

IECON 2024 - 50th Annual Conference of the IEEE Industrial Electronics Society

**Chicago, Illinois, USA
3-6 November 2024**

Pages 1-650



**IEEE Catalog Number: CFP24IEC-POD
ISBN: 978-1-6654-6455-0**

**Copyright © 2024 by the Institute of Electrical and Electronics Engineers, Inc.
All Rights Reserved**

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

****** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP24IEC-POD
ISBN (Print-On-Demand):	978-1-6654-6455-0
ISBN (Online):	978-1-6654-6454-3

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com

TABLE OF CONTENTS

Tokenizing Industrial Assets: Multi-File Binding Using an Average Perceptual Hash	1
<i>Michael Prummer, Emanuel Regnath, Saurabh Singh, Harald Kosch</i>	
Supertwisted Synergetic Control for AC-DC Power Converter of G2V-V2G Capable Onboard Electric Vehicle Charger	7
<i>Hafiz Mian Muhammad Adil, Hassan A. Khan</i>	
Causal Discovery for Rechargeable Battery Modeling Considering Group-Level DAG Constraints	13
<i>Yue Wang, Sihui Chen, Jiang Xu, Jiayu Wan, Yang Liu, Xin Li</i>	
Similar Days Fuzzy Clustering Load Forecasting	19
<i>Hossein Amini, Ali Mehrizi-Sani</i>	
A Single DC Link Four Level Multilevel Inverter with Increased DC Bus Utilization for Drives	24
<i>Rohith Pottekkat, Vivek R S, K. Gopakumar, L. Umanand, B. Subba Reddy, Leopoldo G. Franquelo</i>	
Control of Three-Phase PWM Rectifier Using Multiple Frame Dq Transform and Harmonic Modeling	30
<i>Maxime Grosso, Pierre Riedinger, Jamal Daafouz, Serge Pierfederici, Hicham Janati Idrissi, Blaise Lapôtre</i>	
MCFICS: Model-Based Coverage-Guided Fuzzing for Industrial Control System Protocol Implementations	36
<i>Uchenna Ezeobi, Sena Hounsinnou, Habeeb Olufowobi, Yanyan Zhuang, Gedare Bloom</i>	
Application Analysis of the Optimal Control Algorithm for Different Mathematical Models of a Synchronous Generator	42
<i>F. V. Mitin</i>	
Rapid Development Framework of Motor Control Technology for IPM Synchronous Motor Drivers Based on Multi-Verification in the Loop	48
<i>Zhao-Hong Qiu, Yen-Shin Lai, Chih-Jung Hsu, Wei-Ming Chiou, Shih-Hsien Lai</i>	
Dynamic Modeling and Cascade PID Motion Control of an Inhalation-Type Underwater Cleaning Robot	54
<i>Zheng Li, Xiaoxiao Mi, Michael Basin, Chunyang Qi</i>	
A Payload of Lies: False Data Injection Attacks on MQTT-Based IIoT Systems	60
<i>Wael Alsabbagh, Chaerin Kim, Peter Langendörfer</i>	
Improved Universal Control Scheme with Voltage Disturbance Observer for Dual Three-Phase PMSM Drives Under Single Open-Phase Fault	68
<i>Kailiang Yu, Zheng Wang, Chenhao Zhao, Huanzhi Wang, Xuhui Zhu, Christopher H. T. Lee</i>	
Comparison of Control Typologies for Active Horizontal Vibration Control.....	74
<i>R. S. Kanchan, Omer Ikram Ul Haq</i>	
Detecting False Data Injection Attacks Using NARX-Based Observers in Distributed Cooperative Control for DC Microgrid	80
<i>Md Abu Taher, Milad Behnamfar, Abdul Shakir Khan, Mohd Tariq, Arif I. Sarwat</i>	

Memory-Based Set Point Modulation for Improved Transient Response of Distributed Energy Resources	86
<i>Milad Beikbabaei, Brady Alexander, Ashwin Venkataramanan, Ali Mehrizi-Sani</i>	
Real-Time Simulation of a Resilient Control Center for Inverter-Based Microgrids	92
<i>Milad Beikbabaei, Ali Mehrizi-Sani</i>	
A Novel Fault Detection Technique for Single Open Circuit in a Packed E-Cell Inverter	98
<i>Bushra Masri, Hiba Al Sheikh, Nabil Karami, Hadi Y. Kanaan, Nazih Moubayed</i>	
Design and Control of a High-Frequency, High-Efficiency Single-Stage Isolated DC/AC Inverter for UPS Systems.....	104
<i>Afaf Dagher, Jean Sawma, Hadi Y. Kanaan</i>	
Advancing Energy Solution - Residential Grid Integration with DC-DC Converter.....	110
<i>Partha Sarathi Subudhi, P. Sanjeevikumar, Svein T. Hagen, M. S. Bhaskar</i>	
Safe and Fair PV Curtailment for Voltage Control in Unbalanced Active Distribution Network.....	116
<i>Arman Ali, Branislav Hredzak, Chaojie Li</i>	
Novel Approach to PV Inverter Modeling and Simulation Leveraging Experiments, Learning Based Modeling and Co-Simulation	122
<i>Salma Bennai, Kumaraguru Prabakar, Yaswanth Nag Velaga, Subhankar Ganguly, Deepthi Vaidhynathan, Matthew Reynolds, Karthkeyan Balasubramaniam</i>	
A 77.79 GOPs/W Retentive Network FPGA Inference Accelerator with Optimized Workload	127
<i>Cheng Nian, Weiyi Zhang, Fasih Ud Din Farrukh, Liting Niu, Dapeng Jiang, Fei Chen, Chun Zhang</i>	
Targeted Output Driven Dataset Generation Methodology for Training Neural Network Controllers in Specific n^{th} Order Systems	134
<i>Aman Hari Kumar, A. V. Ravi Teja</i>	
Optimizing the Charging Process of Electric Vehicles in the Context of Renewable Energy Integration	140
<i>Ali Sharida, Abdullah Berkay Bayindir, Sertac Bayhan, Haitham Abu-Rub</i>	
P ³ R – Partial Power Post Regulator for DC Buildings Application.....	146
<i>Edivan Laercio Carvalho, Andrii Chub, Andrei Blinov, Akshay Kumar Rathore, Dmitri Vinnikov</i>	
Ensemble Based Explainable Demand Forecasting for Industrial Electronic Products.....	152
<i>Debddeep Paul, Chandra Wijaya, Sahim Yamaura, Koji Miura, Yosuke Tajika</i>	
Exploratory Data Analysis and Recurrent Expansion for Power Systems Cybersecurity Forensics	160
<i>Tarek Berghout, Wei Hong Lim, Yassine Amirat, Fatima Benbouzid-Si Tayeb, Mohamed Benbouzid</i>	
Improving Data Quality for Prognostic Learning Systems Considering Complex Degradation Patterns	166
<i>Tarek Berghout, Yassine Amirat, Demba Diallo, Wei Hong Lim, Mohamed Benbouzid</i>	
AI-Driven Degradation Analysis of Oscillating Water Column Turbines Under Uncertainty	172
<i>Tarek Berghout, Mohamed Benbouzid</i>	

Single DC-Source Seven-Level Inverter with Extended Linear Modulation for Induction Motor Drives	178
<i>Vaidika T. Pardhi, Rohith Pottekkat, Nair Syam Sundar, Vivek R S, K. Gopakumar, L. Umanand</i>	
Data-Driven Approach to Predict the Consumption of Electrical Energy in Households Using Features from Non-Electric Data.....	185
<i>Fábio Sayeg, João Góis, Lucas Pereira</i>	
Circulating Current Analysis and the Improved Virtual Impedance Droop Control Strategy Based on SMC for Parallel Three-Phase Inverter Systems	191
<i>Weiqi Zhang, Yanmin Wang, Wenwen Xiong, Juan Yu, Miao Miao</i>	
Ensuring Resilience in Networked DC Microgrid Systems: Leveraging Dynamic Signature Analysis for Intrusion Detection and Response.....	197
<i>Md Abu Taher, Arif I. Sarwat, Mohd Tariq</i>	
Real-Time Smoothing Against Photovoltaic Power Generation Fluctuation: Case Study and Battery Energy Storage Systems Capacity Size Design.....	203
<i>Cong-Sheng Huang, Chih-Peng Pan, Pei-Sen Liao</i>	
Generative Adversarial Network with In-Betweening for Fine-Grained Skeleton-Based Action Generation	209
<i>Xiangyuan Qi, Zhen He, Qiang Wang</i>	
Adaptive Rate Reaching Law Based Sliding Mode Control for a Three-Phase F-Type Converter Operated as Bidirectional Battery Charger and SAPF.....	215
<i>Hasan Komurcugil, Naki Guler, Sertac Bayhan, Seyfullah Dedeoglu</i>	
Performance Evaluation of Fault Severity Estimation Analytical Model Under Noisy Conditions in Seven-Phase Electrical Machines	221
<i>Lu Zhang, Claude Delpha, Demba Diallo, Yassine Amirat, Mohamed Benbouzid</i>	
Self-Healing Q-Learning Power Routing Protocol for Smart Grids.....	227
<i>Amani Fawa, Imad Mougharbel, Kamal Al-Haddad, Hadi Y. Kanaan</i>	
Replay Attacks on Smart Grids: A Comprehensive Review on Countermeasures	233
<i>Mariem Bouslimani, Fatima Benbouzid-Si Tayeb, Yassine Amirat, Mohamed Benbouzid</i>	
Bearing Fault Detection Through Vibration and Current Signals Decomposed with EMD and SSA	239
<i>Julia Perassolli De Lazari, Mateus Giesbrecht</i>	
The Impact of Regulatory Frameworks on Peer-To-Peer Energy Trading and Prosumer Rewards in Energy Communities	245
<i>Antonio Sanfilippo, Ameni Boumaiza, Sa'D Shannak, Syed Qarnain</i>	
Blade Control for Bulk Dozer Push by Bulldozer Using Reinforcement Learning.....	252
<i>Ryota Ozaki, Takuto Motomura, Yutaka Nakayama, Shouta Mori</i>	
The Use of Gamification to Improve the Sustainability of Energy Consumption	258
<i>João Martins, Tiago Luz, Pedro Pereira, V. Fernão Pires, Armando Pires, Rui Amaral Lopes</i>	
Single-Switch Non-Isolated Buck-Boost DC-DC Converter with Wide Voltage Conversion Ratio	264
<i>V. Fernão Pires, Daniel Foito, Armando Cordeiro, Pedro Pereira, Carlos Roncero-Clemente, João Martins</i>	

