

Contents

01	Paolo DI BARBA, Lorenzo FASSINA, Giovanni MAGENES, Maria Evelina MOGNASCHI - Automated optimal design of wells for electromagnetic cell stimulation	1
02	Anna KOZIOROWSKA, Katarzyna KOZIOŁ, Ewelina HAJDUGA, Maria ROMEROWICZ-MISIELAK - Electromagnetic field as an environmental factor affecting MCF-7 cell line <i>in vitro</i>	5
03	Blagoja MARKOVSKI, Leonid GRCEV, Vesna ARNAUTOVSKI-TOSEVA, Jasmina ANGELEVSKA KOSTADINOVSKA, Andrijana KUHAR - Improving Efficiency of Full-Wave Electromagnetic Analysis of Grounding Systems Within Homogeneous Earth	9
04	Goran RAFAJLOVSKI, Mihail DIGALOVSKI, Goga CVETKOVSKI - Space vector modulation techniques for improved stator flux trajectory in direct torque control of induction motor	14
05	Goga CVETKOVSKI, Lidija PETKOVSKA, Paolo Di BARBA, Maria Evelina MOGNASCH, Dorota KAMINSKA, Anna FIRYCH-NOWACKA, Sławomir WIAK, Mihail DIGALOVSKI, Maja CELESKA, Najmeh REZAEI, Marcin LEFIK, Grzegorz ZWOLIŃSKI, Tomasz SAPIŃSKI, Toomas TIKK, Rain Eric HAAMER, Gholamreza ANBARJAFARI - ViMeLa Project: An innovative concept for teaching mechatronics using virtual reality	18
06	Mario VUKOTIĆ¹, Damijan MILJAVEC - Study of the behaviour of a doubly-fed induction machine supplied with scalar open-loop control	22
07	Marko JESENIK, Anton HAMLER, Miloš BEKOVIĆ, Mladen TRLEP - Determination of a crack's size on the basis of the non-destructive testing with eddy currents using metaheuristics	27
08	Anton HAMLER, Peter URBANC, Marko JESENIK, Mladen TRLEP and Miloš BEKOVIĆ - Analysis of Electromagnetic Conditions Around the Conductor Clamp of a Covered Conductor	31
09	Mykhaylo ZAGIRNYAK, Roman MANKO, Oleksii KRAVETS, Tetyana KORENKOVA - The use of the wavelet-analysis for the research of the unsteady processes in the pipeline network of a pumping complex	35
10	Volodymyr DRAGOBETSKII, Valentyna ZAGIRNYAK, Sergii SHLYK, Aleksandr SHAPOVAL, Olena NAUMOVA - Application of explosion treatment methods for production Items of powder materials	39
11	MYKHAYLO ZAGIRNYAK, ANDRII KALINOV, VIACHESLAV MELNYKOV - Decrease of the thermal overloads of a variable-frequency electric drive at damages in the electric circuit of an induction motor stator	43
12	Mykhaylo ZAGIRNYAK, Oleksii CHORNYI, Iurii ZACHEPA, Volodymyr CHENCHEVOI - The autonomous sources of energy supply for the liquidation of technogenic accidents	47
13	Tomasz RYMARCZYK, Grzegorz KŁOSOWSKI - EIT detection methods of damage in landfills and flood embankments	51
14	Tomasz RYMARCZYK¹, Edward KOZŁOWSKI, Przemysław ADAMKIEWICZ, Jan SIKORA - Application of Gaussian Kernel with Regard to Correlations for Image Reconstruction in Electrical Tomography	55
15	Tomasz RYMARCZYK, Grzegorz KŁOSOWSKI - The use of elastic net and neural networks in industrial process tomography	59
16	Mykhaylo ZAGIRNYAK, Viacheslav PRUS, Oleksandr SOMKA - The ways for the improvement of the information value of the thermal image control of electric machines with long mean time between failures	63
17	Viacheslav PRUS, Oleksandr DEHTIARENKO - The determination of the current state and the reliability indices of synchronous motors with long time between failures	67
18	Viacheslav PRUS, Alyona NIKITINA - The ways for the improvement of the information value of the methods for the assessment of the quality of electric energy as a part of its technical accounting systems	71
19	Nurlan TEMIRBEKOV¹, Dossan BAIGEREYEV², Almas TEMIRBEKOV³, Andrzej SMOLARZ - Architecture of the distributed information system of the Almaty Academgorodok	75
20	Paweł KOMADA, Iryna TRUNOVA, Oleksandr MIROSHNYK, Oleksandr SAVCHENKO, Taras SHCHUR - The incentive scheme for maintaining or improving power supply quality	79
21	Paweł KOMADA, Oleksandr MIROSHNYK, Roman M. LYSYCHENKO, Taras SHCHUR - The influence of the specifications of the elements of range of exciters voltage inverters on their spectral characteristics	83
22	Keylan ALIMHAN, Maksat N. KALIMOLDAYEV, Abilmajin A. ADAMOV, Orken MAMYRBAYEV, Nurbolat TASBOLATULY, Andrzej SMOLARZ - Further Results on Output Tracking for a Class of Uncertain High-Order Nonlinear Time-Delay Systems	88
23	Alexander LITVINENKO, Orken MAMYRBAYEV, Natalya LITVINENKO, Assem SHAYAKHMETOVA, Andrzej KOTYRA - Modified arc models in a SF ₆ power circuit breaker	92
24	Yelena V. BLINAYEVA, Waldemar WOJCIK, Kanagat K. TOLUBAYEVA, Saule S. SMAILOVA - The Influence of Infrasonic Impacts on the Crude Oil Viscosity Reduction	98
25	Saule NYSANBAYEVA, Waldemar WÓJCIK, Olga USSATOVA - Algorithm for generating temporary password based on the two-factor authentication model	101
26	Oleksandr A. SAVCHENKO, Oleksandr O. MIROSHNYK, Stanislav V. DYUBKO, Taras SHCHUR, Paweł KOMADA, Kanat MUSSABEKOV - Justification of ice melting capacity on 6-10kV OPL distributing power networks based on fuzzy modeling	106
27	Oksana BOYKO, Oleksandra HOTRA - Improvement of dynamic characteristics of thermoresistive transducers with controlled heating	110
28	Bartosz SAWICKI, Artur KRUPA - Optimization of coil geometry using Monte Carlo method with HTCondor and Microsoft Azure technologies	114

