

CONTENTS

MATERIAL PROCESSING IN MECHANICAL ENGINEERING

Bernatskyi A.V., Sokolovskyi M.V., Siora O.V., Bondarieva V.I., Shamsutdinova N.O. SIMULATION OF THERMAL PROCESSES OCCURRING DURING LASER WELDING OF THIN-WALLED BUTT JOINTS OF MULTICOMPONENT HEAT-RESISTANT SUPERALLOYS FOR AEROSPACE APPLICATIONS.....	1
---	---

INDUSTRIAL ENGINEERING

Petryk V.O., Trubachev S.I., Kolodezhnyi V.A. RELIABILITY OF WIRE POTENTIOMETRIC SENSORS USED IN THERMAL POWER INDUSTRY...9	
Petryk V.O., Trubachev S.I., Kolodezhnyi V.A. RESEARCH OF CONTACT RESISTANCE IN HEAT-RESISTANT PRECISION POTENTIOMETERS....	14

ELECTRICAL ENGINEERING

Buryk M.P., Lobodzynskyi V.Yu., Buryk I.P., Grychanovs'ka T.M., Bibyk V.V. SIMULATION OF THE ELECTRIC FIELD OF A TWO-WIRE CABLE USING A SYSTEM OF FOUR CHARGED AXES.....	18
Gouoschapov S.S., Kolebanov O.K. INTERCONNECTION OF THE LOADING MODES OF THE ASYNCHRONOUS ELECTRIC DRIVE.	26

EQUIPMENT

Diadiun N.A., Kornev V.P. DEVICE FOR LOW-LEVEL DIAGNOSING OF AUTOMOTIVE CAN DATA BUS.....	31
Monchenko O.V., Movchan N.S., Chubko L.S., Marchenko N.B., Kovtoniuk I.Yu. IMPROVEMENT OF TECHNICAL CHARACTERISTICS OF THE DEVICE FOR ELIMINATION OF SKIN DEFECTS.....	41
Skakun O.V., Syvoborodko A.V. OVERVIEW OF PORTABLE MODERN MEASURING EQUIPMENT FOR ENVIRONMENTAL CONTROL.....	47

RADIO ENGINEERING AND TELECOMMUNICATIONS

Volovyk A.Yu. LOCALLY OPTIMAL ROBUST ESTIMATES OF THE LINEAR SYSTEMS STATE WITH INDEFINITE INPUTS.....	56
Zahreba A.Ya., Lebedev D.Yu. DEVELOPMENT OF THE CIRCUIT ENGINEERING SOLUTION FOR A DIGITAL WEATHER CHRONOMETER.....	62
Manko O.O., Kunah N.I., Kharlai L.O., Nikiforenko K.B., Konovalov O.Yu., Sotnichenko Yu.O. PROTECTION OF INPUT CIRCUITS OF MICROWAVE RANGE RADIO RELAY STATIONS RECEIVERS AGAINST POWERFUL IMPULSE INTERFERENCES.....	67
Mogylevych D.I., Kononova I.V., Shchyhol Yu.F. RELIABILITY MODEL OF ELECTRONIC COMMUNICATION NETWORK EQUIPMENT TAKING REFUSALS AND FAILURES INTO ACCOUNT.....	74
Pavlov L.M., Yaganov P.O. OPTIMIZATION OF THE INTEGRAL TEMPERATURE THRESHOLD SENSOR.....	80
Prokopets V.A., Globa L.S. METHOD OF INTERSECTORAL REDISTRIBUTION OF USERS BASED ON DIGITAL TWIN TECHNOLOGY.....	87
Saiko V.G., Narytnyk T.M. APPLICATION OF BLOCKCHAIN SYSTEM FOR SECURE MESSAGING IN GETEROGENNIC MOBILE NETWORKS OF TERAHERTZ RANGE.....	92

Saiko V.G., Narytnyk T.M. MODEL OF FORECASTING OF SYSTEM PARAMETERS OF BLOCKCHAIN SYSTEMS IN HETEROGENEOUS MOBILE NETWORKS OF TERAHERTZ RANGE	98
Saiko V.G., Narytnyk T.M. THREE-DIMENSIONAL MULTILAYER NETWORKS OF TERAHERTZ RANGE.....	104
Semenov A.O., Semenova O.O., Voitsekhovska O.O., Khloba A.A., Ovcharuk A.O. DIAGNOSTIC DEVICE FOR GAS-FILLED DEVICES FOR VISUAL REPRODUCTION OF THE INFORMATION.....	110
Tsiapa S.M. A COMPREHENSIVE METHOD OF PROTECTING THE INFRASTRUCTURE OF THE 5G MOBILE COMMUNICATION NETWORK.....	116