SINR-Dependent Event-Triggered Based Distributed Secondary Frequency Regulation and Power Sharing with Jamming Attacks.....	270
<i>Pengcheng Chen, Shichao Liu, Xiaozhe Wang, Innocent Kamwa</i>	
Analysis of Power Distribution Efficiency and Cost Effectiveness in Decentralized Solar DC Microgrids	276
<i>Abdur Raheem, Syed Muhammad Ahsan, Uzair Ahmed, Reesha Arshad, Sajid Hussain, Nauman Zaffar, Hassan Abbas Khan, Mashood Nasir</i>	
Stability Impacts of Sandia Frequency Shift Anti-Islanding on a Grid-Connected Inverter.....	282
<i>Daniel Mendoza, Maryam Khanbaghi</i>	
Model Predictive Control Based Battery Energy Management for EV Ancillary Service Provision*	288
<i>Dinh Hoa Nguyen</i>	
Cost-Effective Modular Design for Grid-Integrated Power Converters	294
<i>Yang Ruan, Fernando Rafael</i>	
Grid Parameters and Voltage Estimation Approach Integrating Data-Driven Converter Model	301
<i>Sunil Subedi, Yonghao Gui, Yaosuo Xue</i>	
An Accurate Nonlinear Temperature-Dependent Analytical Model of the Drain-Source Turn-On Current Changing Rate for SiC MOSFETs	307
<i>Qinghao Zhang, Shengan Chen, Pinjia Zhang</i>	
Zonotopic Fault Detection for 2-D FMLSS Systems with Adaptively Event-Triggered Mechanism	314
<i>Liu Yang, Zhihong Zhao</i>	
A Model for Processed Power in DPP Converters.....	322
<i>Yousef Mahmoud</i>	
A Neural Network-Based Model Predictive Approach for Controlled Electrochemical Green Ammonia Production.....	327
<i>Miswar Akhtar Syed, Mehrdad Kazerani</i>	
Virtual Oscillator-Controlled Inverters with Adaptive Virtual Inertia and Damping to Support Frequency Stability.....	333
<i>Wenxuan Zhang, Weimin Wu, Houqing Wang, Frede Blaabjerg, Mohamed Orabi, Liang Yuan</i>	
Development of a Fruit Theft Reporting System Using a Compact Microcontroller with Deep Learning Based on Suspicious Sounds.....	339
<i>Leow Chee Siang, Tsutomu Tanzawa, Bong Tze Yaw, Koji Makino, Kazuyoshi Ishida, Hiromitsu Nishizaki</i>	
Impacts of Earthing Variations on Overvoltage in Meshed Multi-Terminal DC Grid.....	345
<i>Amir Ar-Rahman Bader, Abhisek Ukil</i>	
Energy Storage Capacity Planning Based on Equal Integration Method Considering Battery Capacity Degradation	351
<i>Xingyuan Meng, Yuzhen Wang, Bingnan Wang, Liming Xue, Shuxin Zhang</i>	
Analysis of Economic Losses from Phase Imbalance in a Wastewater Treatment Facility	356
<i>Michael L Wagner, James Cale</i>	
Parameter Identification for Grid Voltage Support Function of Aggregated DER_A Model	362
<i>Jesus D. Vasquez-Plaza, Niranjana Bhujel, Reinaldo Tonkoski, Fabio Andrade</i>	

Artificial Neural Network-Based Simplified Model Predictive Control for Enhancing Voltage Source Inverters: CMV Reduction and Weighting Factor Optimization	368
<i>Mohammad Shokrani, Arash Imanlou, Reza Behkam, Morteza Nazari-Heris</i>	
Pruning CNN Based on Combinational Filter Deletion	375
<i>Wenli Huang, Xiujie Wang, Zhihong Zhao, Li Su, Shuai Sui, Jinjun Wang</i>	
A System of Bidirectional Power Routing Toward Multi-Energy Management	381
<i>Shiu Mochiyama, Ryo Takahashi, Yoshihiko Susuki, Tsutomu Wakabayashi, Takumi Tanaka, Toshinari Momose, Hideki Yamaguchi</i>	
Design Method of Effective Passband Flat Variable FIR Filters for Weight Measurement.....	387
<i>Toma Miyata, Yasunori Sugita, Naoyuki Aikawa</i>	
Design of Three-Dimensional Binary Manipulators for Pick-And-Place Task Avoiding Obstacles.....	391
<i>Keita Sugibayashi, Eiji Konaka</i>	
Optimal Scheduling of Electric Vehicle Loads Based on Multi-Strategy Improved Coati Optimization Algorithm.....	398
<i>Libin Tian, Hongwei Li, Hongpeng Liu</i>	
Efficient Parametrization of Electric Circuit-Based Battery Models: A Novel Approach Using Adaptive Polynomial Fitting	404
<i>Petra Alexendra Reisz, Bernd Eschelmüller, Daniel Stahleder, Stephan Ledingner</i>	
Comprehensive Evaluation of Electric Vehicle Charger Performance	411
<i>Gonghao Zhao, Liming Xue, Wei Zhang</i>	
Dynamic Probability Power Flow Considering Scenery Correlation Based on Copula Function	417
<i>Changxing Wang, Hongwei Li, Shuxin Zhang, Hongpeng Liu</i>	
Distributed Predictive Control Under Multiple Sub-Formula STL Specifications with Temporal Relaxation.....	423
<i>Hongbo Yang, Yuanyuan Zou, Shaoyuan Li</i>	
Iterative Learning-Based Online Calibration of a Position Sensor System for Permanent Magnet Linear Synchronous Motors	429
<i>Gerd Fuchs, Andreas Deutschmann-Olek, Andreas Kugi, Wolfgang Kemmetmüller</i>	
A Comparative Study of Vernier Machine with Short Pitch Winding Configuration	437
<i>Jun Wei Goh, Shuangchun Xie, Libing Cao, Christopher H. T Lee</i>	
K_{∞} Function-Based Consensus Tracking Control for Multi-Agent Systems with Unknown Disturbances	443
<i>Boda Ning, Qing-Long Han</i>	
Cyber-Physical Security Trends of EV Charging Systems: A Survey	448
<i>Devin Drake, Harindra S. Mavikumbure, Victor Cobilean, Milos Manic</i>	
Modular Control System with Modular Space Vector Modulation for Modular Multilevel Converter Based on Sub-MMC Concept.....	456
<i>Saleh Farzamkia, Houshang Salimian Rizi, Mafu Zhang, Huanghao Zou, Alex Q. Huang</i>	
A Hybrid CNN-LSTM Based Network for Rolling Bearing Fault Detection	462
<i>Tales Moreira Tavares, Lucas Daher Santos, Marcos Gonçalves Quiles, Mateus Giesbrecht</i>	

Fault Diagnosis in PMSM Motors: A Review of Techniques Based on Mathematical Models.....	468
<i>Leonardo Duarte Milfont, Gabriela Torllone De Carvalho Ferreira, Mateus Giesbrecht</i>	
Semantic-Based Leader-Following Consensus of Multi-Agent Systems	474
<i>Hongchenyu Yang, Chen Peng, Jin Zhang</i>	
Semi-Independent Convolution for Image Inpainting	479
<i>Wenli Huang, Ye Deng, Xiaomeng Xin, Zhihong Zhao, Jinbao He, Jinjun Wang</i>	
Sensorless Rotor Position Estimation of Synchronous Reluctance Motor Drive	485
<i>Sonalika Singh, Ritesh Kumar Keshri, Vijay B. Borghate, Chandan Chakraborty</i>	
A Charging Station Fault Prediction Method Based on Improved Stacking Multi-Model Fusion	491
<i>Min Mao, Dan Yuan, Hongpeng Liu</i>	
Online Monitoring of Interturn Short Circuit Current in PMSMs	497
<i>Lukas Zezula, Petr Blaha</i>	
Unsupervised Anomaly Sound Analysis Method Using StyleGAN2 to Estimate the Degree and Type of Abnormalities	503
<i>Riko Yasuda, Ayaki Sugawara, Hiroaki Nishi</i>	
Robust Super Twisting Sliding Mode Control Based Model Predictive Current Control of Totem Pole Bridgeless Boost PFC Converter.....	509
<i>Hyun-Gyu Koh, Yeong-Jun Choi, Irfan Sami</i>	
Stability Analyses of Bison Wind Farm Using Frequency Scan.....	515
<i>Muhammad Arshad, Omid Beik, Muhammad Owais Manzoor, Wajiha Ateeq, Mian Jalal Ud Din</i>	
Novel Current-Sensorless Control Approach for Single-Stage Buck-Boost Based EV Charger	521
<i>Ali Sharida, Sertac Bayhan, Haitham Abu-Rub</i>	
Effects of Different Triggering Mechanisms on Pulse Shaping of a TMS Pulse Generator Based on Supercapacitor Energy Storage.....	527
<i>Soniya Raju, Nihal Kularatna, Marcus Wilson, Alistair Steyn-Ross</i>	
Impedance Modeling and Stability Analysis of Charging Module Based on Vienna and Full-Bridge Three-Level LLC.....	533
<i>Mengen Chen, Wei Zhang, Shuxin Zhang</i>	
Four-Switch Buck-Boost Integrated Bridge for Bidirectional IPT System	539
<i>Chunwei Ma, Xiaohui Qu, Zhihao Guo, Cheng Li</i>	
Towards Human-Centric Manufacturing: Leveraging Digital Twin for Enhanced Industrial Processes	545
<i>Chao Yang, Hao Yu, Yuan Zheng, Riku Ala-Laurinaho, Lei Feng, Kari Tammi</i>	
F_0 Estimation of Speech Using a Complex Adaptive Pre-Emphasis Based on the ℓ_2 -Norm Regularized TV-CAR Speech Analysis	552
<i>Keiichi Funaki</i>	
Reconstructing Design of Solar Water Heating Systems into PV Power Generation Systems.....	557
<i>Wei Li, Zhihui Zou, Weihao Tang, Weiqi Zhang</i>	

A Machine Vision System Using Machine Learning for Tension Monitoring of Metal Sheets in Small-Scale Roll-To-Roll Process	563
<i>Changmin Ahn, Jae-Eun Park, Young-Keun Kim</i>	
Enhancing Bearing Lifespan Predictions: Integrating Deep Learning and Higher-Order Spectral Analysis with Acceleration-Based Approaches	569
<i>Carlos A. Reyes Pérez, Miguel E. Iglesias Martínez, Jose A. Antonino-Daviu, Larisa Dunai, Jose Guerra Carmenate, J. Alberto Conejero, Pedro Fernandez De Cordoba</i>	
A 11 mV Input Boost Converter for Low Thermal Gradients Energy Harvesting Applications	575
<i>Alessandro Bertacchini, Marco Lasagni</i>	
Battery State of Charge Estimation Using Neural Network Aided Kalman Filter	581
<i>Islam A. Sayed, Yousef Mahmoud</i>	
Structured Graph Generation by Evolutionary Algorithm for Program Code Development.....	587
<i>Marlon Löppenber, Andreas Schwung</i>	
Design of Magnetic Feet for Climbing Robot with Novel Circular Halbach Net EPM Structure	593
<i>Suchan Zhang, An Li, Bo Tao, Tianyu Hu, Rui Mao, Qinyang Yu, Han Ding</i>	
Optimization of Energy Management in Microgrid Integrated with EV, BESS & Renewable Sources	599
<i>Annu Ahlawat Bhatia, Debapriya Das</i>	
Partial Virtual Damping Impedance Method Interface Approach for Power Hardware-In-The-Loop Simulation	605
<i>James Langston, Shunya Ishiguro, Harsha Ravindra, Kazuki Watanabe, Karl Schoder</i>	
Reserve Requirement Estimation in Renewable-Intensive Power System	613
<i>Gioacchino Tricarico, Giuseppe Forte, Maria Dicorato, Francesca Marasciuolo, Francisco Gonzalez-Longatt</i>	
Optimizing Battery Energy Storage Integration with Fast EV Chargers for Grid Ancillary Services: A Case Study in East-Denmark	619
<i>Laurena Eliard, Ramadhani Kurniawan Subroto, Tomislav Dragicevic</i>	
Linear Analysis of PHIL Simulation Experiments with Multi-Phase Interfaces	625
<i>Harsha Ravindra, James Langston</i>	
DNN-Based Long Prediction Horizon Finite Control Set MPC with Switching Effort Penalization.....	633
<i>Ignacio A. Acosta, Angel L. Cedeño, Gonzalo Carvajal, Juan C. Agüero, César A. Silva</i>	
Techno-Economic Considerations for Optimal Sizing of Isolated Hydrogen-Battery-Solar Powered Microgrids	639
<i>Valeria Juárez-Casildo, Anindita Golder, Ilse Cervantes, R. De G. González-Huerta, Sheldon Williamson</i>	
An Extended State Observer Based Super-Twisting Sliding Mode Controller for Electrostatic Actuators	645
<i>Gianfranco Trovato, Lili Dong, Anusree Mandali</i>	
Implementation of a Nonlinear Robust Controller on a Pneumatic Actuator System	651
<i>Anusree Mandali, Lili Dong, Bogdan Kozul, Gianfranco Trovato</i>	

