

Contents

01	Jacek KOWALSKI - Analyses of oscillator CMOS circuit and synchronized oscillators network for binary image segmentation	1
02	Tomasz MATAJEK¹, Volodymyr MOSOROV - The design of power supply or silicon photomultipliers	9
03	Stanisław KISZŁO, Michał SZYMAŃSKI - Functionality evaluation of medium voltage overhead vacuum switch disconnectors with a closed three-pole design, in off-line conditions	14
04	Agnieszka DZIENDZIEL, Henryk KOCOT - Benefits and Challenges Resulting from the Development of Multi-Circuit Multi-Voltage Overhead Lines	18
05	Marek JAWORSKI - Non-standard solutions for supports of high voltage overhead lines in the aspect of landscape protection and electromagnetic field impact	21
06	Jacek KATARZYŃSKI¹, Marek OLESZ - Fault Loop Impedance Measurement in High Power Photovoltaic Installation with Energy Storage	25
07	Adam BABS¹, Łukasz KAJDA, Marcin TARASIUŁ, Mirosław MATUSEWICZ - New secondary substation as a tool for providing flexibility services	28
08	Nhlanhla Mbuli, Bongumsa Mendu - A survey of applications of simple and multiple linear regression in wind power generation	32
09	R. Jesinthaangel¹, G. Gomathi Jawahar - Oscillation Theorems for Third Order Neutral Delay Difference Equation with Negative Coefficient in the Neutral Term	36
10	Viktor Kaplun, Svitlana Makarevych, Roman Chuenko - Modelling of Asynchronous Motor with Split Stator Windings on the Principle of a Rotary Autotransformer	39
11	Noureddine KHENFAR, Abdelhafid SEMMAH, Ilhami COLAK - Efficiency of fuzzy PWM control applied to an active filter series under a disturbed voltage source	44
12	Estifanos Dagnew Mitiku, Gebrie Teshome Aduye, S. Abdul Rahman, Mahilet Mentésinot Abuhay - Performance Comparison of Harmonic Filters in an Industrial Power System for Harmonic Distortion Reduction	50
13	Harith Al-Badrani, Rakan Khalil ANTAR, Asef A. Saleh - Modeling of 81-Level Inverter Based on a Novel Control Technique	54
14	Harriman RAZMAN, Azmi AWANG MD ISA, Mohamad Kadim SUAIDI - Experimental Quantification of Electrostatic Damage (ESD) in Binary Reticle with Feature of Nanometre Scale Gaps	60
15	Katia Sidi Ahmed, Bachir Maouche, Yasmine Gabi, Bernd Wolter, Benjamin Straß - Coupled electrical circuit method calculation with 3MA eddy current application for metal investigation	64
16	Zehor OUDNI¹, Azouaou BERKACHE², Jinyi LEE², Dehbia OUAMARA - Characterization of defects in conductive materials by the intrusive stochastic method using the random variable Lognormal	69
17	Imene OUALID, Samir Flazi, Naima OUSSALAH, Nacera NAOUI, Habib BENAMAR, Amine BOUDGHENE STAMBOULI - Novel Self-Evacuating Electrostatic Precipitator (SE-ESP)	74
18	Abdulla I. Abdulla, Mohammed Almaged, Salam Ibrahim khather - Aircraft Pitch Angle Control Using Pole Placement Approach Based on GA and ABC Optimization Techniques	79
19	Pavlo HERASYMENKO - Augmented PDM for series-resonant inverters	84
20	Souha Ayadi, Zied LACHIRI - Visual Emotion sensing using Convolutional Neural Network	89
21	Mohammed GHAZAL, Roaa ALBASRAWI, Najwan WAISI, Mayyada AL HAMMOSHI - Smart Meeting Attendance Checking Based on A multi-biometric Recognition System	93
22	Irena DROFOVA, Milan ADAMEK - Analysis of the structure material of the bronze object in 3D models point cloud	97
23	Tomasz RYMARCZYK, Grzegorz KŁOSOWSKI, Paweł RYMARCZYK, Jan SIKORA, Przemysław ADAMKIEWICZ, Michał OLESZEK - Tuning machine learning hyperparameters in electrical tomography of masonry walls	102
24	Dariusz WÓCIK, Barbara STEFANIAK, Michał WOŚ, Bartłomiej KICZEK, Tomasz RYMARCZYK - Image reconstruction for lung monitoring in wearable electrical impedance tomography	123
25	Tomasz RYMARCZYK, Andres VEJAR, Timur KASSYMOV - Concurrent data acquisition of electrocardiogram and respiration rate using predictive filtering	110
26	Dariusz SZTAFROWSKI, Robert KAZNOWSKI - Infrastructure problems related to the operation of electric vehicle charging stations on a road with heavy traffic	114
27	Nataliya HOTS, Krzysztof PRZYSTUPA, Maryna MIKHALEWA, Berestov RUSLAN - Simulation of the influence of multiple reflections of background radiation on the thermography results	117
28	Magdalena BUDNAROWSKA, Jerzy MIZERACZYK, Ryszard STUDAŃSKI - The electromagnetic field in a shielding enclosure with aperture caused by a ultrashort high power plane wave pulse	121
29	Łukasz PILIMON, Marcin JARNUT, Marcin SZOTT - Regenerative testing system for electric vehicles charging station	125
30	Dariusz SAJEWICZ, Augustyn WÓJCIK, Piotr ZEGADLO - Detection of fault events in medium voltage grid based on analysis of data from fault recorders	131
31	Michał CZOSNYKA, Bogumiła WNUKOWSKA - Capacity market and impact on the amount of fees for electricity	136
32	Filip RATKOWSKI, Michał KOŁTUN, Stanisław CZAPP - The Effect of Cable Duct Diameter on the Ampacity of High-Voltage Power Cables	141
33	Jerzy MARZECKI, Mariusz DRAB - Model of load determination and power flows calculation in the medium voltage rural distribution network	145
34	Paweł KOWALSKI, Robert SMYK1 - Comparison of thresholding algorithms for automatic overhead line detection procedure	149