. N. Gorunov ; L. V. Vladimirov</i>	
INCREASING POWER SUPPLY EFFICIENCY BY USING RENEWABLE SOURCES.....	425
<i>S. K. Sheryazov ; O. S. Ptashkina-Girina</i>	
DEVELOPMENT OF ALGORITHMS OF INTERACTION BETWEEN ELECTRONIC INSTRUMENT TRANSFORMER AND SUBSTATION AUTOMATION SYSTEM.....	429
<i>D. V. Topolskiy ; N. D. Topolskiy ; E. V. Solomin</i>	
WIND AND DIESEL PARALLELED GENERATORS CHARACTERISTICS OF OPERATING PARAMETERS	435
<i>V. N. Kostin ; A. A. Belsky</i>	
THE EVOLUTION OF DECISION MAKING ABOUT BUILDING ELECTRICAL SYSTEMS.....	439
<i>G. R. Titova</i>	
ITERATIVE TECHNIQUES FOR ASSESSMENT OF ELECTRICAL POWER SYSTEM STRUCTURAL RELIABILITY	443
<i>V. Oboskalov ; G. Sergey</i>	
SHORT-TERM FORECASTING USING FUZZY NEURAL NETWORK ACCOUNTABILITY AIR TEMPERATURE AND NATURAL LIGHTING.....	450
<i>I. Nadtoka ; S. Vyalkova</i>	
HARMONIC PHENOMENA OF TYPICAL LOW-DISTORTION RESIDENTIAL EQUIPMENT	454
<i>S. Yanchenko</i>	
INCREASING THE EFFICIENCY AND SPEED OF THE SUBMODES ANALYSIS OF SHORT CIRCUITS.....	460
<i>W. G. Goldstein</i>	
SOFTWARE AND HARDWARE SIMULATION TOOLS OF AUTOMATIC LOAD-FREQUENCY CONTROL SYSTEM.....	466
<i>N. Yu. Ruban ; M. V. Andreev ; S. Yu. Borovikov</i>	
ENERGY CONSUMPTION POWERED BY GRAPHICS PROCESSING UNITS (GPU) IN RESPONSE TO THE NUMBER OF OPERATING COMPUTING UNIT	470
<i>I. K. Huzmiev ; Z. Ah. Chipirov</i>	
DEVELOPMENT OF THE ALGORITHM FOR DETERMINING LOCATIONS BREAKING THE ELECTRICAL NETWORK.....	474
<i>V. Vukolov ; I. Trapeznikov ; D. Zyrin ; A. Loskutov</i>	
RECONSTRUCTION VARIANTS RELIABILITY ESTIMATION OF INDUSTRIAL AREA POWER SUPPLY SYSTEM	480
<i>O. Kotov ; E. Kotova</i>	
ANALYSIS AND EVALUATION OF THE APPROPRIATENESS OF THE USE OF COGENERATION BIOGAS PLANTS.....	484
<i>L. P. Sumarokova ; V. A. Ershov</i>	
TO THE CHOICE OF THE PRINCIPLE FUNCTIONING DIAGNOSTIC SYSTEM OF DIGITAL SUBSTATIONS	490
<i>V. Dubrov ; R. Oganyan ; D. Shaykhutdinov</i>	
A NEW METHOD OF TAKING MANAGEMENT DECISIONS AT DESIGNING AND DEVELOPING ELECTRIC POWER SYSTEMS	494
<i>I. Z. Shahmaev ; B. M. Gaisin ; O. V. Shiryaev</i>	
RESEARCH OF VOLTAGE AND POWER SOLID-STATE REGULATOR IN 6–20 KV NETWORK	497
<i>E. Sosnina ; A. Asabin ; A. Kralin ; R. Bedretdinov</i>	

THEORETICAL AND EXPERIMENTAL STUDIES OF THE EFFECTIVENESS OF AN ELECTROSTATIC AIR CLEANING FILTER.....	502
<i>A. G. Vozmilov ; R. Yu. Ilimbetov ; D. V. Astafev</i>	
DEVELOPMENT OF THE MATHEMATICAL MODEL OF VERMICOMPOSTING PROCESS.....	508
<i>M. Vyguzova ; A. Ilyin ; A. Kudriashova</i>	
DEFINING THE INSTANTANEOUS POWER OF ALTERNATING CURRENT DURING ELECTROMECHANICAL TRANSIENTS	512
<i>D. I. Bliznyuk ; P. Y. Kovalenko ; A. S. Berdin</i>	
SECURITY ANALYSIS VIA THE MOST VALUABLE ELEMENTS REVEALING.....	517
<i>D. Ignatiev ; V. Fedyushin ; S. Gusev</i>	
RESEARCH ON THE PERFORMANCE OF THE CONTROLLED ARC SUPPRESSION REACTORS IN 6–35 KV ELECTRIC DISTRIBUTION NETWORKS.....	521
<i>D. A. Matveev ; S. I. Khrenov ; A. V. Zhuykov</i>	
INTERVAL CRITERION OF THE STEADY-STATE OF THE TRANSIENT IN THE MEASURING CIRCUIT.....	525
<i>A. Lupachev ; I. Sapelkin ; A. Smagin</i>	
ALTERNATE SOURCES OF ENERGY BASED ON THE OBJECTS OF MINING ENTERPRISES.....	529
<i>S. E. Gavrishev ; I. A. Pytalev ; I. V. Gaponova</i>	
DEVELOPMENT OF METHODS FOR CALCULATING THE AGGRESSIVE GAS CONTENT IN CONDENSATE AT THE OUTPUT FROM A STEAM TURBINE CONDENSER.....	534
<i>A. Shempelev ; P. Iglin</i>	
STUDY OF POSSIBILITY OF DIGITAL VOLTAGE TRANSFORMERS USAGE IN FAULT LOCATION DETERMINATION.....	538
<i>V. Shuin ; V. Lebedev ; G. Filatova</i>	
THE USAGE OF OZONE IN AGRICULTURE TECHNOLOGICAL PROCESSES	542
<i>A. G. Vozmilov ; R. Yu. Ilimbetov ; D. V. Astafev</i>	
SINGLE-PHASE EARTH FAULT LOCATION IN A BRANCHED DISTRIBUTION NETWORK 6–35 KV OF OVERHEAD LINES.....	546
<i>A. A. Krasnykh ; I. L. Krivoshein ; A. L. Kozlov</i>	
USING AN ABSORPTION HEAT PUMP IN THE REGENERATION SYSTEM OF TURBINE MODEL K-300-240-2 MANUFACTURED BY KHARKOV TURBO GENERATOR PLANT (KHTGP).....	550
<i>S. V. Skubienko ; I. V. Yanchenko ; A. Yu. Babushkin</i>	
METHODS OF EFFECTIVE USE OF SOLAR POWER SYSTEM.....	554
<i>S. G. Obukhov ; I. A. Plotnikov ; S. K. Sheryazov</i>	
MULTICOORDINATE VIBRATION SENSOR FOR CARGO CONDITION MONITORING	560
<i>V. Vavilov ; F. Ismagilov ; A. Yakupov</i>	
CENTRALIZE ICE MELTING CONTROLLED SYSTEM	564
<i>A. Zasyppkin ; A. Shchurov</i>	
UNIVERSAL MATHEMATICAL MODEL OF HYDRAULIC AND STEAM PRIME MOVERS.....	569
<i>M. V. Andreev ; A. O. Sulaymanov ; S. Yu. Borovikov</i>	
CURRENTS IN THE SYNCHRONOUS CONDENSER WINDINGS AT TURN-TO-TURN FAULT IN THE ROTOR WINDING	575
<i>A. N. Novozhilov ; A. M. Akayev ; T. A. Novozhilov</i>	
SPEED CONTROL OF REMELTING IN THE ELECTROSLAG PROCESS BY CHANGING THE ROTATION SPEED CONSUMABLE ELECTRODE.....	579
<i>V. I. Chumanov ; I. V. Chumanov</i>	
COMPARISON AND CHOICE OF MEASURES TO IMPROVE THE RELIABILITY OF DISTRIBUTION GRID COMPANIES	583
<i>Felix Byk ; L. Myshkina</i>	
FIELD AND SIMULATION STUDY OF THE HYDRODYNAMIC HEATER FOR FLUID ENVIRONMENTS	588
<i>Breido Joseph ; A. Kalinin ; N. Tomilova</i>	
THE SYSTEM FOR DESIGNING STOPE FACE POWER SUPPLY AND COAL MINE ELECTRICAL SERVICES STAFF KNOWLEDGE CONTROL.....	592
<i>G. Parshina ; B. Feshin</i>	
INVESTIGATIONS OF POSSIBLE USING A GENERALIZED FUZZY INTERVAL FOR ANALYZING OPERATING CONDITIONS OF POWER EQUIPMENT AT HYDROPOWER PLANTS	596
<i>A. Yu. Sekretarev ; V. Ya. Panova</i>	