Load Capacity and Power Consumption Comparison Between 8-Pole Biased and 9-Pole Unbiased Magnetic Bearings.....	657
<i>Myounggyu D. Noh, Taesan Eom, Miseon Song</i>	
Numerical Electromagnetic Field Analysis for Omni-Directional Wireless Power Transfer Using Dogleg-Shaped Eight-Parallel Coil	663
<i>Hiroki Sato, Masashi Ohchi</i>	
A Protocol Conversion and Clock Adaptation Method Between 5G and TSN.....	669
<i>Jinhai Deng, Dajun Du, Minggao Zhu, Zheyi Chen</i>	
The Agoraphilic* Algorithm: The Enhanced Agoraphilic Algorithm for Uneven Terrain Environment Robot Navigation.....	675
<i>W. M. D. R. Gunathilaka, Gayan Kahandawa, M. Yousef Ibrahim, H. S. Hewawasam, Linh Nguyen</i>	
Rear-Passivation Effect on Thin-Film Perovskite/u-CIGS Tandem Solar Cell Performance	681
<i>Nour El I Boukourt, Antonio Garcia Loureiro, Salvatore Patanè, Mohamed Trabelsi, Trupti Ranjan Lenka, Ahmad Abushattal</i>	
Coupled-Inductor-Based Buck-Boost Inverter with Leakage Current Suppression Capability.....	687
<i>Yunfeng Xu, Weimin Wu, Houqing Wang, Frede Blaabjerg, Mohamed Orabi, Liang Yuan</i>	
Integrated Information Representation Using IEEE P2992 and Its Application Use Cases	693
<i>Makiko Kozakai, Emiri Hayashi, Hiroaki Nishi</i>	
Full-Control Initialization of Photovoltaic Park Models for Electromagnetic Transient Simulations.....	699
<i>Juan Antonio Ocampo-Wilches, Abner Ramirez, Keijo Jacobs, Jean Mahseredjian, Ahda G. Pavani</i>	
Triple, Quadruple, and Hextuple Voltage-Lift Modified Luo Converters Suitable for Renewable Applications.....	707
<i>Hossein Gholizadeh, Mohammadfazel Dehghan, Gevorg B. Gharehpetian, Atousa Yazdani</i>	
Composite Output Feedback Control of Underactuated Overhead Crane Subject to Constraints and Parameter Uncertainties.....	712
<i>Shengzeng Zhang, Xinggao Liu, Michael Basin, Haiyue Zhu, Xiaoxiao Mi, Xiongxiang He</i>	
Analysis of a Seven-Level Inverter Based on HB-NPC Topology for PV Transformerless Applications.....	718
<i>P. R. Martínez Rodríguez, C. J. Rodríguez-Cortés, D. Langarica-Córdoba, S. Iturriaga-Medina, G. Vázquez-Guzmán, J. M. Sosa Zúñiga</i>	
Study on Model Error Compensator Design Based on Generalized Minimum Variance Control.....	724
<i>Takahiro Sugahara, Shin Wakitani, Toru Yamamoto, Takashi Ochiwa, Hideki Tomiyama</i>	
Game Theory Approaches for Renewable Energy Communities: A Critical Comparison	729
<i>Alberto Biancardi, Maria Luisa Di Silvestre, Salvatore Favuzza, Francesco Montana, Eleonora Riva Sanseverino, Giuseppe Sciumè</i>	
Unsupervised Person Re-Identification Using Adversarial Attack Examples and Multi-View Clustering	735
<i>Xiaomeng Xin, Wenli Huang</i>	
A Study on Wide Input Range Switched Inductor-Based Full-Bridge LLC Converter Topology	742
<i>Zhaohong Wang, Xuanwen Xiong, Yonghong Lan</i>	

Velocity Estimation Method with Kalman Filtering for High-Speed Linear Induction Motor Based on Voltage Characteristic Waves	748
<i>Xinyu Jiang, Fei Xu, Zhen Li, Zixin Li, Liming Shi, Yaohua Li</i>	
A Counterfactual Reasoning-Based Trajectory Prediction Model for Multiple Agents.....	753
<i>Zhiwu Huang, Xinshu Yang, Heng Li, Hongjiang He, Hui Peng, Jing Wang</i>	
Modeling and Digital Implementing for Charge Control of LLC Resonant Converter with Duty Cycle Balance.....	759
<i>Zhihao Zhu, Junming Zhang</i>	
A Modular Interleaved-Based DC-DC Converter Topology for EV Fast Chargers.....	764
<i>Vitor Monteiro, Riccardo Mandrioli, Mattia Ricco, Joao L. Afonso</i>	
A Novel DC-DC Multi-Level Converter for Interfacing an SST and a Bipolar DC Grid	770
<i>Vitor Monteiro, Sergio Coelho, Joao L. Afonso</i>	
A Novel LLC-AHB Converter to Achieve Wide Voltage Gain	776
<i>Hongji Cheng, Weimin Wu, Jiaoping Huang, Houqing Wang, Mohamed Orabi, Frede Blaabjerg</i>	
Permanent Magnet Synchronous Motor Emulation Based on Quasi-Z Source Inverter	782
<i>Jiamin Deng, Yupeng Liu, Dong Xu, Marco Rivera, Patrick Wheeler</i>	
An Extended Kalman Filter Based Charge Controller Using Parallel Flyback Converters.....	788
<i>Mahesh Srinivasan</i>	
Monitoring of Product Conformity Based on Machine Learning Prediction Evaluation	796
<i>Maha Ben Ayed, Moncef Soualhi, Nouredine Zerhouni</i>	
Network-Transparent Decryption Method in Edge Area Compatible with TLS 1.3	802
<i>Takuma Fukui, Yuri Sato, Hiroaki Nishi</i>	
Practical k-Anonymization Approach for Multiple Faces in Photographs	808
<i>Takeshi Takusagawa, Hiroaki Nishi</i>	
Nonlinear Dynamics Analysis of GFL and GFM Converters Based on Hamiltonian Theory	814
<i>Yiwen Fan, Minxiao Han, Shuoze Wang, Wenqiang Xie</i>	
Grey-Box Modeling for IPMSMs Considering Nonlinearity of Torque and Current.....	820
<i>Takumi Ohnuma, Keiya Watanabe, Shou Mano</i>	
Design and Simulation of a MEMS Based Surface Profilometer.....	826
<i>T. D. S. S. Senarathna, S. A. Kariyawasam, Y. W. R. Amarasinghe, W. A. D. M. Jayathilaka</i>	
Temporally Chained Equations: An Interpretable Missing Data Imputation Approach for Smart Meters with Low Data Requirements.....	832
<i>Madhushan Buwaneswaran, Katarina Grolinger</i>	
Design Considerations at the High Frequency Link of an MMC-Driven Power Electronic Transformer for Wind-Energy Systems	840
<i>Vishnu Narayan Vipin, Ned Mohan</i>	
A Nine-Pulse Line-Commutated Converter for Six-Wire Bipolar HVDC Transmission	848
<i>Shoaib Shaikh, Mohamed Diab, Ahmed Elserougi</i>	

A Novel 5-Level 2x-Boost Switched Capacitor Based Inverter with Common-Ground Feature	854
<i>Ajit Kumar Upadhiya, N. Lakshminarasamma, Mahesh Kumar Mishra</i>	
Cyber Attack Impact Characterization for IEC 61850-Based Substations	860
<i>Nazmus Saqib, Souradeep Bhattacharya, Burhan Hyder, Manimaran Govindarasu</i>	
Power System Resilience Considering Hurricane Storms and Generator Step-Up Transformers	866
<i>David P. Mignardot, Yilu Liu</i>	
Phase-Shift Keying-Based Modulation of Talkative Dual-Active Bridge Converters.....	871
<i>Jakob Jacobsen, Marius Langwasser, Marco Liserre</i>	
Energy Management of Hybrid Solar-Wind Power with V2G Technology Using Coordinated Fuzzy-Controlled SMES	877
<i>Kotb M. Kotb, Mohamed R. Elkadeem, Atif S. Alzahrani, Mohammad A. Abido, Hossam S. Salama</i>	
New Current Analysis Method for the Diagnosis of Gearbox Faults Under Variable Load and Speed.....	883
<i>Chaima Ben Abdallah, Mahfoud Bouzouidja, Abdenour Soualhi, Hubert Razik, Noureddine Zerhouni</i>	
Improved T-Type and ANPC Multilevel Converters by Means of GaN-Based T-Cell Branch and Bidirectional Device.....	889
<i>Reza Barzegarkhoo, A. Kirubakaran, Thiago Pereira, Marco Liserre, Yam P. Siwakoti</i>	
Bearing and Gear Monitoring Under Variable Speeds and Loads Using Regime Normalization	895
<i>Mahfoud Bouzouidja, Moncef Soualhi, Abdenour Soualhi</i>	
Using Power Hardware-In-The-Loop Simulation to Explore Uninterrupted Power Service of a Converter for Microgrid	901
<i>Shunya Ishiguro, James Langston, Kazuki Watanabe, Hebert Lopez, Yuki Izumida, Isabel Barnola</i>	
Semi-Supervised Caustic Concentration Prediction in Alumina Production with Transformers.....	907
<i>Suting Gao, Wen Yu, Tianyou Chai</i>	
Evolving Neural Networks for Bi-Level Human Decision-Making Prediction in Mineral Processing.....	913
<i>Shengbo Hong, Wen Yu, Yingqin Zhu, Tianyou Chai, Qingda Chen, Yao Jia</i>	
Research on Foreign Body Detection and Fault Diagnosis of Wireless Charging System Based on Multi-Spectrum	919
<i>Chao Qi, Xiyu Mo, Yang Wang, Ruyi Li, Yifan Huang, Yanming Gong</i>	
Study on the Method of Enhancing Power Density in Wireless Energy Transmission	925
<i>Chao Qi, Yang Wang, Xiyu Mo, Wei Wang, Qisheng Qiu, Hongquan Liu</i>	
Fine Sinusoidal Voltage Modulation Inverter Driven AC Motor System Implementing Extremely Few Influences on Common-Mode Noise and Switching Loss.....	931
<i>Yuto Kobayashi, Yuki Yokokura, Kiyoshi Ohishi</i>	
A Novel Dual Channel Isolated Current Source Gate Driver for Fast Switching MOSFETs.....	937
<i>Asjad Elahi, Mohamed Youssef</i>	
Describing Function Analysis of Transformer Magnetizing Inductance for Direct Power Control of Back-To-Back Modular Multilevel Converters with Advanced Grid Support	944
<i>Vikram Roy Chowdhury, Akanksha Singh, Ramanathan Thiagarajan, Barry Mather</i>	

