



CONTENTS

| Authors | Paper Title | Pag. |
|---|--|------|
| Marek Kubalcik, Vladimir Bobal, Tomas Barot | ANALYSIS OF MODIFIED OPTIMIZATION IN MULTIVARIABLE PREDICTIVE CONTROL WITH REGARDS TO CONTROL QUALITY | 7 |
| Ana Oliveira, João Freitas, Eurico Seabra, Luís F. Silva, Hélder Puga | DESIGN AND DEVELOPMENT OF A NEW APPROACH TO WRIST REHABILITATION | 13 |
| Ivan Pavlenko, Justyna Trojanowska, Vitalii Ivanov, Oleksandr Liaposhchenko | PARAMETER IDENTIFICATION OF HYDRO-MECHANICAL PROCESSES USING ARTIFICIAL INTELLIGENCE SYSTEMS | 19 |
| Guoxiang Cao, Anlin Wang and Donghuan Xu | NUMERICAL MODELLING OF WIDE-SENSE STATIONARY GAUSSIAN RANDOM LOAD TORQUE SIGNAL | 27 |
| Hui Shen | DESIGN OF BIOMECHANICAL SENSOR BASED LOWER LIMBS REHABILITATION TRAINING MACHINE | 32 |
| Han Gao | A B2C AGRICULTURAL PRODUCTS SELF-DISTRIBUTION SYSTEM IN E-COMMERCE ENVIRONMENT | 37 |
| Yong Luo, Dingke Chen, Chun Chen | ELECTRIC INTENSITY DISTRIBUTION OF CROSS-LINKED POLYETHYLENE BASED HIGH-VOLTAGE CABLE TERMINATION | 45 |
| Păun Rareș Dumitru, Octavian Donțu, Albu Nicoleta Dorina, Sima Nicolae Vlad, Corina Ioana Moga, Elena Beatrice Tănase | RESEARCHES ON THE USE OF OXYGEN CONCENTRATORS IN WASTEWATER OXYGENATION | 51 |
| Liu Liu, Qian Shen, Yinghua Zhao | CORRELATION BETWEEN RAILWAY SUBGRADE SETTLEMENT AND SHIELD TUNNELING CONSTRUCTION | 57 |

IJOMAM-CONTENTS

| | | |
|---|--|-----|
| Xiaojuan Yuan, Chunsheng Shi | RESEARCH ON DYNAMIC SCHEDULING OF SUPPLY INVENTORY DISTRIBUTION IN UNCERTAIN ENVIRONMENT | 62 |
| Wangcheng Cao | APPLICATION OF SUPPORT VECTOR MACHINE BASED SPEECH RECOGNITION TECHNOLOGY IN HUMAN-COMPUTER INTERACTION TECHNOLOGY | 70 |
| Lei Cao | RESEARCH ON DATA PROCESSING AND INFORMATION EXTRACTION OF REMOTE SENSING IMAGE BASED ON THE UAV AERIAL PHOTOGRAPHY | 75 |
| Shuangde Huang, Zigeng Zhou, Baoyu Xu, Shengwei Wang, Tao Wang | PATH PLANNING AND POSITIONING TECHNOLOGY OF INTELLIGENT INSPECTION ROBOT IN CABLE TUNNEL | 81 |
| S. Azizi, N. Maleki-Jirsaraei, A. Yagi | INVESTIGATION THE EFFECT OF ROUGHNESS CONTROL COEFFICIENT IN GROWTH OF CRYSTAL MATERIALS BY NANO EPITAXIAL UNDER A ONE-DIMENSIONAL BOUNDED DOMAIN | 87 |
| Ting Guo, Hongde Qin | DYNAMIC RESPONSES COUPLED ANALYSIS OF FPSO IN SOUTH CHINA SEA | 93 |
| Xiuran Wei, Feng Wang | MASSIVE DATA BALANCE SCHEDULING IN CLOUD COMPUTING ENVIRONMENT | 100 |
| Guihong Zhang, Caiming Liu, Men Tao | DATA MINING TECHNOLOGY BASED ON ASSOCIATION RULES ALGORITHM | 106 |
| Liliana-Laura Badita, Aurel Zapciu, Valentin Gornoava | SUBMICRONIC PATTERNS USING LITHOGRAPHIC TECHNOLOGIES FOR FUTURE APPLICATIONS IN THE FIELD OF SENSORS | 113 |
| Maohua Xiao, Kai Wen, Cunyi Zhang, Dan Wu, Nong Gao, Jing Zhang | AN INTELLIGENT ROLLING BEARING FAULT DIAGNOSIS METHOD OF CNN BASED ON MNIST DATABASE OF HANDWRITTEN DIGITS | 123 |
| Yang Lin | AUTONOMOUS POSITIONING AND FULL TRAVERSAL PATH PLANNING TECHNOLOGY FOR INDOOR INTELLIGENT SWEEPING ROBOT | 131 |
| Jia Liu, Peng-fei Zhao, Jing Huang | BATTERY MANAGEMENT OF NEW ENERGY VEHICLE BASED ON CFD | 143 |