ANALYZES OF HIGH HARMONICS GENERATION AND POWER LOSSES OF LOW POWER CONSUMERS WITHIN 1000 V NETWORKS	602
<i>V. Ya. Olhovskiy ; S. V. Myateg ; T. V. Myateg</i>	
HARMONIC COMPOSITION OF THE RECTIFIED CURRENT IN TRACTION SUBSTATIONS WHEN USING DIFFERENT RECTIFIER CIRCUITS	608
<i>K. Kuznetsov ; A. Zakirova</i>	
THE APPLICATION OF NEW EFFECTIVE WAYS TO REDUCE LOSSES OF ELECTRIC ENERGY AND POWER IN NATIONAL DISTRIBUTIVE ELECTRIC NETWORKS	612
<i>A. Y. Andreev ; L. M. Inahodova ; A. A. Kazantsev</i>	
MEASURE OF RELIABILITY TOOLS FOR SIMULATING ELECTRIC POWER SYSTEMS AND ALTERNATIVE APPROACH OF THEIR VERIFICATION	616
<i>A. Gusev ; A. Suvorov ; A. Sulaymanov</i>	
EVALUATION OF THE ACTUAL EFFECTIVENESS OF ENERGY-SAVING DEVICES BASED ON ARTIFICIAL INTELLIGENCE	620
<i>V. T. Cheremisin ; V. V. Erbes ; A. A. Komyakov</i>	
APPLICATION OF LEAST SQUARE METHOD FOR HEAT BALANCE EQUATION SOLVING OF OVERHEAD LINE CONDUCTORS IN CASE OF NATURAL CONVECTION	624
<i>S. S. Girshin ; E. A. Kuznetsov ; E. V. Petrova</i>	
METHOD TO PROTECT LINES OF TWO CABLES FROM SINGLE PHASE-TO-EARTH FAULT	629
<i>A. Novozhilov ; Zh. Issabekov ; T. Novozhilov</i>	
DIAGNOSTICS SYSTEM IMPROVEMENT OF TURN-TO-TURN SHORT CIRCUITS OF SYNCHRONOUS GENERATOR ROTOR WINDING	632
<i>V. I. Polishchuk ; D. A. Gnetova</i>	
RESEARCH OF WATER-POWER PARAMETERS OF SMALL HYDROPOWER PLANTS IN CONDITIONS OF MOUNTAIN TERRITORIES	636
<i>R. V. Klyuev ; I. I. Bosikov</i>	
ACCELERATED POWER SYSTEMS POWER FLOW CALCULATIONS USING PHASOR MEASUREMENTS	641
<i>P. Bartolomey ; S. Semenenko</i>	
MULTICRITERIA OPTIMIZATION OF THE HIGH-SPEED MAGNETOELECTRIC GENERATOR ON HYBRID MAGNETIC BEARINGS	646
<i>F. Ismagilov ; V. Vavilov ; O. Yushkova</i>	
THE MODEL OF DISTRIBUTION GRIDS STATE ESTIMATION AND OPTIMIZATION BASED ON THE ENERGY BALANCES EQUATIONS	652
<i>N. D. Mukhlynin ; A. V. Pazderin</i>	
DECISION SUPPORT SYSTEM FOR HYDRO UNIT COMMITMENT	656
<i>U. A. Sekretarev ; S. V. Mitrofanov</i>	
MULTICHANNEL RADAR CONTROL OF ICING ON WIRES OVERHEAD TRANSMISSION LINES	660
<i>R. G. Minullin ; V. A. Kasimov ; M. R. Yarullin</i>	
COMPARISON OF RADAR EQUIPMENT READINGS AND WEIGHT SENSORS INDICATIONS DURING ICE DEPOSITS DETECTION ON OVERHEAD TRANSMISSION LINES	666
<i>R. G. Minullin ; V. A. Kasimov ; M. R. Yarullin</i>	
IMPROVING ENERGY EFFICIENCY OF POWER SUPPLY SYSTEM FOR A NEW FAR PERSPECTIVE MULTIPLE-WELL PLATFORMS OF OIL FIELD	671
<i>G. V. Malgin ; A. V. Veynblat ; A. V. Schekochikhin</i>	
OPTIMIZATION OF LONG-TERM MODES OF HYDROPOWER PLANTS OF THE ENERGY SYSTEM OF TAJIKISTAN	675
<i>Yu. Sekretarev ; Sh. Sultonov ; M. Nazarov</i>	
A METHOD OF ACCOUNTING FOR FUZZY OPERATIONAL FACTORS INFLUENCING 6(10) KV POWER CABLE INSULATION LONGEVITY	680
<i>A. V. Korzhov ; M. E. Korzhova</i>	
ENERGY EFFICIENCY OF PHOTOVOLTAIC POWER PLANTS IN STAND-ALONE POWER SUPPLY SYSTEMS	684
<i>B. V. Lukutin ; E. B. Shandarova ; I. L. Fuks</i>	
DEVELOPMENT OF RAIL ROADS HEALTH MONITORING TECHNOLOGY REGARDING STRESSING OF CONTACT-WIRE CATENARY SYSTEM	689
<i>D. Efanov ; G. Osadtchy ; D. Sedykh</i>	
OVERHEAD LINES OPTIMAL CROSS-SECTION CHOICE IN THE TASK OF INDUSTRIAL POWER SYSTEMS ENGINEERING	694
<i>A. V. Varganova ; E. A. Panova ; N. T. Patshin</i>	

COMPUTATION OF CALCULATED MEASUREMENTS VALUES WITH HIGHER ACCURACY COMPARING TO MEASUREMENTS THEMSELVES.....	698
<i>E. Kochneva ; Aleksandar Sukalo</i>	
ANALYSIS OF DYNAMIC THERMAL RATING OF OVERHEAD POWER LINES IN THE CONDITIONS OF FORCED CONVECTION CONSIDERING NON-LINEARITY OF HEAT TRANSFER PROCESSES.....	703
<i>S. S. Girshin ; A. Ya. Bigun ; E. V. Petrova</i>	
METHOD OF DIRECT COORDINATEWISE DISCRETE OPTIMIZATION IN CHOOSING THE OPTIMAL NORMAL OPEN POINTS IN DISTRIBUTION GRIDS	709
<i>N. D. Mukhlynin ; M. Yu. Komlev</i>	
THE APPLICATION OF WAVELET TRANSFORM FOR IDENTIFICATION OF SINGLE PHASE TO EARTH FAULT IN POWER SYSTEM	714
<i>V. N. Goryunov ; D. S. Osipov ; N. N. Dolgikh</i>	
THE INFLUENCE OF ELECTRICAL EQUIPMENT INSULATION AGING DEGREE ON THE GROWTH RATE OF PARTIAL DISCHARGES POWER.....	720
<i>E. M. Fedosov ; R. R. Sattarov ; T. A. Volkova</i>	
APPLICATION OF DIAKOPTICS METHOD FOR INDUSTRIAL ENTERPRISE'S ELECTRICAL CIRCUITRY DECOMPOSITION BY COMMUNICATIONS NODES IN THE MODE CALCULATION OF HIGHER HARMONICS.....	724
<i>A. N. Ozhegov ; L. V. Derendyaeva ; L. V. Dubovtseva</i>	
ECONOMIC FEASIBILITY STUDY OF THE 20 KV VOLTAGE APPLICATION AT INDUSTRIAL ENTERPRISES.....	728
<i>V. V. Cherepanov ; N. S. Bakshaeva ; I. A. Suvorova</i>	
ON THE ISSUE OF PERIODICITY OF NON-DESTRUCTIVE EXAMINATION OF URBAN ELECTRIC CABLE LINES.....	733
<i>V. G. Basmanov ; A. A. Zakalata ; V. M. Kholmanskikh</i>	
ESTIMATION OF ACCURACY OF CHOSEN SVC POWER FOR STEEL-MAKING ARC FURNACE.....	738
<i>A. A. Nikolaev ; V. V. Anokhin ; I. A. Lozhkin</i>	
RESEARCH OF ISOLATED ELECTRICAL SYSTEMS STABILITY WITH WIND-DIESEL HYBRID POWER STATIONS.....	743
<i>E. Sosnina ; A. Shalukho ; I. Lipuzhin</i>	
POWER LEVELING IN THE PARALLEL WORK OF MODULAR ENERGY SOURCES	748
<i>A. V. Yudin ; A. V. Manin ; V. V. Yudin</i>	
ACTIVE AND ADAPTIVE ALGORITHMS OF AUTONOMOUS WIND POWER PLANTS CONTROL AND MONITORING	752
<i>O. V. Kryukov ; A. V. Serebryakov</i>	
CLASSICAL AND BEHAVIORAL DECISION MODELS USING IN THE CONTEXT OF ELECTRICAL POWER SYSTEMS DEVELOPMENT	756
<i>A. Kostin ; P. Mezentsev ; V. Oboskalov</i>	
THE MEANS OF LOSSES REDUCTION AND ELECTRIC LINES OPERATION RELIABILITY INCREASE	760
<i>S. Maksimov ; S. Trofimova ; A. Maksimova</i>	
SIMPLIFIED SOLAR PANEL MODELING IN MATLAB/SIMULINK CONSIDERING BASHKORTOSTAN REPUBLIC (RUSSIA) ENVIRONMENT CHARACTERISTICS.....	764
<i>T. R. Teregulov ; B. Sharifov ; A. R. Valeev</i>	
THE CENTRALIZED SYSTEM OF RELAY PROTECTION AND AUTOMATION FOR SUBSTATIONS OF MEDIUM VOLTAGE.....	768
<i>I. N. Lizunov ; R. Sh. Misbakhov ; I. Z. Bagautdinov</i>	
ADAPTIVE CONTROL OF TRANSFER SWITCHES AND SYNCHRONOUS MOTORS SELF- STARTING AT OIL PUMPING STATIONS.....	774
<i>V. A. Shabanov ; V. Y. Alekseev ; R. Z. Yusupov</i>	
EMERGENCY BRAKING SYSTEM FOR THE WIND TURBINE.....	779
<i>E. A. Sirotkin ; A. S. Martyanov ; E. V. Solomin ; S. V. Kozlov</i>	
CONTROLLED SWITCHING FOR A GROUP OF INDUCTION MOTORS.....	783
<i>D. A. Pavlyuchenko ; A. A. Achitaev ; D. E. Shevtsov</i>	
ALGORITHMS OF IDENTIFYING REQUIRED REDUCED VOLTAGE FLUCTUATION RATE FOR FLICKER NORMALIZATION	789
<i>K. E. Lisitskiy ; A. V. Strumelyak</i>	
FORECASTING AND SIMULATION OF ELECTRICAL LOADS IN DECENTRALIZED ZONES IN RUSSIA	795
<i>S. G. Obukhov ; Ye. Zh. Sarsikeyev ; I. I. Sholokhova</i>	