Grid-Forming Control Based on Capacitor Voltage Synchronization for Modular Multilevel Converter Under Weak Grid Condition	950
<i>Zixuan Zhang, Qiang Song, Kailun Wang, Xiaobin Zhao, Biyue Huang, Qingming Xin</i>	
Design of a 1000 MW HVdc System Based on Unidirectional-Current Hybrid MMC for Offshore Wind Farms	956
<i>Zhensong Zeng, Yu Shen, Maoxin Chen, Zhengxuan Li, Kailun Wang, Zixuan Zhang, Qiang Song</i>	
Components Positioning System for Guide Rails Installation Based on Plumb Lines Detection and Posture Estimation.....	962
<i>Hong Wang, Yuebo Xiao, Zhuoxian Peng, Chuang Liu, Daisuke Matsuka</i>	
Optimized Hybrid Control for Attitude Adjustment of Downhole Directional Drilling Tools	968
<i>Jing Xiao, She Wang, Zhen Cai</i>	
Support Force Characteristics Analysis of Reluctance-Type Three-Degree-Of-Freedom Magnetic Bearing with Multi-Disk.....	974
<i>Hayate Ayuzawa, Akira Heya, Hideki Fujieda, Tatsuro Fujihashi, Tsuyoshi Inoue</i>	
Modeling and Model Predictive Control of a 7-Level Packed U-Cell Converter for Grid-Tied PV Applications.....	981
<i>Raghda Hariri, Fadia Sebaaly, Kamal Al-Haddad, Hadi Y. Kanaan</i>	
Stochastic Control for Stepper Motors Using Gaussian Filter-Based Disturbance and State Observer	987
<i>Notitaka Kinjo, Shin Kawai, Triet Nguyen-Van</i>	
Effect of Display Response Time on Sense of Agency and Brain Activity During Human-machine Interface Device Operation.....	993
<i>Michihisa Yamamoto, Toru Tsumugiwa, Ryuichi Yokogawa</i>	
Running SmartMesh on the MAX32655 with MicroPython	999
<i>Luiz Sampaio, Kate O’Riordan, Dara O’Sullivan, Brian Coffey, Lance Doherty, Thomas Watteyne</i>	
A Comparative Analysis of Terminal and Second Order Sliding Mode Controllers for Full Bridge Single Phase Inverters	1005
<i>Samet Ayik, Sevki Demirbas, Naki Güler, Ugur Fesli</i>	
Kalman Filter Based Model-Free Double-Vector Predictive Control for Voltage Source Inverters	1011
<i>Tingjun Pan, Lin Qiu, Xing Liu, Jien Ma, Youtong Fang</i>	
Improving Classification of Road Surface Conditions Via Road Area Extraction and Contrastive Learning	1018
<i>Linh Trinh, Ali Anwar, Siegfried Mercelis</i>	
Automatic Elevator Shaft Measurement with Mobile Measurement Device Based on 3D Positioning.....	1025
<i>Yinrui Su, Daisuke Matsuka, Hao Chen, Yuebo Xiao</i>	
Extraction of Switching Mechanical Wave Signal on IGBT Chips Utilizing Empirical Mode Decomposition.....	1031
<i>Jiahao Wang, Cong Chen, Libing Bai, Jie Zhang, Quan Zhou, Lulu Tian</i>	
Dynamic Modeling Method for Turbofan Engines Based on Improved NARX Networks.....	1037
<i>Nannan Gu, Zhihong Zhao, Jinbao He, Jing Huang, Jianyu Bao, Yunlai Wang</i>	

Multi-Layer Disturbance Observer-Based Wheel Speed Control for Electric Vehicles	1043
<i>Yussuf Shakhin, Ahmad Bala Alhassan, Binh-Minh Nguyen, Ton Duc Do</i>	
Design and Application of Neural Network for Compensation of VSI Output Voltage Nonlinearities	1049
<i>Ludek Buchta, Matus Kozovsky</i>	
PMSM Fault Detection Using Unsupervised Learning Methods Based on Conditional Convolution Autoencoder	1055
<i>Matus Kozovsky, Ludek Buchta, Petr Blaha</i>	
Breathing Rate Estimation for Multiple People Using Wi-Fi Channel State Information	1061
<i>Ryotaro Iwatani, Koya Negishi, Takashi Ohhira, Hideki Hashimoto</i>	
A Flexible Operation Strategy of Wind Turbine Using Droop-Based Pitch Angle Control for Frequency Regulation.....	1067
<i>Jihun So, Hyunjin Jin, Yeong-Jun Choi</i>	
Scan Speed Optimization for Wafer Exposure Time Reduction in Semiconductor Manufacturing	1073
<i>Jisu Kim, Hyeseon Kwon, Kwanghyun Cho, Myungsik Lee, Weonchan Sung, Yunha Kim, Jeong-Gil Kim</i>	
Rotor Position Tracking Control of a Bearingless Motor with Oscillating Motion Function	1079
<i>Yuya Shichi, Toshie Kikuchi, Masahide Ooshima</i>	
Analysis of Ground Fault Protection in Low Voltage Distribution TN-S System	1086
<i>Wei Li, Guangxi Li, Weihao Tang, Weiqi Zhang</i>	
MTDC Fault Detection and Localization Using High-Pass Filter	1092
<i>Saad Ahmed Khan, Abhisek Ukil, Nirmal-Kumar C. Nair, Dongyu Li</i>	
Metal-Organic Framework (MOF) Based Film Bulk Acoustic Resonator (FBAR) Sensor for Volatile Organic Compounds (VOCs) Detection.....	1097
<i>Chenyang Gao, Mengyao Fu, Zhiqiang Ma, Shuyu Fan, Dibo Hou, Yunqi Cao</i>	
Parameters Estimation of an Extended Debye Model for Power Transformer Insulation Using Voltage Recovery Method (RVM) and Genetic Algorithm (GA)	1103
<i>Giuseppe Marsala, Carmelo Lodato</i>	
Artificial Neural Network SoftSensor for Water Distribution Networks.....	1110
<i>David Emanuel Gomes, António Espírito Santo, José Páscoa</i>	
Low-Disturbance Nonlinear Control of TBM Cutterhead Speed in Coal Mine Tunneling	1116
<i>Nannan Liu, Tong Wang, Jianmin Wang, Yingda Fan</i>	
Machine Learning Based Generic Demodulation Framework in Distributed Temperature Sensing	1122
<i>Jiamu Ling, Ziqian Kong, Zixuan He, Wei Ye, Zhengguo Xu</i>	
Grid Edge Waveform Analytics Framework for Event Detection and Classification.....	1128
<i>Narayan Bhusal, Nils Stenvig</i>	
An Event-Triggered MPC Scheme for Discrete pLPV Systems: Application in Auto-Scaling of Compute Nodes in a Fog Cluster.....	1135
<i>Dinsha Vinod, Jing Zhou</i>	
Pedestrian Avoidance Navigation of Mobile Robots Using Monocular Camera in Urban Environments Based on Deep Reinforcement Learning.....	1141
<i>Kei Soutome, Kazuyuki Morioka</i>	

Prescribed Performance Sliding Mode Control and Estimation for Perturbed Double-Pendulum Cranes.....	1147
<i>Ahmad Bala Alhassan, Muhammad Auwal Shehu, Ton Duc Do</i>	
Security for IEEE P1451.1.6-Based Sensor Networks for IoT Applications.....	1153
<i>Hiroaki Nishi, Janaka Wejekoon, Eugene Y. Song, Kang B. Lee</i>	
Analysis of Aggregated Residential EV Charging Trends at the Local Level	1159
<i>Ahmad Almaghrebi, Kevin James, Fares Aljuheshi, Mahmoud Alahmad</i>	
A Baseline Approach for Modeling and Characterization of Commercial Off-The-Shelf (COTS) Droop Controlled Converter	1165
<i>Muhammad Anees, Lisa Qi, Mehnaz Khan, Srdjan Lukic</i>	
Three-Phase Voltage PWM Rectifier Based on EID and Improved ADRC Control	1172
<i>Junjie Lu, Zixin Huang, Wei Wang</i>	
Dynamic Complex-Frequency Control of Grid-Forming Converters.....	1178
<i>Roger Domingo-Enrich, Xiuqiang He, Verena Häberle, Florian Dörfler</i>	
Continuous Sliding Mode Control of Lithium-Ion Battery Charger.....	1184
<i>Yanmin Wang, Bailiang Liu, Jiaming Wang, Shibo Yuan</i>	
Sensitivity Analysis of Battery Degradation Concerning Control Parameters of a Hybrid Nanogrid	1190
<i>Astrid Esparza, Maude Blondin, João Pedro Trovão</i>	
Modeling and Evaluation of Power Device Loss in the Bidirectional Isolation AC-DC Matrix Converter.....	1196
<i>Yang Mei, Hao Jin, Ning Lv, Jiaqi Zhang</i>	
A Hardware Acceleration Framework of Reconfigurable Edge Modules for Convolutional Neural Networks	1202
<i>Yiming Qiao, Zidi Jia, Shixiang Li, Lei Ren</i>	
New Intelligent Power Module with 7 th Generation IGBTs and Diodes for Motor Drive Applications.....	1208
<i>Jaewook Lee, B K Song, Tony Kwon, Daewoong Chung, Jonguk Lee</i>	
Electrical Circuit Model for Sodium-Ion Batteries.....	1213
<i>Cesare Sandri, Roberto Di Rienzo, Niccolò Nicodemo, Federico Baronti, Roberto Roncella, Roberto Saletti</i>	
Dispatch Models for Electricity-Heat-Gas Systems with Concentrating Solar Power Plants Using Info-Gap Theory and Analytic Hierarchy Process.....	1219
<i>Hualong Liu, Wenyuan Tang</i>	
IEEE 1451.0-Based Web of Thing (WoT) Ontology	1227
<i>Helbert Da Rocha, Eugene Y. Song, Riccardo Brama, Antonio Espirito-Santo</i>	
An Improved Zeta-Based DC-DC Converter	1233
<i>Mohammad Ghasri, Hossein Gholizadeh, Mohsen Hamzeh, Erfan Sadeghi, Mehrdad Saif</i>	
Exploring Plant Phenotyping Through Displacement Current Energy Harvesters-Based Self- Powered Active Sensors	1239
<i>Oswaldo Menéndez, Juan Villacrés, Fernando Auat-Cheein</i>	

Enhancing Hydro-Emulation Platform Performance: Addressing Inertial and Machine Losses Through Power-Hardware-In-The-Loop Experiments	1245
<i>Bidur Poudel, Mayank Panwar, Nischal Guruwacharya, Petr Sindler, Robb Wallen, Rob Hovsapian</i>	
Electric Vehicle Smart Charging in a Single Residence with Rooftop Solar and Energy Storage.....	1252
<i>Christian E. Viteri, Kartik V. Sastry, David G. Taylor, Michael J. Leamy</i>	
Neural Network Based Approximated Model Predictive Control with Preview on Standard Automation Hardware	1258
<i>Fabian Karau, Michael Leuer, Markus Henke</i>	
Analytical Evaluation of S-S and LCL-S Compensated Wireless EV Chargers with Partial Power Conversion.....	1266
<i>Radha Kushwaha, Vinod Khadkikar, Bashar Zahawi</i>	
An Integrated Single-Stage AC-DC-DC Multiport Converter for Remote Site Applications	1272
<i>Asad Hameed, Dennis Michaelson, Gerry Moschopoulos</i>	
A Trade-Off Study Between the Primary and Transient Responses of Grid-Forming Inverters.....	1278
<i>Xuheng Lin, Xiaoge Huang, Ziang Zhang, Reza Pourramezan</i>	
Optimal Scheduling of Active-Reactive Power for PV-BES System Considering Voltage Support and Frequency Regulation.....	1284
<i>Jiamei Zhang, Kai Sun</i>	
Transient Stability Enhancement Via a Scalable RL Method with VSG Parameter Tuning.....	1290
<i>Xiaoge Huang, Ziang Zhang, Shufan Wang, Jian Li</i>	
Development of a Tool for the Feasibility Analysis of Renewable Energy Communities in Italy	1296
<i>Daniele Fava, Matteo Caldera, Francesco Causone, Stefano Pizzuti</i>	
Elimination of Low Frequency Power Oscillation in Triple Active Bridge with Optimal Penta-Phase-Shift Modulation	1302
<i>Reimundo Alcalde, Manuel López, Javier Pereda, Félix Rojas</i>	
Mitigation of Power Oscillations in a Quad Active Bridge with GHA-Based Modeling and Hepta-Phase-Shift Modulation	1308
<i>Manuel López, Reimundo Alcalde, Enrique Espina, Félix Rojas</i>	
Numerical Simulation, Characterization and Control of Automotive Heat Exchanger Cooling Systems.....	1314
<i>Sonja Ross, Adam Gleeson, Mohamed Hefny, Ali Emadi</i>	
Comparative Analysis of Hybrid and Solid-State Circuit Breakers for an Electrified Aircraft Propulsion Network.....	1320
<i>Reza Khoshniat, Nick Wright, Peter Malkin, Wing Chun Chan, Mark Husband, Daniel Malkin</i>	
Dynamic Modeling of a Six-To-Three-Phase Indirect Matrix Converter and Performance Evaluation Using Linear Quadratic Regulator.....	1326
<i>Chabi S. Sanni, Augustin Mpanda Mabwe, Ahmed El Hajjaji</i>	
Motion-Reproduction Method with Variable Reproduction Speed by Iterative Learning Control.....	1332
<i>Naoki Motoi, Akira Yamaguchi</i>	