INFORMATICS, COMPUTER ENGINEERING AND AUTOMATION

Boloban O.A., Petrenko A.I. PECULIARITIES OF USING THE EMD ALGORITHM TO ESTIMATE THE LEVEL OF OXYGEN IN THE BLOOD.....	125
Bochok V.O., Fedorova N.V. MULTI-AGENT SYSTEMS AND PROBLEMS OF THEIR OPTIMIZATION.....	131
Galagan R.M., Andreiev S.M., Petryk V.F., Bazhenov V.G., Lysenko L.L. DETECTION OF DEFECTS IN CONCRETE STRUCTURES BASED ON IMAGE ANALYSIS USING CONVOLUTIONAL NEURAL NETWORKS.....	138
Huz D.R., Shtifzon O.Yo., Novikov P.V., Liubytskyi S.V. ENVIRONMENTAL CONDITION MONITORING SYSTEM BASED ON IOT DEVICE.....	145
Ivohin E.V., Gavrilenko V.V., Ometsynska N.V., Ivohina K.E., Rudoman N.V. ON ONE APPROACH TO SOLVING THE TRAVELING SALESMAN PROBLEM USING THE ORLIN METHOD OF OPTIMIZING DATA FLOWS.....	153
Kandyba I.O., Fisun M.T., Horban H.V., Stepanchuk D.K. GENERATOR OF MULTI-ALPHABETIC SYNTACTIC ANALYZERS WITH GRAPHICAL DISPLAY OF THE SYNTACTIC TREE.....	158
Kravchenko O.S., Demchenko M.O., Voloshko O.V., Filippova M.V. ANALYSIS OF THE EFFICIENCY OF USING RESOURCES IN THE COMPANY USING DIGITAL TWIN.....	164
Kurganov I.D. OPTIMAL CONTROL OF THE DRIVE DRUM OF THE BELT CONVEYOR IN AUTOMATIC SYSTEMS WITH DISTRIBUTED PARAMETERS USING THE PRINCIPLES OF MOBILE CONTROL.....	170
Lisovets S.M., Kiva I.L., Guida O.G., Vyshemirska Ya.S. ORGANIZING ACCESS TO DATA IN SCADA SYSTEMS USING MICROSOFT SQL SERVER.....	175
Makarova L.M., Kaminsky S.S., Bryzgalov M.V. DEVELOPMENT OF SOFTWARE FOR DETECTING CHANGES MADE TO THE CODE OF EXECUTABLE FILES.....	179
Mariash Yu.I., Stepanets O.V., Liubytskyi S.V. METHOD OF IMPLEMENTATION OF MODEL PREDICTIVE CONTROL OF THE BLOWING MODE PARAMETERS OF THE BASIC OXYGEN FURNACE PROCESS IN A PROGRAMMED LOGIC CONTROLLER.....	186
Melnychuk B.P., Shevchenko V.V. A COMPLEX SYSTEM OF CONTROL OF THE PROCESSING OF DEVICE PARTS IN AUTOMATED PRODUCTION.....	193
Muraviov O.V., Dovbysh I.O., Galagan R.M., Bohdan H.A., Momot A.S. DEVELOPMENT PROSPECTS OF TECHNOLOGIES AND INCREASING AUTONOMY LEVEL OF UAV... ..	199
Nevliudov I.Sh., Yevsieiev V.V., Demska N.P., Kostrova H.Yu. DEVELOPMENT AND IMPROVEMENT OF THE DESIGN OF A LIGHTWEIGHT MOBILE ROBOT MANIPULATOR USING GENERATIVE DESIGN.....	206

Pavlov V.G.	
CONTEXTUAL APPROACH IN ANALYZING THE SIMILARITY OF PROGRAM CODES.....	214
Protasov A.G., Storozhyk D.V.	
AUTOMATION TECHNOLOGIES OF ROAD SURFACE DIAGNOSTICS.....	219
Redko I.V., Zylevich M.O.	
REDUCTIVE PROGRAMMING OF PROBLEMS IN A TECHNOLOGICAL PROGRAMMING ENVIRONMENT.....	228
Sarnatskyi V.V., Baklan I.V.	
CTRACEENV: A PLATFORM FOR DEVELOPMENT AND ANALYSIS OF AGENT-BASED EPIDEMIOLOGICAL MODELS USING CTRACE LANGUAGE.....	234
Tkachuk A.H.	
THE ENGINE SELECTION CONCEPT OF A MOBILE ROBOTIC PLATFORM WITH AN AUTONOMOUS STABILIZATION SYSTEM.....	241
Ushakova I.O., Hrabovskiy Ye.M., Bondarenko D.O.	
MODELING AND SELECTION OF A DISTANCE LEARNING SYSTEM FOR A HIGHER EDUCATION INSTITUTION BASEDON THE METHOD OF HIERARCHY ANALYSIS USING THE DSS.....	246
Fedotova M.O., Matsui A.M., Trushakov D.V., Serbul O.M., Berezyuk I.A., Skrynnik I.O.	
TECHNOLOGY OF IDENTIFICATION OF THE DYNAMICS OF A MULTIDIMENSIONAL OBJECT AND ITS APPLICATION.....	255
Chumachenko S.M., Kutovoi O.P., Guida O.G., Popel V.A., Zaika N.V.	
COMPREHENSIVE APPROACH TO DETERMINING THE LEVEL OF SECURITY OF CRITICAL ENERGY INFRASTRUCTURE BASED ON AN INTEGRATED PROTECTION SYSTEM AGAINST UAV AND GUIDED BALLISTIC MISSILES.....	261
POWER ENGINEERING	
Baranyuk A.V., Vorobiov M.V., Kinzerskyi A.	
SIMULATION OF HEAT AND HYDRAULIC CHARACTERISTICS OF HOT-WATER BOILER FOR COMBUSTION OF FUEL PELLETS FROM HARDWOOD.....	268
Bosyi M.V.	
A SIMPLIFIED PHYSICAL AND MATHEMATICAL MODEL OF RESEARCHING THE PROCESS OF GAS HYDRATE FORMATION ON THE SURFACE OF THE GAS-WATER PHASE INTERPRETATION.....	276
Semychayevsky S.V., Samchenko T.V.	
STUDY OF POSSIBLE FIRE SCENARIOS IN MACHINE ROOMS OF NUCLEAR AND THERMAL POWER PLANTS.....	281
Sinchuk I.O., Kotyakova M.G.	
ELECTRICITY QUALITY CONTROL IN THE ASPECT OF IMPLEMENTATION OF MICRO GRID TECHNOLOGY.....	288
Shakhbazov I.O., Siryi O.A.	
PERSPECTIVES OF THE USE OF BIOFUEL IN HOUSEHOLD BOILER INSTALLATIONS.....	293
INFORMATION ABOUT AUTHORS.....	299