TEST STANDARD SAMPLES FOR CORROSION CONCRETE SUPPORTS BY SPECTRAL ANALYSIS METHODS.....	799
<i>A. A. Kuznetsov ; O. S. Buchelnikova ; M. A. Kuznetsova</i>	
OPTIMIZATION OF AUTOMATIC REGULATOR SETTINGS OF THE DISTRIBUTED GENERATION PLANTS ON THE BASIS OF GENETIC ALGORITHM.....	803
<i>N. Yu. Bulatov ; A. V. Kryukov</i>	
PROTECTION OF OVERHEAD LINES WITH VOLTAGE OF 380 V FROM THE SINGLE-PHASE SHORT CIRCUITS.....	809
<i>A. M. Ershov ; G. S. Valeev ; R. G. Valeev</i>	
FERRORESONANCE SUPPRESSION IN DISTRIBUTION NETWORKS	813
<i>Y. N. Ryzhkova ; S. A. Tsyruk</i>	
ON THE POSSIBILITIES OF USING DEMAND-SIDE MANAGEMENT APPROACH FOR THE POWER MARKET CONTROL IN RUSSIAN FEDERATION	817
<i>S. A. Tsyruk ; D. A. Senchuk ; B. I. Kudrin</i>	
RENEWABLE ENERGY SOURCES FOR PERSPECTIVE INDUSTRIAL CLUSTERS DEVELOPMENT	821
<i>S. A. Eroshenko ; V. O. Samoylenko ; A. V. Pazderin</i>	
SOLAR TRACKER WITH ACTIVE ORIENTATION.....	826
<i>A. S. Petrusev ; V. M. Rulevskiy ; Ye. Zh. Sarsikeyev ; D. Yu. Lyapunov</i>	
SIBERIAN FEDERAL DISTRICT BALANCE OF ELECTRIC ENERGY.....	830
<i>G. N. Klimova ; V. K. Leonova</i>	
ASSESSMENT OF INFLUENCE PARAMETERS OF ELECTRIC EQUIPMENT AT A SIZE OF LOSSES THE ELECTRIC POWER IN INTRA FACTORY NETWORKS OF LOW VOLTAGE	836
<i>O. V. Fedorov</i>	
THE ENERGY EFFICIENCY OF PHOTOVOLTAIC POWER PLANTS	840
<i>I. M. Kirpichnikova ; A. A. Maliugina</i>	
ANALYSIS OF DIFFERENT TOPOLOGICAL STRUCTURES OF ELECTRIC POWER DISTRIBUTION FOR THE CITIES AND ELABORATION OF METHOD OF REDUCING VALUE OF THE SHORT-CIRCUIT CURRENT BASED ON ALGORITHM OF DIVIDING NETWORK	843
<i>A. Loskutov ; A. Loskutov ; D. Zyrin ; V. Vukolov</i>	
A PROPOSAL OF DOUBLY-FED ALTERNATOR FOR WINDMILL APPLICATION	849
<i>S. Gandzha ; I. Kiessh</i>	
STUDIES OF DYNAMIC STABILITY OF NODES OF ELECTRIC POWER SYSTEMS WITH ASYNCHRONOUS LOADING TAKING INTO ACCOUNT HIGHER HARMONICS	852
<i>D. S. Osipov ; A. A. Plankov ; E. V. Rumyantseva</i>	
MODELING OF BATTERY CHARGING ALGORITHMS	857
<i>A. S. Martyanov ; D. V. Korobatov ; E. A. Sirotkin</i>	
RESEARCH OF IGBT-TRANSISTOR IN PULSE SWITCH	861
<i>A. S. Martyanov ; D. V. Korobatov ; E. V. Solomin</i>	
POLYGRAPH REGISTRATION OF BRAIN RESPONSE TO MAGNETIC FIELD OF POWER-LINE FREQUENCY	865
<i>S. M. Korobeynikov ; M. S. Akramova ; B. K. Akramov</i>	
MATHEMATICAL AND PHYSICAL MODELING OF ARC TRANSIENT RESISTANCE FOR RELAY PROTECTION OPERATING ESTIMATION	869
<i>P. S. Kireev ; S. V. Sarry</i>	
“VIRTUAL” POWER LINE METHOD TO CORRECT THE CALCULATION OF CURRENT GROUND FAULTS IN THE PARALLEL OVERHEAD TRANSMISSION LINES 110–220 KV.....	873
<i>A. V. Ukraintsev ; I. V. Nagay</i>	
IDENTIFICATION OF PROBABILITY CHARACTERISTICS OF THE LAWS OF DISTRIBUTION LOW-VOLTAGE DEVICES SHOP NETWORKS	877
<i>E. I. Gracheva ; O. V. Naumov</i>	
EXAMINING FERRORESONANCE PHENOMENA IN CIRCUITS WITH CLOSED AND OPEN CORE VOLTAGE TRANSFORMERS.....	881
<i>V. Lebedev ; A. Yablokov</i>	
POWER EQUIPMENT TECHNICAL STATE ASSESSMENT BASED ON STRUCTURAL RELIABILITY CHARACTERISTICS	886
<i>A. I. Khalyasmaa ; V. Ya. Sandakov ; A. S. Semerikov</i>	
WIND TURBINE ROTOR MAGNETIC LEVITATION.....	891
<i>S. V. Kozlov ; E. A. Sirotkin ; E. V. Solomin</i>	
THE IMPACT OF LOAD, COMPRISING ASYNCHRONOUS MOTORS, ON THE NEGATIVE-SEQUENCE CURRENTS IN THE GENERATOR CIRCUIT IN UNBALANCED CONDITIONS.....	895
<i>R. A. Vainshtein ; N. V. Kolomiets ; V. V. Shestakova</i>	

CALCULATION OF PHYSICAL AND CHEMICAL PROCESSES IN TPP — OPEN HEAT NETWORK AS DISPLACEMENT REACTOR MODEL WITH RECYCLE.....	899
<i>A. I. Lyapin ; A. A. Chichirov ; N. D. Chichirova</i>	
BASIC APPROACHES TO IMPLEMENTATION OF FACTS DEVICES CONTROL SYSTEM TAKING INTO ACCOUNT ELECTRICAL SYSTEM MODE OPTIMIZATION.....	904
<i>S. Y. Dolinger ; A. G. Lyutarevich ; A. A. Plankov</i>	
PRINCIPLE OF DEFINING THE COMPATIBLE CELLS FOR BATTERY BASED ON CLUSTERING THE GENERALIZED FEATURE	908
<i>A. V. Sedov ; D. A. Onyshko ; S. M. Lipkin</i>	
ADAPTING AND IMPROVING THE ACCURACY OF FAULT LOCATION ALGORITHMS ON POWER TRANSMISSION LINES ON THE BASIS OF STATISTICAL SIMULATION	912
<i>A. L. Kulikov ; M. D. Obalin ; V. U. Vukolov ; D. I. Bezdushniy</i>	
SPECIAL ZERO-SEQUENCE CURRENT TRANSFORMERS TO DETERMINE FAULT CONNECTION IN MEDIUM VOLTAGE NETWORKS	917
<i>D. V. Batulko ; K. I. Nikitin ; A. Ya. Bigun</i>	
TRANSFORMATION OF ZERO-SEQUENCE ELECTRIC QUANTITIES FOR PROTECTION AGAINST LINE-TO-GROUND FAULT IN THE NETWORKS WITH VARIOUS NEUTRAL GROUNDING MODES	922
<i>S. N. Pashkovskiy ; R. A. Vainstein ; S. M. Yudin</i>	
DEVELOPMENT OF PERMANENT MAGNET MOTOR CALCULATION TECHNIQUE	927
<i>A. G. Lyutarevich ; S. Y. Dolinger ; A. A. Plankov</i>	
ENERGY-EFFICIENT DRIVE SYSTEM FOR LIFT-AND-CARRY TRANSFER MECHANISMS	932
<i>A. S. Ivanov ; P. R. Nusratov ; A. S. Timofeev ; O. V. Gromova</i>	
SYNCHRONOUS MOTOR WITH RING WINDINGS ELECTROMAGNETIC TORQUE CALCULATION ALGORITHM WITH ANSYS PACKAGE USAGE	937
<i>I. V. Malygin ; A. T. Plastun</i>	
THE STUDY OF DYNAMIC CHARACTERISTICS OF AN ELECTRIC DRIVE OF CENTRIFUGAL PUMP WITH TAKING INTO ACCOUNT TOOTH HARMONICS OF INDUCTION MOTOR	941
<i>O. A. Lysenko</i>	
THE STUDY AND CALCULATION OF MAGNETIC FIELD OF THE DC ELECTROMAGNET WITH THE SPLIT POLES AND POLAR TIPS.....	945
<i>A. A. Tatevosyan ; A. S. Tatevosyan ; N. N. Zaharova</i>	
THE SECOND ORDER POLYNOMIAL LOAD MODEL IMPACT ON STABILITY OF THE SYNCHRONOUS MOTOR.....	949
<i>N. L. Batseva ; A. Yur. Shuvalov</i>	
DEVELOPMENT ALGORITHMS OF OPTIMAL STATIONARY IMPULSE MODELS OF MULTIPHASE MULTI-BRIDGE KEY TRANSDUCERS	954
<i>G. Zezyulkin ; A. Gordilovskiy</i>	
HARDWARE-SOFTWARE SYSTEM TEST BENCH FOR STUDIES OF A RECIPROCATING ELECTRICAL MACHINE	958
<i>A. N. Tsvetkov ; A. R. Safin ; R. R. Gibadullin</i>	
SYSTEM OF NEURAL NETWORK CONTROL AND PREDICTION TECHNICAL CONDITIONS ELECTROMECHANICAL SYSTEMS	962
<i>D. M. Shprekher ; G. I. Babokin ; E. B. Kolesnikov</i>	
ELECTROMAGNETIC RESTORING FORCES IN LOW ENERGY ELECTROMECHANICAL VIBRATION GENERATORS	966
<i>R. R. Sattarov ; F. R. Ismagilov ; N. L. Babikova</i>	
SELF-CONTROLLED DRIVE ACCORDING TO THE HYPERSYNCHRONOUS CONVERTER CASCADE CIRCUIT.....	971
<i>Yu. Dementyev ; M. Bolsynov ; N. Kojain</i>	
RESEARCH AND DEVELOPMENT OF STRUCTURAL DIAGRAM OF SHIP'S ELECTRIC DRIVES	975
<i>A. F. Burkov</i>	
SIMULATION MODELING OF THE ROLLING MILL STAND 5000 OJSC MMK.....	980
<i>E. A. Maklakova ; V. R. Gasiyarov ; A. S. Maklakov ; S. S. Voronin</i>	
THE CONTROL OF DOSING PUMPS BY MODERN ELECTRIC DRIVE	984
<i>B. Lobov ; A. Mikitinskiy ; P. Kolpachshan</i>	
RESEARCH OF MIXING DIELECTRIC LIQUIDS UNDER THE ELECTRIC FIELD INFLUENCE.....	988
<i>T. A. Volkova ; R. F. Aletdinov ; V. A. Papernyuk</i>	