PRZEGŁĄD ELEKTROTECHNICZNY Vol 2019, No 5

Contents

29	George J. ANDERS, Maciej MRÓZ, Mateusz ELLWART - Influence of crossing buried 110 kV high voltage cable lines on their steady state ampacity	119
30	Andrzej KSIĄŻKIEWICZ, Ryszard BATURA - Calculation of minimal short-circuit current in parallel arrangement of cables for a three phase short-circuit fault	124
31	Adam STECKIEWICZ, Bogusław BUTRYŁO - Analysis of the magnetic properties of the thin-film materials with a conductive periodic structure	129
32	Piotr MYNAREK, Rafał GABOR, Marcin KOWOL, Janusz KOŁODZIEJ, Marian ŁUKANISZYN - Analysis of a Modified-Structure Switched Reluctance Motor Designed for an E-Bike	133
33	Marek PAVLÍK - Compare of shielding effectiveness for building materials	137
34	Taieb BESSAAD, Rachid TALEB, Djilali BENYOUCEF, Abdelkader BELBOULA - Modeling and Control of multimachines System Using Fuzzy Logic	141
35	Nessim Abderrahim BOURAHLA, Mustapha BENGHANEM, Mamadou DOUMBIA, Hamid BOUZEBOUDJA - The economic feasibility analysis of generated photovoltaic energy in the USTO campus	147
36	Supayotin NA SONGKLA - Implementation of Resistorless Universal Biquad Filter with Electronic Controllability	153
37	Suthasinee LAMULTREE¹, Chalee JANSRI¹, Chuwong PHONGCHAROENPANICH - Gain Improvement of Dual-Band Circular Monopole Antenna for 2.45/5.5 GHz WLAN Applications	157
38	Andrzej SZAFRANIEC - Analysis of transient processes in a susceptible motion transmission pump drive system with asynchronous motor	161
39	Adam GOZDOWIAK - Determination of salient pole synchronous machines electromagnetic parameters from the SSFR test	166
40	Stanisław Andrzej TORBUS - Current – polarization-dependent loss" optical fibre sensor	171
41	Paweł POCZEKAJŁO - Coefficient quantization effect for Gauss filter for direct and orthogonal (Givens rotations) realization	175
42	Kornelia BANASIK, Andrzej Ł. CHOJNACK - Effects of unreliability of electricity distribution systems for municipal customers in urban and rural areas	179
43	Łukasz KĘDZIERSKI - High speed imaging method for rotational speed calibration	184
44	Paweł SZMITKOWSKI, Sylwia ZAKRZEWSKA, Agnieszka GIL, Paweł ŚWIDERSKI - Capabilities of Polish power plants - advantages and threats	188