

CONTENTS

Electromagnetic and coupled fields

Adaptive mesh refinement for magnetic stimulation	1
Sawicki Bartosz	
Analysis of borderline cases of electromagnetic field variational problem	2
Howykwycz Mariya, Kasatkina Nataliya	
Combined Electromagnetic-Thermoelastic Actuator for Accurate Wide-Range Setting of Position	3
Doležel Ivo, Kotlan Václav, Ulrych Bohuš	
Computation of power of hysteresis and eddy-current losses at the induction heating of cylindrical samples of hard magnetizing materials	4
Kostin Mykola, Mishchenko Tatyana, Reutskova Oksana	
Cylindrical conductor in an arbitrary time-harmonic transverse magnetic field.....	5
Jabłoński Paweł	
Dynamics of electromagnetic brake system consisting of permanent magnets	6
Karban Pavel, Mach František	
Effect of Electrical Field Distribution in Electrospinning	7
Košek Miloslav, Pokorný Pavel, Richter Aleš	
Electromagnetic and thermal parameters of high-frequency induction heating of metal strip.....	8
Mazurenko Irina, Vasetsky Yuriy	
Estimation of Flow Velocity in Open Channels with the Use of Electromagnetic Flowmeter and Neural Network.....	9
Jakubowski Jacek, Michalski Andrzej	
Influence of excitation coil parameters and material thickness variations on standard depth of penetration in ECT applications	10
Alman Marcel, Janoušek Ladislav	
Interference of partially conductive cracks with eddy currents in non-destructive evaluation.....	11
Alman Marcel, Janoušek Ladislav, Smetana Milan	
Magnetic Field of Massive Conductor at Low Frequency	12
Košek Miloslav, Richter Aleš, Truhlar Martin	
Magnetohydrodynamic Pumps for Molten Salts in Cooling Loops of High-Temperature Nuclear Reactors	13
Doležel Ivo, Ulrych Bohuš	
Mathematical Model of the Electromagnetic Accelerator.....	14
Hamola Orest, Horyachko Vsevolod, Stakhiv Petro	
Optimized Design of Magnetic Field in Hall Effect Flow Meter.....	15
Košek Miloslav, Slavík Lubomír	
Parametric analysis in pulsed eddy current evaluation of conductive materials	16
Janoušek Ladislav, Smetana Milan	
Power losses in the screen of bifilar high current busduct	17
Kusiak Dariusz, Piątek Zygmunt, Szczegielniak Tomasz	
Propagation of higher voltage and current harmonics generated by the nonlinear load of AC arc furnace	18
Brociek Wiesław, Wilanowicz Robert	
Simulation of Spatial Coordinate of Movable Ferromagnetic Solid Object in Induced Magnetic Field by Diakoptic Methods	19
Rendzinyak Serhiy	
Simulation of the acoustic emission process and application of its results to the electrical equipment diagnostics	20
Khomyuk Ivan, Myslovych Mykhailo, Sysak Roman, Ulienko Oleksii	
The AC MHD pump for pumping of KOH solution	21
Dejmek Jiří, Donátová Martina, Kotlan Václav	
The impact of the displacement of the both the tubular conductor and screen axes on the magnetic field in high current busducts	22
Kusiak Dariusz, Piątek Zygmunt, Szczegielniak Tomasz	
The magnetic field of the tubular high current busducts of rectangular finite length	23
Barglik Jerzy, Baron Bernard, Kolańska-Pluska Joanna, Piątek Zygmunt	

The meaning of the elliptical field in the screened flat three-phase high current busduct 24
Kusiak Dariusz

Circuits theory and its application

A simple approach to the analysis of nonlinear circuits having multiple DC solutions 25
Halgas Stanislaw, Tadeusiewicz Michal

About The Peculiarities of Applying Frequency Symbolic Method of Linear Parametric Circuits Analysis 26
Mandziy Bohdan, Mankovsky Spartak, Shapovalov Yuriy

Analysis of CMOS circuits having multiple DC operating points 27
Halgas Stanislaw, Tadeusiewicz Michal