INDUCTION MOTOR TEMPERATURE INFLUENCE ON SCALAR CONTROL SYSTEMS EFFICIENCY	992
<i>A. Pugachev</i>	
SEMICONDUCTOR POWER ELECTRONICS FOR SYNCHRONOUS DISTRIBUTED GENERATION.....	997
<i>V. O. Samoylenko ; A. V. Pazderin</i>	
EMC RESEARCH OF 18-PULSE CIRCUIT CONSISTING OF 3L-NPC CONVERTERS WITH SHE.....	1002
<i>A. S. Maklakov ; M. A. Demov ; E. A. Maklakova ; V. R. Gasiyarov ; S. S. Voronin</i>	
THE INDIRECT METHODS OF CONTROL THE OUTPUT COORDINATES FOR THE THREE-PHASE ASYNCHRONOUS ELECTRIC MOTOR	1006
<i>Yu. N. Dement'ev ; A. D. Umurzakova</i>	
STUDY OF TRANSIENTS IN MEASURING CIRCUITS FOR NEGATIVE SEQUENCE CURRENTS BASED ON USING ROGOWSKI COILS.....	1010
<i>D. B. Solovev ; A. E. Merkusheva</i>	
SIMULATION OF INDUCTION MOTOR TEMPERATURE DETERMINATION BY ADDITIONAL VOLTAGE INJECTIONS	1016
<i>A. Pugachev</i>	
OUTPUT FILTER DESIGNING FOR POWER SUPPLIES CONSIDERING LEAKAGE INDUCTANCE	1021
<i>I. V. Vasukov ; A. V. Bolshenko ; A. V. Pavlenko</i>	
THE ALGORITHMS OF DESIGNING OF THE INTERNAL COMBUSTION ENGINE ELECTROMAGNETIC GAS EXCHANGE VALVE ACTUATOR WITH SPECIFIED DYNAMIC PARAMETERS	1027
<i>A. V. Pavlenko ; I. A. Bolshenko ; A. V. Bolshenko</i>	
THE ENERGY METHOD FOR MONITORING THE INSTANTANEOUS STATE AND THE FORMATION OF A SYNCHRONOUS MOTOR CONTROL VARIABLES.....	1032
<i>V. I. Smolin ; I. G. Topolskaya ; G. I. Volovich</i>	
PROPOSALS FOR THE DESIGN OF HIGH-SPEED ELECTRIC MACHINES.....	1036
<i>S. Gandzha</i>	
SELECTION OF STATOR YOKE HEIGHT OF TRACTION SWITCHED RELUCTANCE MOTOR	1039
<i>G. K. Ptakh ; D. A. Zvezdunov ; R. R. Mustafaev</i>	
OPTIMIZATION OF FUNCTION CONTROL ACTION FOR THE ELECTRIC DRIVE WITH FIELD REGULATED RELUCTANCE MACHINE.....	1043
<i>E. V. Belousov ; D. A. Sychev ; A. M. Zhuravlev</i>	
IMPROVEMENT OF ELECTRIC DRIVE OF WITHDRAWAL AND STRAIGHTENING UNIT IN CONTINUOUS CASTING MACHINE.....	1046
<i>S. I. Luk'yanov ; A. E. Vasil'Ev ; O. S. Logunova</i>	
PULSE VECTOR CONTROL FOR TRANSPORT APPLICATIONS.....	1051
<i>M. E. Korzhavin ; N. V. Savosteenko ; E. S. Chupin</i>	
MATHEMATICAL MODEL OF A THREE-PHASE TRANSISTOR CONTROLLED RECTIFIER WITH A PI VOLTAGE CONTROLLER IN REGENERATION MODE	1054
<i>A. I. Andriyanov ; E. A. Sachenko</i>	
APPLICATION OF PASSIVE POWER FILTER WITH INDUCTION MOTOR SOFT STARTER	1059
<i>A. M. Zyuzev ; D. P. Stepanyuk ; M. V. Bubnov</i>	
POWER RECTIFIER FOR DIRECT CURRENT LINK.....	1063
<i>E. Koptjaev ; V. Balashevich ; S. Abramov</i>	
POWER CONVERTERS WITH COMPACT WINDING SCIGS FOR HEVS, MICRO HYDROELECTRIC POWER STATIONS AND WIND TURBINES.....	1066
<i>P. Yu. Grachev ; E. E. Gorbachev ; A. S. Tabachinskiy</i>	
SUCKER-ROD PUMP UNIT ELECTRIC DRIVE SIMULATOR	1071
<i>A. M. Zyuzev ; M. V. Bubnov ; M. V. Mudrov</i>	
SIMULATOR OF THE SHUNTING LOCOMOTIVE'S ELECTRIC DRIVE	1075
<i>K. E. Nesterov ; M. V. Mudrov ; V. I. Zelentsov</i>	
DIAGNOSTICS OF ELECTRIC MOTORS TECHNICAL CONDITION USING WAVELET ANALYSIS	1079
<i>O. Bolshunova ; A. Kamyshian ; A. Bolshunov</i>	
SENSORLESS ESTIMATION OF THE ROTOR SPEED FOR THE USE IN V/F CONTROL SYSTEMS OF IM DRIVES.....	1083
<i>O. B. Shonin ; N. G. Novozhilov ; S. B. Kryltsov</i>	

MECHATRONICS CONVERSION SYSTEM: A CONCEPTUAL ENERGY MODEL	1087
<i>A. V. Isaev ; A. I. Nefed'Ev</i>	
AUTOMATED WATER SUPPLY SYSTEM BASED ON A SERIES EXCITED ELECTRIC MOTOR	1091
<i>A. V. Isaev ; A. I. Nefed'Ev</i>	
DYNAMIC LOAD DISTURBANCE CORRECTION FOR ALTERNATIVE CURRENT ELECTRIC DRIVES	1095
<i>V. L. Kodkin ; A. S. Anikin ; Y. A. Shmarin</i>	
RESEARCH OF HIGH CURRENT INTERRUPTION PROCESS IN SF6 GAS INSULATED DISCONNECTING SWITCH	1100
<i>D. Chernoskutov</i>	
A COMPARISON OF HARDWARE IMPLEMENTATIONS OF FOC CONTROLLERS FOR ASYNCHRONOUS MOTOR DRIVE BASED ON FPGA	1106
<i>A. M. Romanov ; B. V. Slashev ; M. A. Volkova</i>	
THE ANALYSIS OF THE EXPERIENCE OF TECHNICAL OPERATION OF SHIP ELECTRIC DRIVES	1111
<i>A. F. Burkov ; V. F. Verevkin</i>	
ANGULAR VELOCITY INDIRECT DETERMINATION DEVICE STRUCTURE FOR THE SYNCHROPHASE ELECTRIC DRIVE.....	1116
<i>A. V. Bubnov ; V. A. Emashov ; A. N. Chudinov</i>	
APPLICATION OF INTEGRAL EQUATIONS FOR ANALYSIS OF ELECTRODYNAMIC AND THERMAL PROCESSES IN ELECTRIC DRIVE	1120
<i>M. Yu. Borodin ; E. M. Borodin ; V. P. Metelkov</i>	
PARAMETERS OF ELECTROMECHANICAL COMPLEX MODE AT ITS FOUNDATION VIBRATION	1124
<i>A. B. Dar'Enkov ; A. S. Plekhov ; D. Yu. Titov ; B. A. Gordeev</i>	
ANALYSIS OF THERMAL OPERATING CONDITIONS OF A BILATERAL SWITCH OF A THREE-PHASE MATRIX FREQUENCY CONVERTER	1129
<i>A. B. Dar'Enkov ; I. A. Varygin ; D. A. Komrakov</i>	
AUTOMATIC RECOVERY OF MEMORY OPERABILITY IN MICROPROCESSOR BASED CONTROL SYSTEM.....	1135
<i>S. V. Volobuev ; V. G. Ryabtsev ; T. Yu. Utkina</i>	
MICROPROCESSOR INSTRUMENTATION AND CONTROL SYSTEMS FOR POWER GENERATING OBJECTS' PARAMETERS	1139
<i>V. I. Lachin ; K. Y. Solomentsev ; O. Y. Demidov</i>	
A SIMPLE METHOD FOR ESTIMATING THE FREQUENCY OF THE PERIODIC COMPONENT OF A MEASURING SIGNAL	1142
<i>En Un Chye ; A. V. Levenets</i>	
SELECTION CRITERIA OF THE COMPRESSION ALGORITHM IN INFORMATION-MEASURING SYSTEM.....	1146
<i>En Un Chye ; I. V. Bogachev ; A. V. Levenets</i>	
HARDWARE SOLUTION FOR HAAR WAVELET TRANSFORM IN REAL TIME.....	1150
<i>O. F. Kovalev ; I. P. Yanchenko</i>	
STRUCTURE AND FUNCTIONS OF ON-BOARD AUTODRIVER SYSTEM OF TRAIN	1154
<i>K. Yurenko ; E. Fandeev</i>	
THE REDUCTION OF LEARNING SAMPLE IN INFORMATION-MEASURING AND CONTROL SYSTEMS BASED ON BRAIN-COMPUTER INTERFACE TECHNOLOGY	1159
<i>R. A. Fayzrakhmanov ; R. R. Bakunov</i>	
ALGORITHMS OF QUASI EVALUATION OF POLYNOMIAL TREND OF THE DIGITAL SIGNALS BASED ON OBLIQUE DISCRETE WALSH TRANSFORMATIONS.....	1163
<i>I. I. Ismagilov ; S. F. Khasanova</i>	
IMPROVED EXTREMA DETECTION ALGORITHM FOR THE GENERALIZED EMPIRICAL MODE DECOMPOSITION	1168
<i>P. Y. Kovalenko ; D. I. Bliznyuk ; A. S. Berdin</i>	
RESEARCH OF METHODS OF TRANSFORMATION OF CHAOTIC SIGNALS IN RADIO ENGINEERING SYSTEMS.....	1173
<i>A. N. Kazimirov ; V. F. Telezhkin</i>	
PROCESSING OF SIGNALS AS THE SUM OF THE DETERMINED FUNCTION AND REALIZATION OF STATIONARY CASUAL PROCESS.....	1177
<i>A. N. Pagozin ; V. F. Telezhkin</i>	