| | | |
|---|--|-----|
| Yang Lei | EXPLORATION OF MECHANICAL PROPERTIES OF MODIFIED NANOMETER CONCRETE | 156 |
| Chuan Li | HYBRID OPTIMIZATION ALGORITHM FOR CABLE DESIGN OF ELECTROMECHANICAL PRODUCTS BASED ON A* AND GENETIC ALGORITHM | 165 |
| Shuai GUO, Chengtao YUE, Tao SONG, Qibo JIA | RESEARCH ON MODELING AND COMPENSATION METHOD FOR GROUND LEVEL ERROR BASED ON MOBILE MANIPULATOR | 179 |
| Aurel Zapciu, Valentin Gornoavă, Liliana Laura Badita, Anton Vieru | RESEARCH ON THE OPTIMIZATION OF SINTERING METAL CARBIDE PROCESSING COSTS USING DIAMOND COATED DISKS WITH RESINS POLYAMIDE BINDERS | 187 |
| Daniela Costa, Mariana Martins, Susana Martins, Eduarda Teixeira, Andreia Bastos, Ana Rita Cunha, Leonilde Varela | ANALYSIS OF PRODUCTION ACTIVITY CONTROL MECHANISMS FOR INDUSTRY 4.0 | 194 |
| João Lopes, Luís Farinha | INDUSTRIAL SYMBIOSIS IN A CIRCULAR ECONOMY: TOWARDS FIRMS' SUSTAINABLE COMPETITIVE ADVANTAGE | 206 |
| Daniel Cordoneanu, Constantin Nițu | FREQUENCY-BASED FEATURES FOR BEARINGS CONDITION MONITORING EXTRACTED WITH GOERTZEL ALGORITHM | 221 |
| Lian Xue, Cheng-song Hu | APPLICATION OF VIRTUAL INSTRUMENT IN AUTOMATIC TEST OF HIGH-SPEED MIXED SIGNAL | 227 |
| Dawei Ding, Xin Huan, Hailiang Liu | INTERFACE ALGORITHM FOR ELECTROMECHANICAL TRANSIENT SIMULATION OF POWER SYSTEM BASED ON PSD-PSMODEL | 236 |
| Puchun Yu | FINE-GRAINED RECOGNITION OF ROTATING MACHINERY AXIS TRAJECTORY BASED ON DEEP LEARNING | 251 |
| Guanghua Nie | INTELLIGENT NAVIGATION DESIGN OF FULLY AUTONOMOUS UNMANNED AERIAL VEHICLE BASED ON LASER POSITIONING | 263 |

| | | |
|---|--|-----|
| Jan Hošek, Šárka Němcová | A SIMPLE SYSTEM FOR THIN ROD BENDING MEASUREMENT | 273 |
| Cioboată Daniela, Soare Adrian, Stanciu Dănuț, Abălaru Aurel, Logofătu Cristian | AUTOMATIC MULTI-PARAMETRIC DIMENSIONAL AND GEOMETRIC INSPECTION OF ROTARY SYMMETRICAL PARTS LIKE BEARING RINGS | 279 |
| Cornel Marin | THE FIRST AND SECOND-ORDER THEORY OF SHEARING AND COMPRESSION IN CASE OF THE BEAM FIXED AT ONE END AND SUPPORTED TO HELICAL SPRING AT THE OTHER END | 288 |
| Mihai-Constantin Balașa, Viviana Filip | ANALYSIS OF THE STATIC AND DYNAMIC MECHANICAL BEHAVIOR OF A TIBIAL BONE-KNEE IMPLANT ASSEMBLY WITHOUT A TIBIAL EXTENSION | 296 |