Avoiding Loss of Accuracy in Network Analysis 28
Dmytryshyn Roman

Fast Transient Overvoltage in Transformer Winding..... 29
Předota Antonín

Feature selection for analog circuits fault diagnosis based on time domain analysis 30
Ossowski Marek

Generating higher harmonics in LED diode lamps used in housekeeping 31
Putz Łukasz

Implementation of Fuzzy Filters in EIT Image Reconstructions..... 32
Dedkova Jarmila, Ostanina Ksenia

Parametric Fault Detection in Analog Circuits Containing MOS Transistors 33
Kuczyński Andrzej

Patch Antenna Design Optimisation with Metamaterial Structure..... 34
Faktorová Dagmar, Omelka Peter

Ripple Estimation in Active Power Filters 35
Mikolajuk Kazimierz, Tobola Andrzej

The research of emergence of radio electronic devices quality forming systems..... 36
Bobalo Yuriy, Kiselychnyk Myroslav, Melen M., Nedostup Leonid

Theoretical and practical aspects of diagnostics of electronic circuits in the frequency domainn 37
Blagitko Bogdan, Brygilevych Volodymyr, Rabyk Vasyl

Two-stage algorithm for soft fault diagnosis in analog dynamic circuits..... 38
Korzybski Marek

Uncertainty of dual channel sampling analog-digital converter jitter estimation 39
Jósko Adam, Olędzki Jerzy

Using SLPS interface in simulation model of Active Power Filter with prediction control 40
Adrikowski Tomasz, Buła Dawid, Pasko Marian

Electrical machines and apparatus

Gliding Discharges in Rotary Machine Insulation – Diagnostics, Simulation and Measurement 41
Hamar Roman, Trnka Pavel

Mathematical models and macromodels of electric power transformers..... 42
Byczkowska-Lipinska Liliana, Hoholyuk Oksana, Stakhiv Petro

Measurement, Detection of Partial Discharge Inside of HV Transformer, Modeling, Sensors and Measurement..... 43
Drexler P, Fiala Pavel, Jirku T

The usage of vibrations for diagnostics of electrical machines moving parts 44
Gyzhko Yuri

Power engineering theory

Features of the analysis of power interchange processes in electric networks with nonlinear non-stationary elements 45
Denysyuk S., Kyrylenko Olexandr, Rybina O.

Inductance of tubular high current busducts of rectangular finite length 46
Barglik Jerzy, Baron Bernard, Kolańska-Płuska Joanna, Piątek Zygmunt

Study of trend elimination of time series representing power consumption in the power system..... 47
Mycka Lukasz, Osowski Stanisław, Siwek Krzysztof, Świdorski Bartosz

Measurement in electrical engineering

EMHD Model Used for Linear Moving Objects Analysis, Tests 48
Bachorec Tibor, Fiala Pavel, Szabó Zoltán

Embedding Wireless Measurement System in Internet 49
Dziadak Bogdan, Makowski Łukasz, Michalski Andrzej

Novel Approach to Electrodynamics Education 50
Polcar Petr

Practical Validation of Flow Meter Design Environment 51
Michalski Andrzej, Sienkiewicz Jan, Starzyński Jacek, Szmurło Robert, Watral Zbigniew

The Method of Measuring of the Pulse-Frequency Characteristics of the Multiport 52
Maday Volodymyr

Biomedicine

Characterization of the images of prostate cancer by numerical descriptors..... 53
Koktysz Robert, Kruk Michał, Osowski Stanisław

Electromagnetic detection of impedance changes due to single leg fracture in artificial heart valve 54
Capova Klara, Strapacova Tatiana

Methodology for EIT Image Reconstruction of Brain Tissue 55
Ostanina Ksenia

Modelling of Scattering Parameters in Biological Tissues..... 56
Faktorová Dagmar, Isteníková Katarína

Time dependence of the temperature distribution in hyperthermia thigh treatment..... 57
Kurgan Eugeniusz

Signal processing

Mixed-Mode Oscillations and Chaos in Nonlinear Circuits 58
Marszałek Wiesław, Trzaska Zdzisław