EXTREME VALUES REVELATION OF MAGNETORHEOLOGICAL TRANSFORMERS	
DYNAMIC RIGIDITY OF HYDROMOUNTS	1180
<i>B. A. Gordeev ; S. N. Okhulkov ; P. A. Zlobin ; A. S. Plekhov</i>	
DETERMINING THE MANAGING SIGNALS OPTIMUM PHASE IN	
MAGNETORHEOLOGICAL TRANSFORMERS OF HYDROMOUNTS	1184
<i>B. A. Gordeev ; S. N. Okhulkov ; A. I. Ermolayev ; D. Yu. Titov</i>	
AUTOMATIZATION OF CONSTANT DETERMINATION IN RHEOLOGICAL MODELS OF	
EXPERIMENTAL DATA	1188
<i>A. V. Lysyannikov ; P. M. Kondrashov</i>	
MICROPROCESSOR CONTROL OF DEVICES SYSTEMS OF PNEUMATIC CONTAINER	
DELIVERY FOR THE ANALYSIS OF SAMPLES OF CONCENTRATING AND	
METALLURGICAL PRODUCTION	1191
<i>V. V. Khmara ; G. Yu. Lobotskiy ; A. M. Kabyshev</i>	
DEVELOPMENT OF SYNCHRONIZATION SYSTEM FOR SIGNAL RECEPTION AND	
RECOVERY FROM USB-KEYBOARD COMPROMISING EMANATIONS	1197
<i>R. I. Sokolov ; R. R. Abdullin ; D. A. Dolmatov</i>	
THEORETICAL INVESTIGATION OF GAUSSIAN AND NON-GAUSSIAN NOISE MASKING	
PROPERTIES.....	1201
<i>R. I. Sokolov</i>	
COMPARATIVE ANALYSIS OF VIDEO SIGNAL FILTERING QUALITY BY VARIOUS	
NONLINEAR METHODS IN NONSTATIONARY MODE.....	1205
<i>R. R. Abdullin</i>	
INFRARED CAMERA BASED ROBOT POSITION DETERMENING AND CONTROL SYSTEM.....	1209
<i>A. V. Putov ; K. V. Ignatev ; M. M. Kopichev</i>	
SIMULATION OF MELTING ICE ON OVERHEAD POWER LINE WIRES BY THE POINT	
SOURCES METHOD	1213
<i>S. Yu. Knyazev ; E. E. Shcherbakova ; A. A. Shcherbakov</i>	
BUILDING AN AUTOMATIC ANALYSIS SYSTEM OF TESTS RESULTS WITHIN THE	
ANALYTICAL UNIT OF THE E-LEARNING SYSTEM OF THE MASS TRADE WORKERS IN	
JSC 'RUSSIAN RAILWAYS'	1219
<i>L. V. Gadasina ; M. S. Sedov ; O. N. Kuranova</i>	
ANALYSIS OF POSSIBILITY MODELING OF THE MULTIARC WELDING IN ESI SYSWELD.....	1223
<i>Al. M. Ulanov ; M. A. Ivanov</i>	
THE SIMULATION TECHNIQUE FOR LARGE-SCALE TREE STRUCTURED	
INTERCONNECTS	1228
<i>K. Gorshkov</i>	
DESIGN AND RESEARCH OF CHARACTERISTICS OF THE ANALOG ACOUSTIC NOISE	
GENERATOR	1234
<i>A. A. Horev ; A. I. Bykov ; A. N. Sokolov</i>	
AUTOMATED GENERATING OF THE REFLECTARRAY LAYOUT	1238
<i>D. A. Letavin ; S. G. Sychugov ; A. N. Korotkov ; V. A. Chechetkin</i>	
THE USE OF INTELLECTUAL TECHNOLOGIES FOR CONSTRUCTION OF MODELS OF	
OBJECTS WITH NECESSARY AVERAGE VALUES SCATTERING CHARACTERISTICS.....	1242
<i>A. P. Preobrazhensky ; A. I. Nechaeva ; I. Ya. Lvovich</i>	
DEVELOPMENT OF MATHEMATICAL MODEL RELATIONSHIP OF INTERNAL	
ESTIMATES INFORMATION-ANALYTICAL SYSTEM WITH KEY INDICATORS	1246
<i>V. V. Menshikh ; O. V. Pyankov</i>	
MODEL OF QUALITY METERING DETERMINATION AND COMPARISON OF ARBITRARY	
NATURE OBJECTS BASED ON THEIR BISUBJECTIVE ESTIMATION.....	1249
<i>A. Morozova</i>	
GENERALIZED PARAMETER EXTRACTION METHOD FOR ANALOG CIRCUIT FAULT	
DIAGNOSIS.....	1254
<i>V. Filaretov ; S. Kurganov ; K. Gorshkov</i>	
MATHEMATICAL MODEL ELABORATION IN TERMS OF BAKING TIME INFLUENCE ON	
THE RESISTANCE TO STRESS CORROSION CRACKING UNDER TENSION	1260
<i>Z. K. Abaev ; S. V. Galachieva</i>	
THE PARALLEL GENETIC ALGORITHM FOR CONSTRUCTION OF TECHNOLOGICAL	
OBJECTS NEURAL NETWORK MODELS.....	1264
<i>V. S. Tynchenko ; E. A. Petrovsky ; V. V. Tynchenko</i>	
DESIGN OF GRID SYSTEMS TO SOLVE COMPLEX INDUSTRIAL ENGINEERING	
PROBLEMS.....	1268
<i>V. V. Tynchenko ; E. A. Solovyov ; S. V. Tynchenko</i>	

SMOOTH CONJUGATION OF TWO INTERSECTING PLANES ARBITRARILY ORIENTED IN SPACE	1272
<i>S. A. Berestova ; N. E. Misyura ; E. A. Mityushov ; T. V. Shtang</i>	
APPLICATION OF MATHEMATICAL METHODS IN RECOGNITION OF PLANT OBJECTS	1276
<i>I. A. Mayatskaya</i>	
DEVELOPMENT OF ADEQUATE COMPUTATIONAL MATHEMATICAL MODELS OF COGENERATION STEAM TURBINES FOR SOLVING PROBLEMS OF OPTIMIZATION OF OPERATING MODES OF CHP PLANTS	1281
<i>N. V. Tatarinova ; D. M. Suvorov</i>	
ABOUT THE POSSIBILITY AND EFFICIENCY OF AUSTENITIC STEEL ROPE CONDITION MAGNETIC CONTROL	1287
<i>A. S. Khoroshev ; V. S. Puzin ; D. A. Schuchkin</i>	
GUARANTEED STATE AND PARAMETER ESTIMATION FOR ONE-DIMENSIONAL CHAOTIC SYSTEM	1291
<i>A. S. Sheludko ; V. I. Shiryayev</i>	
A FUNCTION-BASED PATENT ANALYSIS FOR SUPPORT OF TECHNICAL SOLUTIONS SYNTHESIS	1295
<i>D. M. Korobkin ; S. A. Fomenkov ; S. G. Kolesnikov</i>	
DEVELOPMENT OF AUTOMATED TEST SYSTEM FOR DIESEL ENGINES BASED ON FUZZY LOGIC	1299
<i>L. A. Galiullin</i>	
MODELING OF NATURAL CONVECTION	1303
<i>M. N. Nikitin</i>	
DEVELOPMENT OF DECISION SUPPORT SYSTEM FOR DATA ANALYSIS OF ELECTRIC POWER SYSTEMS	1307
<i>A. Z. Dobaev ; M. P. Maslakov ; A. A. Dedegkaeva</i>	
ALGORITHMS OF OPTIMIZING A NETWORK MODEL	1311
<i>I. P. Postovalova ; V. B. Sharonova</i>	
COMPUTER MODELING OF THE AUTOMATED TESTS OF DIESEL ENGINES VARIOUS CONDITIONS OF THEIR OPERATION	1315
<i>E. V. Zubkov</i>	
IMPROVEMENT OF “WINNER TAKES ALL” NEURAL NETWORK TRAINING FOR THE PURPOSE OF DIESEL ENGINE FAULT CLUSTERING	1319
<i>A. N. Iliukhin ; R. A. Gibadullin</i>	
A NOVEL CONCEPTS FOR THE STUDY OF FUZZY SETS SIMILARITY AND THEIR APPLICATIONS TO INCIDENT AWARENESS IN INTELLIGENT TRANSPORTATION SYSTEMS	1323
<i>V. A. Bogachev ; A. V. Chernov ; T. V. Bogachev</i>	
ANALYTICAL AND PC-GRAPH MODELS OF RULED SURFACES	1329
<i>I. E. Zvonarev ; E. V. Simenko ; E. Kh. Muratbaeev</i>	
USING A GENERATIONAL STRATEGY FOR SOLVING HOMOGENEOUS MINIMAX PROBLEM OF THE ISLAND MODEL	1333
<i>N. I. Shcherbinina ; V. G. Kobak</i>	
SIMULATION OF THE DIELECTRIC SUPPORT INFLUENCE TO THE CAVITY ANTENNA PERFORMANCE	1338
<i>V. A. Dumchev ; N. I. Voytovich ; Yu. E. Mitelman ; E. E. Malov</i>	
ELECTROMECHANICAL SYSTEM OF THE ASYNCHRONOUS ELECTRIC DRIVE OF MOVEMENT OF A BRIDGE CRANE MODELING	1343
<i>G. A. Fedyaeva ; T. V. Smorodova ; R. V. Kovalev</i>	
THE MATHEMATICAL MODEL FOR FINITE ELEMENT CALCULATION OF THIN-WALLED STRUCTURES	1347
<i>M. K. Sagdatullin</i>	
THE USE OF NUMERICAL SIMULATION METHODS IN THE DEVELOPMENT OF VORTEX FLOWMETERS	1352
<i>I. Shulev ; E. Safonov</i>	
NEURAL NETWORKS IN DATA MINING	1356
<i>A. Sinkov ; G. Asyaev ; A. Mursalimov ; K. Nikolskaya</i>	
MODELLING AND ANALYSIS OF BOW-TIE ANTENNA PROPERTIES FOR THE BRAIN MICROWAVE RADIOMETRY	1361
<i>I. A. Bannikov ; A. B. Ilinykh ; Yu. E. Mitelman ; V. I. Borisov</i>	