Noncontact Magnetic Manipulation Using Permanent Magnets: System Architecture and Experimental Validation	1338
<i>Lahiru Ekanayake, Janaka Madhusankha, Arash Komae</i>	
Sparse Linear Solvers for Large-Scale Electromagnetic Transient Simulations.....	1344
<i>Kuan-Chieh Hsu, Jongchan Choi, Suman Debnath</i>	
LI-DPS: A Long Sequence Dual Prediction Scheme Based on Informer for Efficient High-Frequency Data Transmission	1350
<i>Yu Wu, Bo Yang, Dafeng Zhu, Cailian Chen</i>	
Teager Energy Operator-Based Single-Phase Grid Synchronization Method	1356
<i>Md Shamim Reza, Md Maruf Hossain, Ali Hellany</i>	
Direction-Selective Parallel Module Structure for Cascaded Bridge and Modular Multilevel Converters with Minimum Transistor Count	1363
<i>Jinshui Zhang, Stefan M Goetz</i>	
A Lightweight Scene Text Detector with Enhanced Multi-Step Feature Fusion	1369
<i>Hao Yuan, Guang-Zhong Cao, Hongjin Hu, Yu Lei, Yanliang Du</i>	
A Novel Lightweight Disease Detection Algorithm Used in Ground-Penetrating-Radar	1375
<i>Huanming Gan, Hongjin Hu, Guang-Zhong Cao, Yu Lei, Yanliang Du</i>	
Hybrid Energy Systems Optimization in Electrified Transportation: A Comprehensive Study	1381
<i>Pouya Zolfi, Mobina Pourmashir, Mehdi Maadooliat, Ayman M. El-Refai</i>	
Integration Impacts of EVs on Power Systems, Economy, Environment, and Society: A Bibliometricassisted Mini Review.....	1389
<i>Mohamed R. Elkadeem, Kotb M. Kotb, Zia Ullah, Atif S. Alzahrani, Mohammad A. Abido</i>	
Grid Voltage Sensorless Model Predictive Control for Single-Phase Five-Level ANPC-FC Rectifier	1397
<i>Abdullah Berkay Bayindir, Ali Sharida, Sertac Bayhan, Haitham Abu-Rub</i>	
New ECE Motor Model Considering Tolerance of Manufacturing and Material for High Speed Application Under Field Weakening Control	1403
<i>Chih-Jung Hsu, Yen-Shin Lai, Zhao-Hong Qiu, Ping-Yi Lin</i>	
Fault Diagnosis of Hydraulic Servo Valve Based on a Hybrid Digital Twin.....	1409
<i>Na Liang, Zhaohui Yuan, Jian Kang</i>	
Reliable Load Match Operation of MHTGR Power Plant: A Probabilistic Operating Space Approach	1415
<i>Yao Tong, Qinyu Bao, Zhijiang Shao</i>	
Improving Energy Theft Detection Through Time Series Segmentation and Ensemble Learning	1423
<i>Emran Altamimi, Abdulaziz Al-Ali, Abdulla Al-Ali, Qutaibah Malluhi</i>	
A Dynamic Coupled Electro-Thermal Equivalent Circuit Model with Reversible Entropy Heat for Lithium-Ion Batteries	1428
<i>Kerui Li, Hui-Wen Rebecca Liang, Junming Zeng, Shu Yuen Ron Hui</i>	
A Novel Four-Wire Offgrid DFIG-BES Wind Microgrid for Remote Areas with Neutral Current Compensation for Reduced Transformer Failure.....	1434
<i>Subhadip Chakraborty, Bhim Singh, B. K. Panigrahi, Ambrish Chandra, Kamal Al-Haddad</i>	

Energy Management of Microgrids with a Novel Customer Dissatisfaction Constrained Price-Based Demand Response Program.....	1440
<i>Kutikuppala Nareshkumar, Nibir Baran Roy, Debapriya Das</i>	
Optimal Sizing and Operation of Electric Thermal Storage Systems for the Multi-Zone Residential Apartment Building	1446
<i>Camilo Enrique Ducuara Ramirez, Shaival Hemant Nagarsheth, Nilson Henao, Juan Pablo Diaz Ramirez, Kodjo Agbossou, Juan Antonio Dominguez Jimenez</i>	
Self-Inductance Variation and Harmonic Current Effects on AGV Charging System.....	1452
<i>Mahmoud Howaidi, Yousef Mahmoud</i>	
Decentralized AI-Based Fault Detection and Localization to Enhance Dynamic Response of Grid-Forming Inverters	1458
<i>Reza Behnam, Amirhosein Gohari, Mohammad B. Shadmand, Sertac Bayhan, Haitham Abu-Rub</i>	
A Type-Independent Unknown Parameters Estimation Method for Lead Component.....	1464
<i>Hong Yang, Xinpeng Liu, Weihua Liu, Xianqiang Yang</i>	
A Voltage Hexa-Lift and Output Triple Stacked Boost Converter Suitable for Renewable Applications.....	1470
<i>Hossein Gholizadeh, Mehrdad Zare, Hadi Doroudiani, Seyyed Erfan Fazeli, Gevork B. Gharehpetian, Atousa Yazdani</i>	
Unlocking the Renewable Energy Potential: A Comprehensive Study of Saudi Arabia's Eastern Region	1476
<i>Abdullah Baraeen, Shehab Al-Sakkaf, Mahmoud Kassas, Muhammad Khalid</i>	
Towards NLP-Driven Online-Classification of Industrial Alarm Messages.....	1482
<i>Yeersen Shatewakasi, Birgit Vogel-Heuser, Jan Wilch, Victoria Hankemeier, Josua Höfgen</i>	
PCB-Net: An Effective Deep Learning-Based Approach to PCBA Detection	1490
<i>Tingxin Li, Weihua Liu, Xinpeng Liu, Xianqiang Yang</i>	
Practical SOH Estimation Based on Feasible Feature Weighted Li-Ion Battery Model.....	1495
<i>Enhui Liu, Xiaomeng Xu, Shijie Tang, Bin Zhang</i>	
Enhanced Modulation Index Range for Mitigation of 5 th and 7 th Harmonics in a Five-Level Three-Phase Inverter	1501
<i>Pratik Kalkal, A. V. Ravi Teja</i>	
Design and Analysis of Digital Twin Models for Dual Active Bridge	1507
<i>Abdullah Berkay Bayindir, Ahmad Al-Khateeb, Ali Sharida, Hussein Alnuweiri, Sertac Bayhan, Haitham Abu-Rub</i>	
Improved Estimation Accuracy of HD-SEMG Decomposition Via an Image K-Means Clustering and Removal Strategy.....	1513
<i>Jinbao He, Shenwu Yang, Kai Huang</i>	
A Model-Data Hybrid Driven Method for Calculating the Schedulable Potential of EV Clusters.....	1519
<i>Shengzhuo Hu, Yirui Sun, Hongpeng Liu</i>	
Fast Global MPPT Algorithm Using Buck-Boost Topology to Track Under Any Operating Conditions	1525
<i>Subodh Sonkhla, A. V. Ravi Teja</i>	

Single-Stage Single-Phase Current Source Inverter for Standalone Applications	1531
<i>Umer Sohail, Andrei Blinov, Trond Østrem, Bjarte Hoff, Edivan Laercio Carvalho</i>	
Study on Grid Control Methods Based on Three-Phase Current Source Type 5-Level Converters	1537
<i>Jianyu Bao, Cheng Yan, Nannan Gu, Liu Yang</i>	
Operational Resilience During Storms by Optimizing Resources: A Case Study of Crew Allocation & Redeployment.....	1543
<i>Keith Dsouza, Shikhar Pandey, Will Nation, Javier Ruiz Avila, Susanne Aguilar</i>	
Real-Time Anomaly Detection on Smart Bandages with Ultra-Low Power System-Embedded Machine Learning.....	1548
<i>Soumadeep De, Harikrishnan Muraleedharan Jalajamony, Renny Edwin Fernandez</i>	
Investigation of Different Rotor Configurations of a Hybrid-PM Variable Flux Machine	1552
<i>Hesham S Badahdah, Ayman El-Refaie</i>	
Semantics for Enhancing Communications- And Edge-Intelligence-Enabled Smart Sensors: A Practical Use Case in Federated Automotive Diagnostics	1558
<i>Eoin Jordan, Martin Serrano, Amelie Gyrard, Eugene Song, Thomas Roth, David Wollman</i>	
Battery Degradation Heuristics for Predictive Energy Management in Shipboard Power Systems	1564
<i>Satish Vedula, Ayobami Olajube, Koto Omiloli, Olugbenga Moses Anubi</i>	
EMT Modelling and Control of a 20-MW DC Wind Power Generator Integrated with an Electrolyzer	1570
<i>Dwijasish Das, José-Luis Rueda-Torres</i>	
A Comprehensive Study of Sequential Model Predictive Control Methods for Multilevel Inverters	1576
<i>Hoang Le, Apparao Dekka</i>	
ANN-Based DTC for Three Level VSI Powered Induction Motor	1582
<i>Kaif Ahmed Lodi, Abdul R. Beig</i>	
A Sliding Mode Control for a Grid-Connected Three-Phase Voltage Source Inverter Based on a New Reference Frame	1588
<i>Jose-Pascual Chico-Villegas, Ramon Guzman, Luis Garcia De Vicuña, Jaume Miret, Miguel Castilla, Angel Borrell</i>	
Fault Location Method Based on CNN-BiLSTM-Attention for Locating Single-Phase Ground Fault in Active Distribution	1594
<i>Kaiyu Yang, Liming Xue, Wei Zhang, Yirui Sun</i>	
Robust Optimal Control Design for a Soft-Switched AC–DC Bidirectional Converter.....	1600
<i>Hossein Gholizadeh Narm, Pritam Das, Masoud Karimi-Ghartemani, Suzan Eren</i>	
Toward Intelligent Communication and Optimization in EVs: : A Tutorial on the Transformative Impact of Large Language Models.....	1606
<i>Mohamed Massaoudi, Haithem Abu-Rub, Ali Ghrayeb</i>	
Advanced Proximal Policy Optimization Strategy for Resilient Cyber-Physical Power Grid Stability Against Hostile Electrical Disruptions	1612
<i>Mohamed Massaoudi, Maymouna Ez Eddin, Haithem Abu-Rub, Ali Ghrayeb</i>	
Dueling Deep Q-Learning-Based Enhanced Grid Emergency Voltage Stability Control in Power Grids.....	1618
<i>Mohamed Massaoudi, Haitham Abu-Rub, Ali Ghrayeb</i>	

