

## CONTENTS

NEW METHODS DEVELOPED FOR SHIELDING MATERIAL CHARACTERIZATION - <i>Lia Elena V. ACIU, Petre Lucian P. OGRUTAN, Mihai V. BADIC</i> .....	9
PARAMETER MONITORING OF STAND ALONE PHOTOVOLTAIC SYSTEM - <i>Laurentiu ALBOTEANU, Alexandru NOVAC, Gheorghe MANOLEA</i> .....	13
POWER QUALITY IN OFFICE BUILDINGS - CASE STUDY - <i>Horațiu-Călin ALBU, Florin POP</i> .....	18
AKAGI'S P-Q THEORY AND ACTIVE FILTERING UNDER NON-SINUSOIDAL VOLTAGE - <i>Alexandru BITOLEANU, Mihaela POPESCU, Mircea DOBRICEANU</i> .....	24
A KNOWLEDGE-BASED APPROACH IN FUZZY CONTROLLER DESIGN - <i>Cristian Gh. BOLDISOR, Vasile V. COMNAC, Simona V.P. COMAN</i> .....	31
IMPLEMENTATION OF THE OPTICAL CURRENT AND VOLTAGE TRANSDUCERS IN THE POWER SYSTEMS - <i>Maria BROJBOIU, Virginia IVANOV, Silvia Maria DIGA</i> .....	35
THE STUDY OF THE BEHAVIOR IN TIME OF THE STANDARD, USED FOR CALIBRATING A DIGITAL MULTIMETER, TO IMPROVE THE EXPANDED MEASUREMENT UNCERTAINTY - <i>Elvira BUZAC</i> .....	42
DYNAMIC PERFORMANCE OF RELUCTANCE SYNCHRONOUS MACHINES - <i>Aurel CAMPEANU, Ion VLAD, Monica ENACHE, Ioan CAUTIL</i> .....	47
TRANSMISSION DES DONNEES EN UTILISANT LE RESEAU ELECTRIQUE – ANALYSE D'UN MODELE A QUADRIPOLES - <i>Alexandru-Ionuț CHIUTA, Mihai Octavian POPESCU</i> .....	52
CONTRIBUTIONS OF THE CONTROLLERS TUNING IN THE MULTIPLE-LOOP FEEDBACK CONTROL SYSTEM WITH THREE CONTOURS WITH INERTIA - <i>Irina COJUHARI</i> .....	59
CONSIDERATIONS ABOUT THE RELIABILITY OF TELECOMMUNICATIONS SYSTEMS - <i>Dan Mihail CURPEN, Marian ALEXANDRU, Oulția CROITORU</i> .....	66
CHARACTERIZATION AND DESIGN OF A SHAPE MEMORY ALLOY WIRE ACTUATOR - <i>Sonia DEGERATU, Horia O. MANOLEA, Nicu G. BIZDOACĂ, Gheorghe MANOLEA, Anca PETRIȘOR</i> .....	71
ASPECTS SPECIFIQUES AU CALCUL DU FLUX LUMINEUX EMIS PAR LES LUMINAIRES - <i>Silvia-Maria DIGĂ, Ioana-Gabriela SÎRBU, Virginia IVANOV, Maria BROJBOIU</i> .....	76
ACQUISITION, COMMAND AND DATA TRANSFER SYSTEM FOR MEDIUM VOLTAGE ELECTRICAL STATIONS - <i>Mircea DOBRICEANU, Alexandru BITOLEANU, Mihaela POPESCU, Eugen SUBTIRELU, Octavian Dan DOBRICEANU</i> .....	80
RESEAUX DE PETRI HYBRIDES POUR L'ANALYSE DE SYSTEMES DE CONVOYAGE - <i>Mircea Adrian DRIGHICIU, Anca PETRIȘOR</i> .....	85
ASPECTS REGARDING INFLUENCES OF RELUCTANCE SYNCHRONOUS MOTORS PARAMETERS ON THE ELECTROMAGNETIC TORQUE - <i>Monica-Adela ENACHE, Aurel CAMPEANU</i> .....	92
CONSIDERATIONS REGARDING INFLUENCES OF RELUCTANCE SYNCHRONOUS MOTORS PARAMETERS ON THE ASYNCHRONOUS STARTING - <i>Sorin ENACHE, Aurel CAMPEANU, Ion VLAD, Monica-Adela ENACHE</i> .....	98
SOME ASPECTS ABOUT NUMERICAL SIMULATION OF PLATE HEAT EXCHANGER USING FINITE ELEMENT METHOD - <i>Roxana GRIGORE, Sorin POPA</i> .....	103
SIMULATION OF THE PERMANENT MAGNETS SYNCHRONOUS MACHINE DRIVE IN FAULT CONDITIONS - <i>Sergiu IVANOV, Vlad SURU</i> .....	107
EXPERT SYSTEM FOR RELIABILITY ANALYSIS OF ELECTRICAL SYSTEMS USING THE TREE OF FAULTS METHOD - <i>Virginia IVANOV, Maria BROJBOIU, Sergiu IVANOV</i> .....	113
BATTERIES AND SUPERCAPACITORS FOR POWER SYSTEMS USED IN TRANSPORT - <i>Carmen LUNGOCI, Adrian MATOI, Ioan D. OLTEAN, Elena HELEREA</i> .....	119
WORKING OUT OF ANALYTICAL EXPRESSIONS FOR THE SIMPLIFIED OPERATIVE DEFINITION OF ADDITIONAL LOSSES AT VARIOUS SCENARIOS OF EXPORT - <i>Ilie MACOVEI, Ion STRATAN, Victor GROPA</i> .....	125
EXPERIMENTAL TEST BENCH FOR RELUCTANCE MOTORS USING DS1104 CONTROLLER BOARD - <i>Calin MARGINEAN, Viorel TRIFA, Ana-Maria MARGINEAN, Emil TRIFU</i> .....	130
A MULTI-APPROACH DESIGN IN TRAINING MOTION CONTROL FOR THE STEPPING MOTORS - <i>Dan S. MIHAI</i> .....	135
MODULAR H / S SYSTEM AS AN EXPERIMENTAL MICROCONTROLLED PLATFORM FOR THE STEPPING MOTORS - <i>Dan S. MIHAI</i> .....	140