THE STATEMENT AND FEATURES OF PHASE SPACE OF RELIABILITY RESEARCH PROBLEM OF HIGH AVAILABILITY INFORMATION SYSTEM BASED ON ARCHITECTURE WITH SERVERS REDUNDANCY	1365
<i>R. K. Litvyak ; S. P. Vorobyev ; A. A. Katsupeev</i>	
STABILIZATION OF CALIBRATION METROLOGICAL CHARACTERISTICS OF TECHNOLOGICAL INSPECTION TOOLS	1371
<i>Ed. Petrovsky ; V. Bukhtoyarov ; S. Savitskaya</i>	
OPTIMIZATION PLANNING OF LOW-RISE RESIDENTIAL BUILDINGS	1375
<i>A. Marchenko ; A. Sesekin</i>	
MATHEMATICAL MODEL FOR ANALYSIS OF MULTILAYERED CIRCULAR WAVEGUIDES	1379
<i>Y. Mitelman ; E. Malov</i>	
TECHNOLOGY AND SOFTWARE OF SYSTEM OF THE METROLOGICAL ANALYSIS OF CELLULAR CYLINDRICAL SURFACES OF LARGE-SIZE PRODUCTS	1383
<i>M. Gavrikov ; R. Sinetsky ; D. Knyazev</i>	
DEVELOPMENT OF METHODS OF DETECTION OF PIPELINES CORROSION DEFEAT BY COMPUTER MODELING	1387
<i>E. V. Izmailova ; T. O. Politova ; V. V. Serov</i>	
MATHEMATICAL MODELING OF THE DETERMINING AZIMUTH PROCESS FOR INCLINOMETRIC SYSTEMS FOR SMALL INCLINE ANGLES	1391
<i>D. Milovzorov ; V. Yasoveyev</i>	
IMPLEMENTATION OF QR AND LQ DECOMPOSITIONS ON SHARED MEMORY PARALLEL COMPUTING SYSTEMS	1395
<i>V. Egunov ; A. Andreev</i>	
COMPARISON OF EVOLUTIONARY ALGORITHMS USED TO SOLVE THE OPTIMIZATION PROBLEM OF INFORMATION SECURITY OF DISTRIBUTED SYSTEMS	1400
<i>A. A. Katsupeev ; E. A. Shcherbakova ; S. P. Vorobyev</i>	
THE SECONDARY SOURCES METHOD ANALYSIS AND EXPERIMENTAL MODELING OF THE PERMANENT MAGNET EDDY CURRENTS SUSPANSION	1403
<i>D. M. Filippov ; G. P. Kozik ; A. V. Fursenko ; V. N. Fedorovsky</i>	
DEFINITION OF WEBER-AMPERE CHARACTERISTICS OF ELECTRICAL DEVICES HARMONIC BALANCE METHOD IN SOLVING INVERSE PROBLEMS OF DIAGNOSTICS	1408
<i>V. V. Grechikhin ; A. M. Lankin ; M. V. Lankin</i>	
METHOD, ALGORITHM AND DEVICE FOR TRAINING OF ARTIFICIAL NEURAL NETWORK: THEORETICAL FOUNDATIONS AND PRACTICAL REALIZATION	1412
<i>A. N. Tsurikov ; A. N. Guda</i>	
APPLICATION OF SERIES-PARALLEL RESONANT IMPEDANCE IN TECHNOLOGY AND MEDICINE	1416
<i>G. I. Tkachenko ; A. M. Lankin ; M. V. Lankin</i>	
ON THE POLLUTANTS SOURCES PARAMETERS IDENTIFICATION PROBLEM UNDER THE CONDITIONS OF THE POLLUTANTS DISSIPATION ZONE INCOMPLETE INFORMATION PORTRAIT	1420
<i>I. V. Stepanchenko ; E. G. Krushel ; O. O. Privalov</i>	
THE INSTABILITY OF THE SOLUTIONS OF THE GENERALIZED SOBOLEV TYPE EQUATION ON A GRAPH	1427
<i>P. O. Moskvicheva</i>	
HOMOGENEOUS ALGORITHM FOR GLOBAL OPTIMIZATION WITH ADAPTIVE MODEL OF OBJECTIVE FUNCTION	1431
<i>V. Shiryayev ; A. Tsybulevsky</i>	
THE CUTTER SPEED DETERMINATION OF CNC LASER CUTTING MACHINES FOR PRECISE CALCULATION OF OBJECTIVE FUNCTION OF TOOL PATH PROBLEM	1435
<i>A. F. Tavaeva ; A. A. Petunin</i>	
PERSPECTIVES RESEARCH OF PROCESSES AT BLAST FURNACE SLAG FORMATION WITH METHOD OF MOLECULAR DYNAMICS USING COMPUTER SIMULATIONS	1439
<i>Yu. V. Kocherzhinskaya ; E. A. Ilina ; V. S. Velikanov</i>	
CLASSIFICATION OF HAND MOTIONS IN EEG SIGNALS USING RECURRENT NEURAL NETWORKS	1443
<i>E. Popov ; S. Fomenkov</i>	
APPLICATION OF COMBINED FINITE AND COMPLEX VALUE BOUNDARY ELEMENTS METHOD FOR MAGNETIC FIELD CALCULATION OF ELECTROMECHANICAL SYSTEMS	1447
<i>A. Tkachev ; I. Shkuropadsky ; O. Burtseva</i>	