Implementation of a Robust Control Strategy for a Large-Power Floating Wind Turbine	1624
<i>Carlos Renan Dos Santos, Ehsan Aslmostafa, Mohammad Javad Mirzaei, Mohamed Assaad Hamida, Franck Plestan</i>	
Optimal Virtual Impedance-Based Power Decoupling Control Strategy for Grid-Forming Inverter	1630
<i>Hyeong-Seok Lee, Yeong-Jun Choi</i>	
Low Switching Frequency Motor Drive Using All Switching Patterns Search Based Direct Torque Control.....	1636
<i>Haru Hayashi, Yuki Yokokura, Kiyoshi Ohishi, Yuto Kobayashi, Tenjiro Hiwatari, Akira Satake</i>	
Multi-Objective Direct Model Predictive Control of Symmetric N-Level Multilevel Inverter	1642
<i>Muhammad Anas Baig, Hassan Abbas Khan, Nauman Ahmad Zaffar</i>	
Attack-Defense Differential Games for 3D Defenders and 2D Or 3D Attackers	1648
<i>Jiaqi Cheng, Rui Yan, Maojiao Ye</i>	
Evaluation of Ensemble Learning for Mitigating Adversarial Attacks in Industrial Object Detection.....	1654
<i>Shashank Pulijala, Sara Shahin, Tapadhir Das, Raj Mani Shukla</i>	
Wide-Range Universal Isolated DC-DC Converter for EV Charging Applications	1661
<i>Andrei Blinov, Andrii Chub, Dmitri Vinnikov</i>	
A Networked Controller Platform Based on Open-Source Hardware and Software	1666
<i>Dong-Liang Chen, Chun-Li Xie</i>	
Design and Development of Distributed Control and Measurement Systems Using UML: Earthquake Detection Case Study	1672
<i>Reza Abrishambaf, Daniele Buonocore, Antonio Espirito-Santo, Helbert Da Rocha, Vincenzo Paciello</i>	
Coordinated Control for High-Power Back-To-Back Inverter Testing with Wide Power Factor and Frequency Range.....	1678
<i>Chang Liu, Linke Zhou, Di Wang, Xudong Wang, Ali Emadi</i>	
Collaborative Planning of Fast Charging Stations with Solar PV in Urban Power and Mobility Systems.....	1684
<i>Xiuchuan Sun, Qianwen Xu</i>	
Bearing Fault Detection in Induction Motors Based on Density of Maxima Analysis.....	1690
<i>Gerardo Avalos-Almazan, Sarahi Aguayo-Tapia, Jose De Jesus Rangel-Magdaleno, Jose Hugo Barron-Zambrano, José David Filoteo-Razo</i>	
Automated Fault Detection of Broken Bars in Induction Motors Using Kurtosis Analysis	1696
<i>G. Sarahi Aguayo-Tapia, Gerardo Avalos-Almazan, Juan Ramirez-Cortes, Jose De Jesus Rangel-Magdaleno, Jose Hugo Barron-Zambrano</i>	
Modeling and Control of MMC-Based HVDC System with Analysis of Its Internal and External Dynamics.....	1702
<i>Muhammad Owais Manzoor, Omid Beik, Muhammad Arshad, Wajiha Ateeq</i>	
Advancements in Multiterminal HVDC Systems: Integrating Wind and Solar Power	1708
<i>Wajiha Ateeq, Omid Beik, Muhammad Arshad, Owais Manzoor, Mian Jalal Ud Din</i>	

Handover Prioritization-Based Event-Triggered Distributed Control for Aggregated TCLs in Virtual Power Plant.....	1714
<i>Md Musabbir Hossain, Quynh Tran, Leon Roose</i>	
Gradient-Based Learning in State-Based Potential Games for Self-Learning Production Systems	1720
<i>Steve Yuwono, Marlon L�ppenber, Dorothea Schwung, Andreas Schwung</i>	
Modelling and Torque Estimation of an Inverse Connected Cascaded WRIM in Rotor Reference Frame Operated with a Constant V/f Ratio	1727
<i>Keerthi R Gopan, Shayak Chaudhuri, Amit Kumar Jain</i>	
Hybrid Machine Learning Approach for Cyberattack Mitigation of Parallel Converters in a DC Microgrid.....	1733
<i>Naser Souri, Ali Mehrizi-Sani</i>	
Comparing IMU-Equipped Parallel and Flexible Grippers for Tactile Object Classification	1739
<i>Alexandre S. Boente, Thiago E. A. De Oliveira, Vinicius P. Da Fonseca, Paulo F. F. Rosa</i>	
Coordinated Electric Vehicle Charging Scheduling: A Framework for Alleviating Grid Congestion	1745
<i>Cesar Diaz-Londono, Paolo Maffezzoni, Giambattista Gruosso</i>	
Multi-Disturbance Mitigation Based Deadbeat Predictive Current Control for PMSM.....	1751
<i>Junqiang Luo, Yixiao Luo, Kai Yang, Jincheng Yu</i>	
A Novel Compact Dual Output Multi-Level Inverter.....	1757
<i>Dhawal Dwivedi, K. A. Chinmaya</i>	
Field of View Invariant Object Recognition Using Non-Linear Transformation Augmentation.....	1763
<i>Muslim Alaran, Zarema Balgabekova, Huseyin Atakan Varol</i>	
Graph Neural Network-Based Node Clustering for Dual-Focused Power Network Partitioning	1769
<i>Maymouna Ez Eddin, Mohamed Massaoudi, Haitham Abu-Rub, Mohammad Shadmand, Mohamed Abdallah</i>	
Parameter Optimization for Li-Ion Battery Module Digital Twin Models	1775
<i>Dillip Kumar Mishra, Jiangfeng Zhang, Benjamin Lawler, Matthew P. Castanier</i>	
Accurate Current Sharing in a DC Microgrid Using Modified Droop Control Algorithm.....	1780
<i>Naser Souri, Ali Mehrizi-Sani</i>	
Design and Development of an Unmanned Orchard Spraying Robot with Two Degrees of Freedom.....	1785
<i>Sardar Ali Abbas, Waqar S. Qureshi, Arslan Munir</i>	
Adaptive Deadbeat Predictive Controller for Grid-Feeding Inverter with Online Filter Inductance Estimation Using Recursive Least Squares	1792
<i>Mostefa Kermadi, Aissa Rebai, Saad Mekhilef, Nadhir Mesbahi, Lotfi Baghli</i>	
A Novel Short Circuit Fault Ride Through Strategy Based on Adaptive Virtual Impedance for Voltage Source Inverter	1798
<i>Xinchen Yao, Li Peng, Bowei Lin, Jia Wang</i>	
Model-Free Speed Control with Modified State Observer for Finite-Set Predictive Current Control of PMSM Drives	1804
<i>Mahdi S. Mousavi, S. Alireza Davari, Behnam Nikmaram, Freddy Flores-Bahamonde, Jose Rodriguez</i>	

Privacy Leakage in Federated Learning for Smart Grid Short-Term Load Forecasting.....	1810
<i>Hussein Aly, Abdulaziz Al-Ali, Abdulla Al-Ali, Qutaibah Malluhi</i>	
Implementing Artificial Intelligence in Safety-Critical Systems During Operation: Challenges and Extended Framework for a Quality Assurance Process.....	1818
<i>Niclas Flehmig, Mary Ann Lundteigen, Shen Yin</i>	
Control of Floating Wind Turbine: Adaptive Robust Nonlinear Solution Based on Self-Tuning Gains and Neural Network Approach.....	1826
<i>Mohammad Javad Mirzaei, Mohamed Assaad Hamida, Franck Plestan</i>	
LLM-Powered Multi-Actor System for Intelligent Analysis and Visualization of IEC 61499 Control Systems.....	1832
<i>Midhun Xavier, Tatiana Laikh, Sandeep Patil, Valeriy Vyatkin</i>	
Compact Cooling Design for SiC Based Solid State Circuit Breaker	1840
<i>Tiffany Scott, Govind Chavan, Pietro Cairolì</i>	
Methodology Design of a High Current and High-Frequency Transformer for Airborne Application.....	1846
<i>Amel Lachichi</i>	
A Predictive Maintenance Concept for Lubricant Oil Usage	1852
<i>Ferdinand Heinrich, Hadi Ghaeni, Ruben Erz, Carolin Schmidt, Elisabeth Von Der Esch- Letica, Samuel Moll, Benjamin Kormann, Franz Wenninger</i>	
DC-Link Thyristor-Based Protection for HB-MMC HVDC Systems Under Valve-Side Single- Phase-To-Ground Faults	1858
<i>Pingyang Sun, Gen Li, Georgios Konstantinou</i>	
Towards Data Center Stocktaking Using Computer Vision.....	1864
<i>Dorian Ibert, Richard Bearee, Adel Olabi</i>	
High-Precision Control of Humanoid Muscle-Skeleton Robotic Arm Using Reinforcement Learning and Large Language Models	1871
<i>Yan Wang, Qiang Wang, Jianyin Fan</i>	
Robust Detection in Power Systems: Iterative Reinforcement Learning Based Adversarial Training	1877
<i>Bipin Paudel, George Amariuca, Alireza Zare, Mohammad Shadmand</i>	
Digital Twin for Industrial Asset Management: A Case Study for Pipeline Maintenance	1884
<i>Ling Bai, Rakiba Rayhana, Jiatong Ling, Teng Wang, Zheng Liu, Andreas Schnabel, Chunsheng Yang, Min Liao</i>	
Passivity Based Stability Assessment for Four Types of Droops for DC Microgrids.....	1890
<i>Muhammad Anees, Lisa Qi, Mario Schweizer, Srdjan Lukic</i>	
Position Control of Articulated Robots Using Frequency-Shaped Shaft Torsional Torque with Low- Rigidity Couplings and Double Encoders	1896
<i>Ryota Okano, Daisuke Yashiro, Kazuhiro Yubai, Satoshi Komada</i>	
An Improved Isolated Double Step Down DC-DC Converter with ZVZCS Operation.....	1902
<i>Van-Cuong Bui, Minh-Khai Nguyen, Truong-Duy Duong, Dai-Van Vo, Young-Cheol Lim, Joon-Ho Choi</i>	
Design of Reference Governor Based on Elastic Body Model for Angular Velocity Control of Motor-Driven Axial-Flow Impeller	1908
<i>Hitoshi Nishimura, Daisuke Yashiro, Kazuhiro Yubai, Satoshi Komada</i>	

Lithium-Ion Battery SoC and SoE Sliding Mode Observation for Energy Storage System.....	1914
<i>Xuemei Zheng, Qien Li, Zongxuan Liu, Jirong Zhi</i>	
Safe Robot Affordance-Based Grasping and Handover for Human-Robot Assistive Applications.....	1919
<i>Cesare Luigi Blengini, Pangcheng David Cen Cheng, Marina Indri</i>	
Fully-Actuated Control for the Balance of Neutral Point in Three-Phase Four-Leg DC/AC Converters	1925
<i>Xuemei Zheng, Jirong Zhi, Qien Li, Shuanghui Hao</i>	
A Novel Subpixel Detection Method for Surface Mount Devices with Dual-Row Asymmetric Pins.....	1930
<i>Weihua Liu, Xianqiang Yang</i>	
Optimal Dimensioning of DC Link Capacitor for Traction Machine and Drive Cycles	1935
<i>Nimananda Sharma, Artem Rodionov, Yujing Liu</i>	
Mixed-Critical Controller Based on a Single Multi-Processor System on Chip for Collaborative Robots.....	1942
<i>Joschka Laufs-Randerath, Jens Onno Krah, Giulio Corradi, Tomas Thoresen</i>	
Neuro-Fuzzy Approach for Fault Prediction of Mechanical Bearing Faults Using Vibration Analysis	1948
<i>Veroonika Shirokova, Karolina Kudelina, Hadi Ashraf Raja, Viktor Rjabtšikov, Tatjana Baraškova, Karle Nutonen</i>	
A New Low-Coupling Permanent Magnet Vernier Machine with High Power Factor and Wide Constant Power Operation Range.....	1954
<i>Shuangchun Xie, Yanlei Yu, Shun Cai, Yiming Shen, Fawen Shen, Yaojie He, Xin Yuan, Christopher H. T. Lee</i>	
Neural Network-Based Control Optimization of a Quadruple Active Bridge with Respect to Conduction Losses	1960
<i>Ismael Chirino Aguinaga, Nicolas Patin, Vincent Lanfranchi, Patrice Gomez, Jeanne-Marie Dalbavie</i>	
A Comparative Analysis of Marquardt Identification Parameters and Estimated Parameters Using Analytic Method of Squirrel Cage Induction Motor Model	1966
<i>Ines Miloud, Erik Etien, Sebastien Cauet, Sandrine Moreau</i>	
Multi-Robot Scheduling for Deadlock Avoidance Using Nonstop Areas.....	1972
<i>Sarin Kittisares, Yoshikazu Kobayashi, Taichi Kumagai, Shinya Yasuda, Hiroshi Yoshida</i>	
Utilizing the Fuzzy Logic Algorithm for Cartesian Robot Control System in Conditions of Mechanical Damage Transmission	1979
<i>Olga Dunaeva, Siarhei Autsou, Karolina Kudelina, Mare Roosileht</i>	
JPDAF-Based Pedestrian Trajectory Estimation and Combination Leveraged by the Hungarian Method in Crowded Environments.....	1984
<i>Takumi Okada, Tomoki Ashiwa, Kazuma Sekiguchi, Kenichiro Nonaka</i>	
Green Grid Kerala: Empowering Government Buildings Through Microgrid Innovation.....	1992
<i>Asok Kumar A, P. V. Unnikrishnan, Jayan P P, Prakash Matthew, Abilash A K, Athira V</i>	
A High-Gain Single-Stage Buck/Boost Inverter.....	1998
<i>Yushan Liu, Baoming Ge, Xiangkai Feng, Marco Rivera, Patrick Wheeler</i>	
Probabilistic Forecasting of PV Power Using Artificial Neural Networks with Confidence Intervals.....	2004
<i>Saloni Dhingra, Giambattista Gruosso, Giancarlo Storti Gajani</i>	

