

Contents

01	Krzysztof MAJER - Calculation of noise emitted by transformers	1
02	Małgorzata SZYMAŃSKA-ŚWIĄTEK - Application of DGA analysis for evaluation of OLTC's technical state	5
03	Jarosław GIELNIAK, Piotr PRZYBYŁEK, Hanna MOŚCICKA-GRZESIAK - The electric strength of nanomodified liquid dielectrics	10
04	Paweł RÓZGA - Development of electrical discharges in synthetic ester under lightning impulse voltage	14
05	Jarosław GIELNIAK - Moisture distribution in RBP bushing core	18
06	Agnieszka KAMIŃSKA, Włodzimierz BIELECKI - Statistical models for the estimation of execution time of coarse-grained OpenMP programs	22
07	Jolanta KOSZELEW¹, Piotr WOŁEJSZA - Anticollision manoeuvre optimization in the NAVDEC system	27
08	Stanisław Jerzy NIEPOSTYN - The Sufficient Criteria For Consistent Modelling Of The Use Case Realization Diagrams With A New Functional-Structure-Behaviour UML Diagram	31
09	Aleksandr CARIOW, Galina CARIOWA - An unified approach for developing rationalized algorithms for hypercomplex number multiplication	36
10	Remigiusz KOŃCA - Fast computation of the SLTF transform	40
11	Robert KRUPIŃSKI, Przemysław MAZUREK, Konrad DERDA - Small-Size Skin Features for Motion Tracking	44
12	Dmitry KAPLUN, Dmitry KLIONSKIY, Alexander VOZNESENSKIY, Vyacheslav GULVANSKIY - Digital filter bank implementation in hydroacoustic monitoring tasks	47
13	Adam NOWOSIELSKI - Mechanisms for increasing the efficiency of holistic face recognition systems	51
14	Dorota OSZUTOWSKA-MAZUREK, Przemysław MAZUREK, Konrad DERDA, King SYCZ, Grażyna WAKER-WÓJCIUK - Sensitivity of Nuclear-Cytoplasmic Index and Nuclear-Cytoplasmic Relation in Computer Aided Cytoscreening Diagnosis	56
15	Leonard ROZENBERG, Robert RYCHCICKI - Hybridization of the optimization process as an alternative way to find approximate solutions for NP-hard problems	59
16	Krzysztof CABAJ, Piotr GAWKOWSKI - HoneyPot systems in practice	63
17	Krzysztof OKARMA, Piotr LECH, Andrzej POLAKOWSKI, Sylwia GAJDA - Monte Carlo based reduction of image resolution in view of no-reference image quality assessment	68
18	Piotr LECH, Krzysztof OKARMA, Dominik WOJNAR - Binarization of document images using the modified local-global Otsu and Kapur algorithms	71
19	Paweł GÓRSKI - Performance comparison of ICA algorithms for audio blind source separation	75
20	Edward PÓŁROLNICZAK, Michał KRAMARCZYK - Computer analysis of the noise component in the singing voice for assessing the quality of singing	79
21	Agnieszka KONYS - A Framework to COTS Component Selection and Evaluation Processes	84
22	Dariusz FREJLICHOWSKI, Katarzyna GOŚCIEWSKA - A Study on Various Shape Descriptors and Matching Methods Applied in the General Shape Analysis	89
23	Tomasz HYLA, Imed EI FRAY, Witold MACKÓW, Jerzy PEJAŚ - Implementation of Pairing-Based Cryptographic Trust Infrastructure in Mobile Environment	93
24	Izabela REJER, Krzysztof LORENZ - Classic genetic algorithm vs. genetic algorithm with aggressive mutation for feature selection for a brain-computer interface	98
25	Dariusz FREJLICHOWSKI - Application of Selected Geometrical 3D Object Description Algorithms to the Problem of Model Retrieval	103
26	Marcin PIETRAS - Sentence sentiment classification using fuzzy word matching combined with fuzzy sentiment classifier	107
27	Łukasz MAZUROWSKI - Algorithmic composition transformational-generative system for background music generation	112
28	Sławomir Andrzej TORBUS, Patryk DUTKIEWICZ - Designing of telecommunication single mode optical fibers for the sensors using magneto-optical Faraday effect	118
29	Janusz BOBULSKI, Henryk PIĘCH - Road signs recognition with two-dimensional hidden Markov models	123
30	Aleksander DZIADECKI, Janusz GRZEGORSKI, Józef SKOTNICZNY - Sensorless control system of SRM drive	127