INFLUENCE OF GROUND AIR MASS MOTION ON OPERATION OF AIR-COOLED OIL COOLERS OF GAS-TURBINE UNITS.....	1452
<i>Yu. Brodov ; P. Plotnikov ; A. Nevolin</i>	
APPLICATION OF DYNAMIC NEURAL NETWORK TO SEARCH FOR OBJECTS IN IMAGES.....	1456
<i>A. Militsyn ; G. Malykhina</i>	
DEVELOPMENT OF METHODOLOGY OF DEPP DYNAMIZATION AND PRODUCTION IN ENGINEERING BASED ON COMPREHENSIVE APPROACH TO IMPLEMENTATION OF CAD SYSTEMS	1459
<i>V. R. Tuktamyshev ; Ya. A. Kataev ; D. A. Glukhov</i>	
EFFECTIVE GRAPH-BASED POINT MATCHING ALGORITHMS.....	1462
<i>S. Tushev ; B. Sukhovilov</i>	
THE DEVELOPMENT AND APPLICATION OF INFORMATION TECHNOLOGY OF A COMPLEX ASSESSMENT OF ECONOMIC AND ENERGY SECURITY OF THE ENTERPRISES OF HOUSING AND COMMUNAL SERVICES	1467
<i>V. G. Gurlev ; T. S. Khomyakova</i>	
THE MODELING AND THE CALCULATION OF THE SUBEXCITER WITH PERMANENT MAGNETS BY DINT OF “ANSYS MAXWELL”	1474
<i>O. Tikhonova ; I. Malygin ; A. Plastun</i>	
CONSTRUCTION OF EQUIVALENT MATRIX MODEL OF MULTIVARIABLE MULTI-STAGE CONTROL SYSTEM.....	1478
<i>V. Kramar</i>	
MODELING TECHNIQUE FOR GAS DUCT CAVITY OF HEAT ENGINE	1482
<i>Yu. A. Shaposhnikov ; A. V. Tyunin</i>	
OBJECT DETECTION IN THE IMAGES IN INDUSTRIAL PROCESS CONTROL SYSTEMS BASED ON SALIENT POINTS OF WAVELET TRANSFORM ANALYSIS.....	1486
<i>M. P. Shleymovich ; M. V. Medvedev ; S. A. Lyasheva</i>	
MODIFICATION FEATURES OF THE MEASUREMENT EQUATION FOR VORTEX SONIC FLOWMETERS.....	1492
<i>A. P. Lapin ; K. V. Kuznetsova</i>	
THE STRUCTURAL-PARAMETRICAL INTEGRATION OF MODULES FOR SOFTWARE ALGORITHMS. PART I.....	1496
<i>A. A. Mikhaylov ; S. A. Bazuyeva</i>	
THE STRUCTURAL-PARAMETRICAL INTEGRATION OF MODULES FOR SOFTWARE ALGORITHMS. PART II	1501
<i>A. A. Mikhaylov ; S. A. Bazuyeva</i>	
A NEW PREDICTING METHOD BASED ON ESTIMATE OF HOLDER EXPONENT BY CONTINUOUS WAVELET TRANSFORM	1509
<i>A. Ruchay ; Vladislav Kuznetsov</i>	
SYMMETRIC ENCRYPTION WITH KEY DISTRIBUTION BASED ON NEURAL NETWORKS.....	1514
<i>I. V. Anikin ; A. Z. Makhmutova ; O. E. Gadelshin</i>	
AUTONOMOUS INVERTERS' PWM METHODS FOR REMOTELY CONTROLLED UNMANNED UNDERWATER VEHICLES	1518
<i>V. M. Rulevskiy ; A. A. Pravikova ; D. Yu. Lyapunov</i>	
SECURE STATE POWER SYSTEM MODELS BUILDING	1522
<i>S. A. Bogatenkov ; S. N. Malovechko ; V. V. Kosterin</i>	
MODELING ELECTROMAGNETIC PROCESSES IN ELECTROMAGNETIC BRAKES AND SLIP CLUTCHES WITH HOLLOW FERROMAGNETIC ROTORS	1527
<i>L. A. Potapov ; G. A. Fedyaeva ; T. V. Smorudova</i>	
SPATIAL INFORMATION PROCESSING FOR DECISION-MAKING SUPPORT OF SITING SOURCES OF TECHNOGENIC HAZARDS USING COMPUTER TECHNOLOGIES.....	1532
<i>O. Khristodulo ; V. Gvozdev ; Z. Davletbakova</i>	
AUTOMATED CONTROL SYSTEM FOR OPERATIONAL AND PERSPECTIVE MODES OF HEAT SUPPLYING SYSTEMS OF MEGALOPOLISES	1537
<i>N. Tomilova ; A. Kalinin ; A. Tomilov</i>	
INFORMATION SUPPORT OF TECHNOGENIC SAFETY MANAGEMENT ON THE BASIS OF MATHEMATICAL MODELING AND GIS TECHNOLOGIES.....	1542
<i>V. E. Gvozdev ; O. I. Khristodulo ; D. V. Blinova</i>	
STATISTICAL METHODS OF MAKING DECISION ON REPAIR OF TECHNICAL MEANS	1546
<i>I. Rizaev ; E. Takhavova</i>	
METHOD OF SYNTHESIS OF SPECIAL CONTROL FOR AUTONOMOUS SYSTEMS	1550
<i>V. P. Ivanov ; A. Morozova ; V. A. Shkaberin</i>	

FAULT DIAGNOSIS IN LINEAR SYSTEMS WITH NON-PARAMETRIC METHOD.....	1555
<i>A. Zhirabok ; A. Zuev ; S. Pavlov ; A. Shumsky ; S. Solyanik</i>	
METHODS OF STRUCTURAL SYNTHESIS OF GEOGRAPHIC INFORMATION SYSTEM CONFIGURATION VARIANTS FOR ARCHAEOLOGICAL ACTIVITY	1561
<i>J. V. Doronina ; I. V. Dymchenko ; O. A. Syrykh</i>	
EXPERT DIAGNOSTIC SYSTEM OF WATER PIPES GUSTS IN RESERVOIR PRESSURE MAINTENANCE PROCESSES.....	1566
<i>A. S. Katasev ; D. V. Kataseva</i>	
WAVELET ANALYSIS FOR FAULT DIAGNOSIS OF ELECTRICAL MACHINES USING CURRENT SIGNALS	1571
<i>T. N. Kruglova</i>	
NEURO-FUZZY MODEL OF COMPLEX OBJECTS APPROXIMATION WITH DISCRETE OUTPUT	1576
<i>A. S. Katasev ; D. V. Kataseva ; L. Yu. Emaletdinova</i>	
MODELING, RESEARCH AND OPTIMIZATION OF HEAT LOSSES DURING TRANSPORT IN ENERGY SYSTEMS.....	1581
<i>D. V. Syranov ; V. N. Kovalnogov ; A. N. Zolotov</i>	
MODELING AND ANALYSIS OF THE EFFICIENCY OF THE CONVECTIVE DRYING OF CAPILLARY-POROUS BODIES WITH ULTRASOUND	1585
<i>M. G. Korniliev ; V. N. Kovalnogov ; A. N. Zolotov</i>	
OPTIMUM CONTROL PROBLEM OF THE HYBRID WELDING PROCESS.....	1589
<i>V. V. Melyukov ; D. A. Repkin ; S. N. Zapol'Skikh</i>	
QUANTIFICATION OF INFORMATION IN THE CLOSED STRUCTURE OF A TECHNICAL SYSTEM.....	1593
<i>A. S. Dulesov ; V. I. Khrustalev ; N. V. Dulesova</i>	
RESEARCH OF BINARY BAT ALGORITHM ON EXAMPLE OF THE DISCRETE OPTIMIZATION TASK.....	1597
<i>V. A. Mokhov ; D. V. Grinchenkov ; I. A. Spiridonova</i>	
ON APPLICATION OF PRINCIPAL COMPONENT ANALYSIS AND LINEAR DISCRIMINANT ANALYSIS TO CONTROL DRIVER'S BEHAVIOR.....	1603
<i>D. S. Kulikov ; V. V. Mokeyev</i>	
SYNTHESIS OF OPTIMAL ELECTROMAGNETIC ACTUATORS ON BASIS OF SOLVING INVERSE PROBLEMS	1607
<i>Yu. A. Bakhvalov ; A. L. Yufanova ; V. V. Grechikhin</i>	
REPRESENTATION OF MARKOV'S CHAINS FUNCTIONS OVER FINITE FIELD BASED ON STOCHASTIC MATRIX LUMPABILITY	1611
<i>V. M. Zakharov ; B. F. Eminov ; S. V. Shalagin</i>	
UNCONVENTIONAL EVALUATION OF MICRO-UAV STABILITY PROBLEM USING WATER DROP REPRESENTATION	1616
<i>Daher Sayfeddine ; A. Bulgakow</i>	
ASPECTS OF ASSESSMENT OF ORGANIZATIONAL AND TECHNICAL RELIABILITY AND DESIGN OF CONSTRUCTION PROCESSES WITH TARGET RELIABILITY LEVEL USING COMPUTER-AIDED TECHNOLOGIES.....	1620
<i>Yu. N. Nikolaev</i>	
THE ALGORITHM FOR CREATING GEOSPATIAL DATABASE TO ENSURE THE EFFECTIVE FUNCTIONING OF THE GAS DISTRIBUTION NETWORK.....	1624
<i>N. V. Samsonova ; O. Y. Shevtchenko</i>	
SYSTEM OF TRAINING PROGRAMS FOR SIMULATION OF REACTOR MEASUREMENTS.....	1628
<i>M. A. Volman ; V. K. Semenov</i>	
STUDY OF TRANSIENT CURRENT MEASUREMENT USING MICRO-CAP CIRCUIT SIMULATOR	1632
<i>D. B. Solovev ; S. D. Severin</i>	
COUPLED MODEL OF HYDRAULIC CIRCUIT SYSTEM AND MULTIBODY DYNAMICS SYSTEM OF VEHICLE	1637
<i>V. V. Getmanskiy ; A. A. Nasonov ; A. A. Novokshcenov</i>	
A-TRAJLS AND THEIR APPLICATION TO INDUSTRIAL PROCESS	1642
<i>T. Makarovskikh</i>	
ON APPLICATION OF GENERALIZED JACOBI METHOD IN FACE RECOGNITION BY LINEAR DISCRIMINANT ANALYSIS AND PRINCIPAL COMPONENT ANALYSIS.....	1648
<i>V. V. Mokeyev</i>	