Hybrid Modulation of Frequency and Phase Minimizing Switching Loss for LC Resonant Converter.....	2010
<i>Chang Liu, Haojun Qin, Chenyue Chen, Ming Liu, Chengbin Ma</i>	
Novel Direct Active Cell-To-Cell Balancing Approach for Energy Storage Systems Based on a Flying Inductor Circuit Topology	2016
<i>Vile Kipke, Philip Dost, Constantinos Sourkounis, Bastian Widera</i>	
A Tensegrity Hybrid Mobile Robot with Mechanical Impact Resistance.....	2024
<i>Daniil Filimonov, Altay Zhakataev, Huseyin Atakan Varol</i>	
Distribution Networks Topology Modeling Based on Data of Smart Meters	2031
<i>Le Su, Xueping Pan, Amjad Anvari-Moghaddam</i>	
Energy Scheduling of Technical Virtual Power Plant Considering Incentive-Based Demand Response Program and Distribution Network Reconfiguration	2037
<i>Pratib Harsh, Hongjian Sun, Goyal Awagan, Jing Jiang</i>	
Admittance Margin: A Guideline for Placement of Grid-Following and Grid-Forming Inverters Regarding Small-Signal Stability	2043
<i>Andreas Hadjileonidas, Yue Zhu, Timothy C. Green</i>	
A Robust Optimization Model for a Smart Home with an Electric Vehicle Parking Lot	2049
<i>Sheetal Deshmukh, Sobhan Dorahaki, Atif Iqbal, Abul Hafeez, S. M Muyeen, Shirazul Islam</i>	
Automated Cyber-Physical Validation Framework for Rapid Development of Smart Grid Controls	2056
<i>Filip Prössl Andrén, Catalin Gavriluta, Denis Vettoretti, Marco Mittelsdorf</i>	
Hyperparameter Optimization of Object Detection Networks Based on Large Language Models	2062
<i>Yushuo Hu, Qiang Wang</i>	
Spatial Temporal Graph Fusion Network for Trajectory Prediction of Moving Targets.....	2067
<i>Wenwen Li, Mingxing Li</i>	
Assessment of High-Frequency Common-Mode Voltage for Winding Insulation Monitoring Based on Novel Voltage Step Excitation.....	2073
<i>Eduardo Rodriguez Montero, Markus Vogelsberger, Thomas Wolbank</i>	
A Real-Time EMT Digital Model for a Dutch Regional EHV Network: Integrating Offshore Power.....	2079
<i>Jonathan Aviles-Cedeno, Jose Rueda, Arcadio Perilla, Peter Palensky</i>	
Control of Active and Reactive Power for a Single-Phase Grid-Connected Photovoltaic System Using Integral Sliding Mode Control with a Fixed Switching Frequency	2085
<i>Youssef Lamkharbach, Hakim Bennani, Ahmed Chebak</i>	
Trajectory Tracking Control Scheme for a Mobile Welding Manipulator Driven by Differential Drive Steering Units	2093
<i>Christof Röhrig, Daniel Heß, Buu Hai Dang Trinh</i>	
A Novel Optimization of Torque Performance Using DTC Strategy Implemented in a 3L-NPC for Induction Machines	2099
<i>M. Norambuena, R. Herrera, F. Carnielutti, M. Aly, J. Rodríguez</i>	
Trajectory Correction for Glue-Application Task by a Robot Arm Using Force and BiLSTM.....	2106
<i>Yuina Takahashi, Asato Washizu, Yoshiyuki Hatta, Junya Sato, Kazuaki Ito</i>	

Evaluation of Electricity Trading Algorithms for P2P Markets in Renewable Energy Communities	2112
<i>Eduardo Almeida, João Almeida, Paulo C. Bartolomeu, Joaquim Ferreira</i>	
BellCrop – a Bell Pepper Leaf Dataset for Disease Classification and Yield Enhancement Using Machine Learning.....	2120
<i>Pandula Pallewatta, Thilina Halloluwa, Kasun Karunanayaka, Gihan Seneviratne, Samantha Mathara Arachchi</i>	
S-GPR: Sliding Gaussian Process Regression-Based Magnetic Mapping and Evaluation of Different Magnetic Mapping Methods	2127
<i>Qiyang Lyu, Zhenyu Wu, Hongming Shen, Wei Wang, Jun Zhang, Huiqin Zhou, Danwei Wang</i>	
Distributed Secondary Control with Economic Dispatch of Energy-Water Microgrids.....	2134
<i>Matias Alegría Soto, Alex Navas Fonseca, Constanza Ahumada Sanhueza, Yeiner Arias-Esquivel, Luis Jiménez Verdugo, Doris Sáez Hueichapan</i>	
A Full Speed Domain Model Predictive Control Strategy Based on Variable Weight Factors for BLDCM.....	2140
<i>Kaiqi Zhao, Peiyan Sun, Basit Khan, Binwu Feng</i>	
Model Predictive Control Method for Ten-Switch Three-Phase Three-Level Inverter	2147
<i>Naki Guler, Ugur Fesli, Hasan Komurcugil, Sertac Bayhan</i>	
Design of Multifunctional Electromagnetic Transient Model for Grid-Forming Inverters	2153
<i>Soham Chakraborty, Jing Wang, Rasel Mahmud, Andy Hoke, Brian Johnson, Romulo Goncalves Bainy, Hangtian Lei</i>	
Microgrid Security Enhancement: Protection Based on Energy Management System Control Coordination and Device Configuration.....	2159
<i>Hércules A. Oliveira, Luiza H. S. Santos, Luiz Antônio De S. Ribeiro, José Gomes De Matos, Lucas De Paula A. Pinheiro</i>	
A Novel Hybrid Control Strategy Based on Limit Cycle Stabilization for Flying Capacitors Multilevel Inverters	2164
<i>Mohammed Benmiloud, Khaled Rayane, Atallah Benalia, Mohamed Trabelsi</i>	
SVM-Based Synchronized Fault Detection for 100% Renewable Microgrids.....	2170
<i>Soham Chakraborty, Yue Chen, Ahmed Zamzam, Jing Wang</i>	
Robust Synergetic Observer Based Fault-Tolerant Control for Electric Vehicle Applications	2176
<i>Mohammed Kabir Billa Boumegouas, Katia Kouzi, Mohamed Trabelsi, Atif Iqbal, Mhamed Birame, Mohammad B. Shadmand</i>	
Control Strategy for Even Power Distribution in Parallel Converters for Off-Grid Green Hydrogen.....	2182
<i>M. Squella, J. Espinoza, L. Palma, L. Morán, C. Carrasco</i>	
Design of Iron-Nitride-Based Permanent Magnet Variable Flux Motors	2188
<i>Bassam S. Abdel-Mageed, Akrem M. Aljehaimi, Benoit Blanchard St-Jacques, Ruisheng Shi, Pragasen Pillay</i>	
Enhanced Stability of Microgrids Based on Advanced Virtual Rotor Control and Vanadium Redox Flow Batteries.....	2194
<i>Hossam E. A. Abbou, Mohammed E. Benzoubir, Ahmed Hachemi, Abdelmoumene Delassi, Salem Arif, Mohamed Trabelsi, Hani Vahedi, Pavol Bauer</i>	

Modeling of Measurements on the Basis of Non-Linear Transformations of Time Series.....	2200
<i>Wilmar Hernandez, Alfredo Mendez, Francisco J. Arques-Orobon, Vicente Gonzalez-Posada, Jose L. Jimenez-Martin</i>	
Emulation of an Induction Machine with Inclined Eccentricity Fault.....	2208
<i>Solihah Sharief Shiekh, Pragasen Pillay</i>	
Meta Reinforcement Learning for Optimal Control of Battery Energy Storage Systems in Distributed Energy Resources	2214
<i>Abdelkader Messlem, Youcef Messlem, Djaffar Ould Abdeslam, Ahmed Safa</i>	
Intelligent Robust Direct Power Controller for Grid Connected Voltage Level Multiplier Module Inverters.....	2220
<i>Mohammad Babaie, Kamal Al-Haddad</i>	
Development of Rehabilitation Apparatus for Frozen Shoulder Adapting Each Motion Based on Direct Teaching	2226
<i>Kazuyoshi Ishida, Xiao Sun, Hiromi Kaneko, Daichi Kurita, Kazuki Kurita, Koji Makino, Hidetsugu Terada</i>	
Supercapacitor Assisted Arc Management Approaches for Direct Current Circuit Breakers-A Comparison with State of the Art and Potential New Directions	2232
<i>Chamara Dassanayake, Nihal Kularatna, Alistair Steyn-Ross, Nicoloy Gurusinghe</i>	
Multi-Objective Distributed Predictive Secondary Control Design for Frequency Restoration and Active Power Sharing of Microgrids.....	2238
<i>Benjamin Moreno Vásquez, Oscar Cartagena, Javier Ocaranza, Alex Navas-Fonseca, Doris Sáez Hueichapan, Roberto Cardenas Dobson</i>	
Startup Strategy Based on Coordinated Energy Balance Method of Series-Connected Hybrid Diode Rectifier for Integrating Offshore Wind Farm.....	2244
<i>Zhou Yu, Qiang Song, Pinjia Zhang, Biao Zhao, Wenhua Liu, Kailun Wang</i>	
Super-Twisting Sliding Mode Output Voltage Controller for Switched Reluctance Generators in Wind Power Applications	2250
<i>Filipe Pinarello Scalcon, Ignacio Galiano Zurbriggen, Andrew M. Knight</i>	
Photovoltaic-Powered Electric Mobility Solution for Wheelchair Users in Challenging Terrains.....	2256
<i>João Teixeira De Carvalho Neto, Arthur Salgado De Medeiros, Iago Souza De Medeiros</i>	
A Deep Reinforcement Learning Algorithm for Dynamic EV Routing Problem*	2262
<i>Mingxin Kang, Haoyu Tian, Jiangyan Zhang, Dechun Zheng, Yuhu Wu</i>	
Secure Object Detection of Autonomous Vehicles Against Adversarial Attacks.....	2268
<i>Haoyi Wang, Jun Zhang, Yuanzhe Wang, Danwei Wang</i>	
Estimation of Angular Velocity for Brushless DC Motors Using Particle Filter Considering Misalignment of Hall Sensors and Rotor Magnetic Poles	2274
<i>Naoto Muto, Yuichi Chida, Masaya Tanemura, Katsutoshi Mizoguchi, Kazuteru Suzuki</i>	
Microgrid Plant Design with Explicit Dynamic Performance Guarantees	2280
<i>Shweta Meena, Ayman Alzawaideh, Srdjan Lukic</i>	
Parameter Estimation of Power Electronics by Forward and Backward Solutions	2288
<i>Marcel Zimmer, Joshua Augustin, Thiemo Pesch, Andrea Benigni</i>	

