



CONTENTS

Authors	Paper Title	Pag.
Muhammad Bilal Khan, Pruittikorn Smithmaitrie	DESIGN AND FABRICATION OF A 3-FIN SYMMETRIC RAY-INSPIRED SOFT ROBOT FOR UNDERWATER EXPLORATION	7
Tao SONG, Qibo JIA, Shuai GUO, Wei DAI, Fengfeng (Jeff) XI	CONTROL OF A 2-DOF INVERTED PENDULUM ON AN OMNI-DIRECTIONAL PLATFORM	17
Ştefan-Cătălin Popescu	MECHANICAL ANALYSIS OF SCANDINAVIAN TOTAL ANKLE REPLACEMENT PROSTHESES THROUGH FINITE ELEMENT	27
Ştefan-Cătălin Popescu	PROJECT DESIGN AND IMPLEMENTATION FOR ANKLE WITH MOVING CHARACTERISTICS	32
Dingke Chen, Changbin Mao, Wei Xu	DIAGNOSIS OF TRANSFORMER FAULTS USING FEATURE EXTRACTION AND AUTOMATIC DIVISION BASED FUZZY CLUSTERING	38
Hailong Xia	BIOMECHANICAL ANALYSIS OF RUNNING GAIT CHARACTERISTICS OF BASKETBALL PLAYERS WITH ANKLE INJURY	45
Yi Hu, Niqin Jing	DIAGNOSIS AND PREDICTION OF TRANSFORMER FAULTS OF SUPPORT VECTOR MACHINE OPTIMIZED BY PARTICLE SWARM ALGORITHM	50
Maohua Xiao, Jingwen Chen, Yuewen Wang, Guosheng Geng, Jing Zhang, Xinhua Lu	STARTING CONTROL STRATEGY OF HMCVT BASED ON FUZZY CONTROL ALGORITHM	56
Daniel Besnea, Gheorghe I.Gheorghe, Octavian Dontu, Edgar Moraru, Victor Constantin, Ioana Corina Moga	EXPERIMENTAL RESEARCHES REGARDING REALIZATION OF WASTEWATER TREATMENT ELEMENTS BY MEANS OF MODERN TECHNOLOGIES	61

L. Ma	APPLICATION OF ARTIFICIAL INTELLIGENCE IN COMPUTER NETWORK TECHNOLOGY UNDER THE BACKGROUND OF BIG DATA	66
Guifang Ma	MTPA AND FLUX WEAKENING CONTROL OF PERMANENT MAGNET SYNCHRONOUS MOTOR FOR ELECTRIC VEHICLE	71
Baozhou Zheng, Yaqiong Zhu	PRACTICAL TRACKING SYSTEM OF INTELLIGENT WORKSHOP PRODUCT BASED ON WIRELESS SENSOR NETWORK	80
Li Cai, Peng-qiu Hu, Ze-fu Tan	RESEARCH ON ELECTRICAL TESTING AND CHEMICAL ANALYSIS OF ELECTRIC VEHICLE LITHIUM BATTERY PACKS	89
Cai Qian	KEY TECHNOLOGY OF CREEP MONITORING FOR ANCHOR STRUCTURE OF SUSPENSION BRIDGE	95
Ang Wang, Wenxiang Han	APPLICATION OF 3D MEASUREMENT TECHNOLOGY IN URBAN HIGH-RISE BUILDING PLANNING PROJECT	104
Yili Tan, Yourong Wang	RESEARCH ON GRAPHICS ALGORITHM AND REAL-TIME DRAWING TECHNOLOGY IN 3D DATA FIELD	110
Yang Song, Cailin Wang	WORKING CONDITION OF CLAMPING CIRCUIT WHEN IGCT SWITCHES OFF AND OPTIMAL DESIGN OF ITS CIRCUIT PARAMETERS	115
Badea Cristian Radu, Badea Sorin Ionut	THE POSITIONING ERRORS GENERATED BY XSENS MVN INDUCTIVE SYSTEM DURING THE ANALYSIS OF „PUSH-UPS” EXERCISE, USING THE „SINGLE LEVEL” SCENARIO, BEFORE AND AFTER THE CALLING OF "REPROCESS" FUNCTION	120
Nicolae Băran, Gheorghe I. Gheorghe, Octavian Donțu, Daniel Besnea, Ion Durbacă, Elena Beatrice Tănase, Mihaela Constantin, Corina Ioana Moga	RESEARCHES ON THE DESIGN, EXECUTION AND TESTING OF A FINE BUBBLE GENERATOR	134
Ding MI, Yu LIN	APPLICATION OF SWARM INTELLIGENCE ALGORITHM IN MECHANICAL FAULT DIAGNOSIS	142