DEVELOPMENT OF SOFTWARE FOR ANALYSIS OF THE STRUCTURE OF INDUSTRIAL HEAT AND POWER SYSTEMS.....	1654
<i>L. V. Plotnikova ; L. A. Kashipova</i>	
THE CYCLIC JOB-SHOP SCHEDULING PROBLEM: THE NEW SUBCLASS OF THE JOB-SHOP PROBLEM AND APPLYING THE SIMULATED ANNEALING TO SOLVE IT	1660
<i>P. V. Matrenin ; V. Z. Manusov</i>	
MODELING OF CONVERTERS AND DEVICES WITH DISTRIBUTED RC-PARAMETERS WITH THE REQUIRED ACCURACY IN THE SPECIFIED FREQUENCY RANGE	1665
<i>Zh. A. Sukhinets ; A. I. Gulin</i>	
ANALYZING THE STRESS-STRAIN STATE OF OBJECT BODIES SUBJECTED TO HYDROSTATIC PRESSURE USING MODERN CAD SYSTEMS	1671
<i>Yu. P. Serdobintsev ; A. K. Ivanyuk</i>	
THE QUESTION OF EVALUATION OF LIMITING CHARACTERISTICS OF DE-ICING THE POWER LINE WIRES	1676
<i>S. I. Sukhorukov ; V. A. Soloviev ; S. P. Cherniy</i>	
MATHEMATICAL MODELING OF COMPLEX ANTENNA SYSTEM	1681
<i>A. B. Khashimov</i>	
MODELLING OF THE PROCESS OF LASER TREATMENT THE TIP OF THE TOOL CUTTING WEDGE AND ITS FEATURE	1685
<i>S. I. Yaresko ; S. N. Balakirov ; S. I. Yaresko ; S. N. Balakirov ; D. S. Goryainov</i>	
IMPROVING THE ACCURACY OF DETERMINING THE POSITION OF THE CODE MARKS IN THE PROBLEMS OF CONSTRUCTING THREE-DIMENSIONAL MODELS OF OBJECTS	1690
<i>B. M. Sukhovilov ; E. M. Sartasov ; E. A. Grigороva</i>	
SIMULATION APPROACH FOR OPTIMIZATION PROCESSES IN THE MAGNETOPLASMA ACCELERATOR	1694
<i>O. V. Vasileva ; A. A. Budko ; A. V. Lavrinovich</i>	
ON VARIETY OF SUM CODES WITH ON-DATA BITS AND ONE WEIGHTED DATA BIT IN CONCURRENT ERROR DETECTION SYSTEMS	1698
<i>D. Efanov ; V. Sapozhnikov ; V. Sapozhnikov</i>	
MINIMAX APPROXIMATION OF A COMPLEX-VALUED FUNCTION MODULUS BY MEANS OF LINEAR PROGRAMMING	1703
<i>I. N. Agliullin ; V. A. Talyzin ; Yu. I. Choni</i>	
DINAMIC CONNECTION OF SECOND-ORDER CURVES	1708
<i>V. A. Korotkiy ; E. A. Usmanova ; L. I. Khmarova</i>	
USING MULTIAGENT SYSTEM FOR SOLVING TRACING PROBLEMS	1712
<i>V. Khovanskova ; S. Khovanskov ; K. Rumyantsev</i>	
INCREASE OF EFFECTIVE MANAGEMENT OF TECHNOLOGICAL PROCESSES OF THE MOUNTAIN ENTERPRISE ON THE BASIS OF THE ANALYSIS OF INFORMATION ON TECHNOGENIC CYCLES.....	1716
<i>Yu. S. Petrov ; A. A. Sokolov</i>	
THE ADVANCED AUTOMATED HARDWARE-SOFTWARE COMPLEX OF CONTROL AND MANAGEMENT OF FUNCTIONING OF THE MEGAPOLISES COMPLICATED HEAT-SUPPLYING SYSTEMS.....	1721
<i>Yu. N. Dementyev ; A. B. Kritsky</i>	
THE SIMULATION OF NEUTRALLING SYSTEM IN MATLAB/SIMULINK ENVIRONMENT FOR RESEARCH CONDITIONS ELECTRICAL SAFETY	1726
<i>Sh. S. Saidaliev ; R. G. Valeev</i>	
THE ELECTROCHEMICAL CORROSION PROCESSES SIMULATING OF GROUNDING DEVICES	1729
<i>R. T. Abdulloev ; A. B. Tryapitsyn ; O. A. Khanzhina</i>	
MODELING OF THE STARTER-GENERATOR DEVICE FOR TRUCK KAMAZ	1733
<i>A. Z. Gumerov ; R. T. Nasibullin ; L. R. Sarimov</i>	
MODELING OF ELEMENT RELIABILITY OF A CORPORATE TELECOMMUNICATIONS NETWORK IN THE TERRITORY OF THE RUSSIAN FEDERATION	1737
<i>F. Y. Lozbinev ; A. A. Gamov ; V. V. Spasennikov</i>	
MATHEMATICAL MODELING OF THE ASSESSING PROCESS THE OF SECURITY LEVEL OF THE COMPLEX ORGANIZATIONAL AND TECHNICAL SYSTEMS OF INDUSTRIAL ENTERPRISES	1741
<i>M. Y. Ritov ; A. P. Gorlov ; V. T. Eryomenko</i>	

INVESTIGATION LIMITS OF APPLICABILITY OF THE METHOD NICOLSON-ROSS-WEIR TO CALCULATE THE PERMITTIVITY AND PERMEABILITY RADAR ABSORBING MATERIAL	1745
<i>I. S. Antyasov ; A. N. Sokolov</i>	
LIMITS FOR GI/GIN QUEUES.....	1750
<i>L. Korolkova ; N. Mashrabov</i>	
EXPERIMENTAL VERIFICATION OF DEPLOYED CAPACITORS AS A NEW TYPE ENGINES	1754
<i>V. O. Groppen</i>	
MODELING INTERACTIONS BETWEEN THE MAGNETIC AND EDDY CURRENT FIELDS OF THE ELECTROMAGNETIC-ACOUSTIC TRANSDUCER.....	1758
<i>O. V. Muravieva ; K. V. Petrov ; Yu. V. Myshkin</i>	
COMPUTER SKETCH DESIGNING OF O-TYPE MICROWAVE DEVICE COLLECTOR.....	1762
<i>A. Ch. Khatagov ; I. V. Kryzhanovskaya ; I. E. Zhelokov</i>	
ONE APPROACH TO THE SOLUTION OF SUBJECT SEARCH PROBLEM OF ELECTRONIC EDUCATIONAL RESOURCES ON THE INTERNET	1766
<i>D. V. Grinchenkov ; D. N. Kushchii ; A. V. Kolomiets</i>	
COMPUTER-AIDED ENGINEERING DESIGN OF MAIN AVIATION GTE UNITS	1770
<i>D. A. Akhmedzyanov ; A. E. Kishalov ; K. V. Markina</i>	
SIMULATION OF SPECIAL PURPOSE INDUCTION INSTALLATION BY MEANS OF FLUX SOFTWARE PACKAGE.....	1774
<i>N. Klochkova ; A. Obukhova ; A. Protsenko</i>	
ELECTROMECHANICAL CONVERTER WITH SPIRAL SECONDARY ELEMENT GENERALIZED MODEL.....	1778
<i>D. V. Maksudov ; I. F. Yangirov ; O. A. Yushkova</i>	
EXPERIMENTAL RESEARCH OF RAILWAY CARRIAGE LOCATION METHODS AT CLASSIFICATION YARDS	1782
<i>K. A. Ignatkov ; V. Ya. Noskov</i>	
OBSERVATIONS AND MEASUREMENTS IN THE THEORY OF OPTIMAL MEASUREMENTS	1786
<i>A. L. Shestakov ; A. V. Keller ; G. A. Sviridyuk</i>	
ON NONSTATIONARY OPTIMAL MEASUREMENT PROBLEM FOR THE MEASURING TRANSDUCER MODEL.....	1791
<i>M. Sagadeeva</i>	
MATHEMATICAL MODEL OF THE START CONTROL OF ELECTRIC FIELD POTENTIAL IN CONDUCTING MEDIUM WITHOUT DISPERSION CONSIDERING RELAXATION	1794
<i>N. A. Manakova ; E. A. Bogatyreva</i>	
TRAFFIC MANAGEMENT MODEL.....	1799
<i>S. A. Zagrebina ; A. S. Konkina</i>	
COMPENSATION OF THE ACCELEROMETER ERRORS IN SOLVING THE PROBLEM OF KINEMATIC CONTROL OF DYNAMIC OBJECTS	1802
<i>A. V. Grecheneva ; O. R. Kuzichkin ; N. V. Dorofeev</i>	
AN APPROXIMATE SOLUTION OF INVERSE SPECTRAL PROBLEM FOR PERTURBED SELF-ADJOINT OPERATOR.....	1806
<i>G. A. Zakirova</i>	
THE DYNAMIC MANAGEMENT OF THE PARAMETERS OF THE PROBING SIGNALS AT THE GEODYNAMIC MONITORING OF THE KARST PROCESSES.....	1810
<i>N. V. Dorofeev ; O. R. Kuzichkin</i>	
METHOD FOR TEMPERATURE MEASURING IN THE ROD WITH HEAT SOURCE UNDER UNCERTAIN INITIAL TEMPERATURE	1814
<i>N. Yaparova</i>	
A CONCEPTUAL ROADMAP FOR SETTING UP A SYSTEM OF UNITS IN THE “NEW SI” CONTEXT	1818
<i>Luca Mari ; Franco Pavese</i>	
INFLUENCE OF ADC NONLINEARLY ON THE MEASUREMENT ERROR OF THE ACTIVE POWER TO CODE CONVERTER.....	1821
<i>A. Serov</i>	
OPTIMAL TRANSFER FUNCTION OF CORRECTION DEVICE TO INPUT SIGNAL RESTORATION USING STATE VECTOR OF PRIMARY MEASURING TRANSDUCER.....	1828
<i>A. L. Shestakov ; O. L. Ibryaeva ; D. Yu. Iosifov</i>	
THE NUMERICAL METHOD OF SOLVING OF INVERSE SPECTRAL PROBLEMS GENERATED BY PERTURBED SELF-ADJOINT OPERATOR.....	1832
<i>S. I. Kadchenko ; A. I. Kadchenko ; G. A. Zakirova ; S. I. Kadchenko</i>	

THE RELIABILITY OF THE CONTACT SWITCHING OF THE MEASURING SIGNAL.....	1837
<i>S. V. Dmitriev ; I. S. Dmitrieva ; Ju. P. Syutkina</i>	
THE PERFORMANCE MATRIX OF THE CONTACT SWITCH OF THE MEASURING SIGNALS.....	1841
<i>S. V. Dmitriev ; Ju. P. Syutkina ; I. S. Dmitrieva</i>	
THE PRINCIPLE OF DIAGNOSTIC OBSERVABILITY OF THE OBJECT ON THE SET OF MEASUREMENTS AND DATA REDUCTION BASED ON THE DECOMPOSITION MODELING METHOD.....	1845
<i>A. V. Sedov</i>	
DYNAMIC MEASURES OF THE FORCE OF FOOT BREAKAWAY FROM GROUND OF DEEPWATER WALKING MACHINES.....	1849
<i>V. V. Chernyshev ; V. V. Arykantsev</i>	
OPTIMAL CONTROL OF SOLUTIONS TO THE SHOWALTER — SIDOROV PROBLEM FOR THE SOBOLEV TYPE EQUATION OF HIGHER ORDER.....	1853
<i>A. A. Zamyshlyayeva ; O. N. Tsyplenkova ; E. V. Bychkov</i>	
Author Index	