PRZEGLĄD ELEKTROTECHNICZNY Vol 2015, No 2

Contents

31	Marek PALKOWSKI - Parallel Code Generation for Mobile Devices	133
32	Piotr MARCHEL, Józef PASKA - Electronic model of non-repairable item's reliability	137
33	Maciej KUTYŁO, Marcin PLUCIN`SKI, Magdalena LASKOWSKA - Application of the reinforcement learning for selecting fuzzy rules representing the behavior policy of units in RTS-type games	142
34	Maciej CIĘŻKOWSKI, Arkadiusz MYSTKOWSKI - Design of two-wheeled self-balancing vehicle	147
35	Maciej SŁAWIŃSKI - Another Approach to the Fractional Order Derivatives	153
36	Paweł DRĄG, Krystyn STYCZEN - Application of the "stretching" function for solving electrical circuits with differential-algebraic relations	157
37	Antoni CIEŚLA, Wojciech KRASZEWSKI, Mikołaj SKOWRON, Przemysław SYREK - Analysis of the distribution of the magnetic field generated by the physiotherapy device	162
38	Piotr GROCHAL - Power in electrically commutated circuits - spectral dispersion of energy	166
39	Borys BAKUN - The problem of specific energy consumption of an electric vehicle on the example of a car after the drive conversion	174
40	M. E. HAQUE, M. F. M. ZAIN, M.A. HANNAN, M.JAMIL, MD. ASIKUZZAMAN - Real Time Prototype to Measure Structural Acceleration and Tilt of High-Rise Building	177
41	Roman PARTYKA, Daniel KOWALAK - The analysis of gas flow through pressure relief ducts during fault arc inside MV switchgears	183
42	Karol WRÓBEL, Piotr J. SERKIES - Methods of reducing the computational complexity of predictive controller drives with induction motors	187
43	Jerzy MARZECKI, Mariusz DRAB - Loads and power flows in the middle voltage rural distribution network – selected issues	192
44	Andrzej ZAJĄC, Łukasz GRYKO, Marian GILEWSKI - Temperature stabilization of the set of laser diodes working independently	196
45	Dariusz CZYŻEWSKI - LED substitutes of conventional incandescent lamps(2)	199
46	Ewa RAJ, Roman GOZDUR, Zbigniew LISIK, Mateusz SOŁYGA - Measurement setup for thermal parameter investigations of electronic materials	205
47	Vladimir FIRAGO, Waldemar WOJCIK - High-temperature three-colour thermal imager	208
48	Małgorzata GIZELSKA - Sensors and Measuring Systems in the Diagnostics of Mechatronic Rotating Systems	215
49	Tomasz GRZEBYK, Piotr SZYSZKA, Anna GÓRECKA-DRZAZGA - Field-emission electron source for miniature MEMS-type devices	219
50	Tomasz ŁAWICKI - The curvelet transform denoising of CT images	222
51	Marcin LEBIODA, Jacek RYMASZEWSKI - Dynamic properties of cryogenic temperature sensors	225
52	Daniel PACZESNY, Grzegorz TARAPATA, Michał MARZĘCKI - Heated tube with a temperature sensor fabricated in inkjet printing technology	228
53	Krzysztof SUCHOCKI - Metrological properties of voltammetric electrodes in the frequency domain	232
54	Sylwia WALCZAK, Jacek GOŁĘBIEWSKI, Szymon MILCARZ - Design of flexible textronic temperature sensors	236
55	Ihor SHCHUR, Andrzej RUSEK, Andrii KOVALCHUK - Development and simulation of special rotary transformer – contactless power transmitter and control device for a counter-rotating wind turbine	239
56	Stanisław Jerzy SŁOWIKOWSKI - Criteria determining the highest permissible operation temperature of an oil transformer when the humidity of the cellulose insulation increases	243