On Fractal Dimension Estimation 59
Kropik Petr, Pánek David, Předota Antonín

Quantitative analysis of the QRS complex detection in ECG signal for the wavelet transform detection algorithm 60
Jóško Adam

Systems of Recurrent Polyphase Signals..... 61
Prudyus Ivan, Sumyk Markiyan, Yankevych Roman

Wavelet Based Signal Processing Applied to Pulsed Eddy Current signals 62
Gombárska Daniela

Modelling and algorithmisation

A new algorithm for generating cuts set in undirected graphs representing electric systems 63
Piątek Łukasz

Accelerating of the process of discrete macromodels identification by gradual increase in their complexity. 64
Kozak Yuriy, Melnyk Bohdan, Selepyna Yosyp

Algorithmical Approach to Macromodelling of Dynamical Objects for Using in E-Learning System 65
Hasko Roman, Matvijchuk Yaroslav

Assessment of financing condition of companies using neural networks 66
Kurek Jarosław, Osowski Stanisław, Świdorski Bartosz

Automated selection of kernel parameters in diagnostics of analog systems 67
Biłski Piotr

Comparison of single and sequential thresholding applied to segmentation of a cell cluster at Ki-67 staining	68
Markiewicz Tomasz	
Failure Intensity Determination for System with Standby Doubling.....	69
Lozynsky Orest, Marushchak Yaroslav, Shcherbovskykh Serhiy	
Forces Acting on Multilayer Dielectric Particle in DC Dielectrophoresis.....	70
Kurgan Eugeniusz	
Implementation of genetic algorithms to feature selection for the use of brain-computer interface	71
Majkowski Andrzej, Marcin Kołodziej, Rak Remigiusz	
Impressed Cathodic Protection of Underground Tanks	72
Kurgan Eugeniusz, Wantuch Agnieszka	
Initial Conditions and Regularization Parameter Influence in EIT Image Reconstruction.....	73
Kriz Tomas	
Instant Messaging for Environmental Alert Systems.....	74
Dziadak Bogdan, Makowski Łukasz, Michalski Andrzej	
Matlab/Simulink program for determining parameters of generating unit models	75
Boboń Andrzej, Bojarska Maria, Kraszewski Tomasz, Paszek Stefan, Pruski Piotr	
Methodological contribution to steady-state and transient investigation using numerical infinite series	76
Beňová Mariana, Dobručky Branislav	
Modelling of Energetic Processes in Thin-Layer Electroplatings	77
Trzaska Maria, Trzaska Zdzisław	
Modelling of exciter's influence on radiation Q-factors and radiation patterns for lower modes of cylindrical dielectric resonance radiators.....	78
Yakovenko Eugenia	
Modified Steffensen's Method for the Computation of the Periodic Steady-State Response of Nonlinear Systems.....	79
Petriv Vasyl, Shmygelsky Yaroslav	
Outline of Noise Spectroscopy Potentialities.....	80
Fiala Pavel, Kriz Tomas, Kubasek Radek	
Parallelism in Algorithms of Interval Model Parameters Identification by the Methods of Tolerance Ellipsoidal Estimation	81
Dyvak Mykola, Pukas Andriy	
Speeding up a Guided Stretching Mesh Morpher with GPGPU.....	82
Borysiak Michał, Krawczyk Zuzanna, Starzyński Jacek, Szmurło Robert	
Statistical methods for estimation of spectral diagnostic parameters in electrical equipment diagnostics.....	83
Gorodzha Konstantin, Sysak Roman	
The Image Reconstruction for Inverse Problems with Discontinuous Coefficients	84
Filipowicz Stefan Franciszek, Rymarczyk Tomasz, Sikora Jan	
The optimal approach of computer techniques usage in the study of theoretical electrical engineering.....	85
Korud Oleksandra, Korud Vasyl	
Three-dimensional Mathematical Model Of Spatial Structure of Molecules.....	86
Horyachko Taras, Horyachko Vsevolod, Howykwycz Mariya	
Variational Integrators and Discrete Differential Forms fo Maxwell's Equations.....	87
Krzemiński Stanisław, Piotr Pawłowski	