SUPERVISORY CONTROL OF SEMIAUTONOMOUS MOBILE SENSOR NETWORKS - <i>Florin D. MOLDOVEANU, Dan I. FLOROLIAN</i> .....	145
COMPARISON BETWEEN TWO DOUBLE STATOR SYNCHRONOUS MACHINE SUPPLYING STRATEGIES - <i>Nazih MOUBAYED, Mouafac BERNARD</i> .....	151
ETUDE DU COMPORTEMENT DYNAMIQUE DE PANNEAUX SANDWICHES A L'IMPACT - <i>Safwan MOUSSADDY, Mohammad ABDUL-WAHAB, Nazih MOUBAYED, Peter DAVIES</i> .....	156
TOPOLOGICAL MODELLING OF THE METROLOGICAL IMPEDANCE SIMULATORS - <i>Vitalie NASTAS, Pavel NICOLAEV</i> .....	162
APPLICATION OF THE IMPEDANCE SIMULATORS AS MEASURE OF IMPEDANCE - <i>Vitalie NASTAS</i> .....	167
THERMAL TRANSFER SIMULATION FOR AN ELECTRICAL RESISTOR - <i>Mitică Iustinian NEACĂ, Andreea Maria NEACĂ</i> .....	172
DIELECTRIC LOSSES IN CELLULOSE-BASED INSULATIONS - <i>Petru V. NOTINGHERI, Laurentiu BADICUI, Laurentiu Marius DUMITRAN, Gabriel TANASESCU, Dorin POPA</i> .....	177
CALCULATION OF POWER LOSSES IN UNBALANCED AND HARMONIC POLLUTED ELECTRIC NETWORKS - <i>Gabriel V. POP, Mircea CHINDRIȘ, Radu BINDIU</i> .....	184
CASCADE CONTROL SYSTEM OF THREE PHASE SHUNT ACTIVE FILTERS - <i>Mihaela POPESCU, Alexandru BITOLEANU, Mircea DOBRICEANU, Mihaiță LINCĂ</i> .....	191
TORQUE CHARACTERISTICS ANALYSIS FOR TRAVELLING WAVE ULTRASONIC MOTOR - <i>Ilie PRISACARIU, Mircea IGNAT, George ZARNESCU</i> .....	196
STRATEGIES FOR PERFORMANCE OPTIMIZATION IN SUPERCAPACITOR-BASED ICE STARTING SYSTEMS - <i>Aurel Cornel STANCA, Iuliu SZEKELY, Adrian MAILAT</i> .....	201
MAGNETIC FIELD ANALYSIS OF AN INVERSE RELUCTANCE MOTOR FOR LIGHT TRACTION PURPOSES - <i>Viorel TRIFA, Călin MĂRGINEAN, George CIUBICĂ</i> .....	206
ENERGETICAL AND OPERATIONAL CONSIDERATIONS AT DIRECT CURRENT MOTORS ASSOCIATED WITH STATIC CONVERTERS - <i>Ion VLAD, Aurel CAMPEANU, Sorin ENACHE, Gabriela PETROPOL</i> .....	210