Shuiquan ZHU	FOUR DEGREE OF FREEDOM MEASURING INSTRUMENT FOR PRECISION MACHINERY BASED ON SEMICONDUCTOR LASER OPTICAL FIBER COMPONENTS	151
Kunquan Li, Rui Wen	CONTROL STRATEGY OF ELECTRIC MACHINERY STEPLESS TRANSMISSION SYSTEM	158
Yi-tao DING	MATHEMATICAL MODELLING AND SIMULATION OF WIND TURBINE GENERATOR	166
Hui Lv	INTERNAL FORCES ANALYSIS OF CAST-IN-SITU CONCRETE HOLLOW FLOOR BASED ON FINITE ELEMENT ANALYSIS	170
Huazhong WANG	PMSM PARAMETER IDENTIFICATION MOTOR TEST SYSTEM FRAMEWORK BASED ON VIRTUAL INSTRUMENT TECHNOLOGY	180
Qi XIE, Hao WEN, Quanwei WANG	RESEARCH AND RELIABILITY ANALYSIS OF DOUBLE BRIDGE CRANE CONTROL SYSTEM	188
Alina Rodica Spanu, Iolanda Constanta Panait	MECHATRONIC SYSTEM FOR THE EXPERIMENTAL STUDY OF FRONTAL BEAT OF THE VEHICLE BRAKE DISK	196
Lucian Bogatu, Georgeta Ionascu, Eelena Manea	STUDY OF THIN FILM STRUCTURES FOR USES IN ANEMOMETRY	201
Guoqiang GENG	THE DESIGN AND APPLICATION OF THE SELF-ADAPTIVE AUTOMATIC CONTROL SHEARER DRUM	207
Paulo Jorge Dias Torres, Sérgio Miguel Nunes Malhão	PRACTICAL IMPLEMENTATION OF REPETITION CODES	215
P.B. de Moura Oliveira, J. Boaventura Cunha, Filomena Soares	TEACHING PLC TIMERS AND COUNTERS PROGRAMMING USING MIT APP-INVENTOR	221
Jan Hošek, Vlastimil Havran, Jiří Čáp, Šárka Němcová	LASER IMAGING APPROACH FOR PORTABLE BTF MEASUREMENT SYSTEM AUTOMATIC ALIGNMENT	232
Eva Masero Rubio, Rogério Pais Dionísio, Pedro Miguel Baptista Torres	PREDICTIVE MAINTENANCE OF INDUCTION MOTORS IN THE CONTEXT OF INDUSTRY 4.0	238
Carlos Arantes, João Sena Esteves	DEVELOPMENT OF A FOUR MECANUM WHEELS OMNIDIRECTIONAL MOBILE PLATFORM ENABLING REMOTE MOTION CONTROL THROUGH A .NET GRAPHICAL APPLICATION OR AN INERTIAL MEASUREMENT UNIT	243

Fátima Gonçalves, Vítor Carvalho, Demétrio Matos	DESIGN AND DEVELOPMENT OF A SERIOUS GAME TO FIGHT CHILDHOOD OBESITY	250
V. K. Manupati, G. Rajyalakshmi, M. L. R. Varela, G.D. Putnik, J. Machado, J. Trojanowska	A STUDY OF COPPER AND ZINC CONTAMINATION ON THE WORK PIECE SURFACE BASED ON WEDM	255
P. Venugopal, S. Aswini Priya, V. K. Manupati, M. L. R. Varela, J. Machado, G.D. Putnik	AN ANALYSIS OF THE IMPACT OF UTAUT PREDICTORS ON THE INTENTION AND USAGE OF ELECTRONIC HEALTH RECORDS AND TELEMEDICINE FROM THE PERSPECTIVE OF CLINICAL STAFFS	263
Atef A. Ata, Abanoub G. Kamel	NUMERICAL EVALUATION OF THE EFFECT OF COMBINED PENDULUM TUNED MASS DAMPER ON A BASIC VIBRATING SYSTEM	270