Optimal Design of Parallel Elastic Actuators for Minimizing Required Torque and Power: Comparison with Series Elastic Actuators.....	2295
<i>Kyeongsik Shin, Sehoon Oh</i>	
Mechanism and Optimization Method of Leakage Magnetic Field Reduction Using Active Shielding in Wireless Power Transfer.....	2301
<i>Kaito Takashima, Takehiro Imura, Yoichi Hori</i>	
Control and Optimization of Pulsation Power Buffer for High Peak-To-Average Power Ratio Pulsed Power Loads	2307
<i>Marcel Rath, Jinia Roy</i>	
A Slack Bus Grid-Forming Inverter Based on Symmetric Sliding Mode Control Against Power Sharing Imbalances Among Microgenerators.....	2313
<i>Qianxi Tang, Li Peng</i>	
Comparison of Surface and Inset Bread-Loaf PMSM with Parallel and Novel Magnetization Orientations for Electric VTOL/Aircraft Application.....	2319
<i>Jitendra Kumar, B. G. Fernandes</i>	
Direct Modulation and Control for Matrix Converters with Harmonic Compensation	2325
<i>Galina Mirzaeva, Yuan Liu</i>	
Study of HVDC-Based Offshore Wind Farm Performance Under New Zealand Context	2331
<i>Priya Singh, Ramesh Rayudu, Praveen Kumar, Abhisek Ukil</i>	
Simple Human Fall Surveillance System Based on Person Detection	2337
<i>Duy-Linh Nguyen, Xuan-Thuy Vo, Adri Priadana, Duc-Vuong Nguyen, Thi-Le-Hang Nguyen, Kang-Hyun Jo</i>	
Enhancing Human Pose Estimation Accuracy Using Synthetic Data.....	2343
<i>Rakhat Meiramov, Zarema Balgabekova, Huseyin Atakan Varol, Adnan Yazici</i>	
Wider Neighborhood-Aware Attention in Improving YOLOv8n for One-Stage Human Fall Detection	2349
<i>Adri Priadana, Duy-Linh Nguyen, Xuan-Thuy Vo, Jehwan Choi, Kanghyun Jo</i>	
Enhanced Machine Learning for Real-Time Plant Replication in Embedded Systems.....	2355
<i>Abhisek Chowdhury, Jane Jung, Matthew M. Y. Kuo, Roopak Sinha</i>	
Reinforcement Learning-Based Energy Management Strategy for Flexible Hybrid ac/dc Microgrid	2361
<i>Javier Gutiérrez-Escalona, Carlos Roncero-Clemente, Oleksandr Husev, Oleksandr Matiushkin, Fermín Barrero-González, Eva González-Romera</i>	
Dynamic Confusion-Aware Correlation Network for Cross-Domain Fault Diagnosis	2367
<i>Jinyuan Zhang, Boyuan Yang, Ruonan Liu</i>	
On the Attack Detection Performance of Information-Theoretic Method in Industrial Control System	2373
<i>Tatsuya Nishiuchi, Yoshiki Abe, Yohei Watanabe, Mitsugu Iwamoto, Kenji Sawada, Seiichi Shin</i>	
A Novel DC Inductor Design Method Based on Ampere's Law	2379
<i>Sobhi Barg, Souhaib Barg, Kent Bertilsson</i>	

Electrical Machines: Real-Time Simulation for Intelligent Fault Diagnosis, Prognostics and Health Management	2385
<i>Shahin Hedayati Kia, Hubert Razik, Larisa Dunai</i>	
Free-Viewpoint Visual Inspection Via 3D Gaussian Splatting for Direct Template Matching	2391
<i>Kenta Ito, Shiori Ueda, Shohei Mori, Junichi Sugano, Hideyuki Adachi, Hideo Saito</i>	
On Vulnerability and Robustness Analysis of Railway Control System Using Digital Twin Model.....	2397
<i>Nozomu Okamura, Kenji Sawada, Motoyuki Ozaki, Shigeto Miyauchi</i>	
Fast and Reliable Reconnection in Multi-Peripheral Bluetooth Low Energy-Based Battery Monitoring Systems	2403
<i>Yuta Hirai, Daisuke Uchida, Kentaro Taniguchi, Tetsu Shijo</i>	
Implementation of a Supercapacitor Assisted Inverter System for Reducing Input Loop Losses: Preliminary Results of a Four-Stage Inverter	2409
<i>Chamila Anuradha Naligama, Nihal Kularatna, Alistair Steyn-Ross, Kosala Gunawardane</i>	
Estimating State of Energy in Lithium-Ion Batteries Using a Super-Twisting Algorithm-Based Sliding Mode Observer*.....	2415
<i>Yong Feng, Yanmin Wang, Fan Bai, Zhenwei Cao, Fengling Han</i>	
Improved Advanced Angle Field Weakening Control Strategy for Multi-Phase PMSM	2421
<i>Hao Sun, Jinlin Gong, Hanghang Zhao, Daqian Hao, Xiulin Wang, Ngacky Nguyen</i>	
An Open-Circuit Fault Diagnosis Method for Charging Piles Based on Attention Mechanism.....	2427
<i>Xue Hu, Jiabei Hu, Quanxue Guan, Yuedong Zhang, Qin Wang, Di Zhou</i>	
Vibration and Noise Analysis of Non-Sinusoidal Multi-Phase Permanent Magnet Synchronous Machines with Fractional Slot Concentrated Winding.....	2433
<i>Hanghang Zhao, Jinlin Gong, Daqian Hao, Hao Sun, Ngac Ky Nguyen, Nicolas Braticowski</i>	
DC Fault Detection Using Time Derivative of High-Pass Filter Response in MTDC Systems	2439
<i>Saad Ahmed Khan, Abhisek Ukil, Nirmal-Kumar C. Nair</i>	
Fast R-CNN-Based Detection and Coverage Estimation of Biofouling on Tidal Stream Turbines.....	2445
<i>Haroon Rashid, Mohamed Benbouzid, Yassine Amirat, Waqar Haider, Abdeslam Mamoune, Hosna Titah-Benbouzid</i>	
Electrical Characterization and Performance Review of a New High-Power Lithium Iron Phosphate Cell	2451
<i>Farshid Naseri, Gautam Sethia, Erik Schaltz</i>	
Data-Driven Degradation-Aware Model Predictive Control for Power Electronics.....	2457
<i>Qian He, Junyan Shao, Juan C. Vasquez, Baoze Wei</i>	
Internal Model Based SMC for FJR's Using Singular Perturbation Approach.....	2463
<i>Raja Fawad Afsar Khan, Kamal Rsetam, Zhenwei Cao, Zhihong Man</i>	
Optimized Base Station Deployment and Assignment for Smart Factory Millimeter Wave Networks.....	2469
<i>Anuki Pasqual, Sampath Edirisinghe, Chien Aun Chan, Ampalavanapillai Nirmalathas</i>	
Decentralised Current Control for a Multiphase Permanent Magnet Machine Using EtherCAT	2475
<i>Nathan D. Marks, Terrence J. Summers, Robert E. Betz</i>	

Proposal of 2D Position Measurement System Using 1D Sensor Array for Archery Practice in a Limited Space.....	2481
<i>Koji Kato, Sho Yokota, Akihiro Matsumoto, Daisuke Chugo, Satoshi Muramatsu, Hiroshi Hashimoto</i>	
Heart Rate Estimation by Near-Infrared-IPPG Considering Motion Artifacts During Sleep	2487
<i>Taichi Emori, Takashi Ohhira, Hideki Hashimoto</i>	
Admittance Control Considering Torque Saturation for Power-Assisted Two-Wheeled Vehicles	2493
<i>Asato Takeuchi, Takashi Ohhira, Hideki Hashimoto</i>	
RTNNIgen – an Open-Source PLC Library and Python Generator Converting Keras Models to Realtime Capable Structured Text.....	2499
<i>Christoph Hinze, Zexu Zhou, Haijia Xu, Armin Lechler, Alexander Verl</i>	
Enhancing RSS to Be Fault Tolerant During Overtaking Maneuvers	2506
<i>José Luis Conradi Hoffmann, Antônio Augusto Fröhlich, Marcus Völpl</i>	
Modeling and Control of Three Level TNPC PFC Rectifier for Lower THD	2512
<i>Yojan Sharma, Aakash Singh, Suvendu Samanta</i>	
Output Voltage Control for Stable Start-Up of Single-Phase Isolated SR-SAB DC-DC Converter.....	2517
<i>Ito Soma, Takaharu Takeshita</i>	
High Efficiency Control by Minimizing Conduction Loss of Wireless Power Transfer System Using a Matrix Converter	2523
<i>Masaki Yamamoto, Kohei Budo, Wataru Kitagawa, Takaharu Takeshita</i>	
Integrator State Correction for Improved Positioning Performance of Adaptive Zero-Power MAGLEV Systems.....	2529
<i>Alexander Pechhacker, Ernst Csencsics, Georg Schitter</i>	
Evaluation of Machine Neutral Point Overvoltage Mitigation in SiC Motor Drives Using Three Passive Filter Designs.....	2535
<i>Mustafa Memon, Mohamed Diab, Xibo Yuan, Zhaobo Zhang</i>	
Game-Based Distributed Event-Triggered Economic Dispatch for Microgrids.....	2541
<i>Zixing Xie, Yujie Ni, Lei Ding</i>	
Model Predictive Control of Three-Phase Single-Stage Differential Boost Inverter.....	2547
<i>Yushan Liu, Xiangkai Feng, Baoming Ge, Marco Rivera, Patrick Wheeler</i>	
Current Controller for LCL-Type Grid-Following Inverter with Active Damping and Capacitor Voltage Decoupling	2553
<i>Amiron Wolff Dos Santos Serra, Luiz Antonio De Souza Ribeiro, Mehdi Savaghebi</i>	
Design and Implementation of a High-Voltage Output Active Clamp Flyback Converter.....	2559
<i>Feng Liu, Weimin Wu, Jianhong Zeng, Xiaoni Xin, Zhengyang Liu, Houqing Wang, Frede Blaabjerg</i>	
An Open-Source Tatar Speech Commands Dataset for IoT and Robotics Applications	2565
<i>Askat Kuzdeuov, Rinat Gilmullin, Bulat Khakimov, Huseyin Atakan Varol</i>	
Voltage Ripple-Based Fault Diagnosis of dc-link Capacitors and Fault-Tolerant Operation via Power Regulation in Solid-State Transformer	2570
<i>Dongho Choi, Jeong-Yul Bang, June-Seok Lee</i>	

Strategic High-Frequency Switching of Idle Phases for Static & Dynamic Eccentricity Detection in Switched Reluctance Motors	2576
<i>Mahetab Alam, Saifullah Payami</i>	
Reconfigurable Dual Active Bridge Converter for Wide Voltage Range EV Charging Applications.....	2582
<i>Uddhav Surve, Deepak Ronanki, Srirama Srinivas</i>	
Experimental Validation of a Mathematical Model for Sizing End-Of-Production-Line Test Benches for Electric Motors of Electric Vehicle.....	2588
<i>Emiliano Lustrissimi, Antonio Rosato, Sebastiano Caravaggi, Bonifacio Bianco</i>	
WalkIES Robotic Walker and Brief Description of Standard and Robotic Walkers	2596
<i>Larisa Dunai, Isabel Seguí Verdú, Alin Tisan, Hipólito Guzmán-Miranda, Victor Huang, Cheng-Jen Allen Chen, Daswin De Silva, Stamatis Karnouskos, Daisuke Chugo, Valeriy Vyatkin</i>	
Accelerometer Locus Investigation for Induction Machine Misalignment Fault Diagnosis Including Transient Behaviour	2601
<i>Jose E. Ruiz-Sarrio, Jose A. Antonino-Daviu, Vicente Biot-Monterde, Carlos Madariaga-Cifuentes, Angela Navarro-Navarro</i>	
Optimal FCS-MPC Algorithm for Neutral-Point Clamped Converters with Switching Constraints.....	2607
<i>Dimas Alã Schuetz, Fernanda De Moraes Carnielutti, Humberto Pinheiro</i>	
Analysis and Diagnosis of Power Converter Faults in Switched Reluctance Motor Drives	2613
<i>Prabin Kumar Mahato, Mahetab Alam, Saifullah Payami</i>	
A Case Study on the Shading Ratio for an Agrivoltaics System	2619
<i>Mehrdad Poursadegh, Bentley Tonniges, Joshua Sabata, Mohannad Alkhalil, Mahmoud Alahmad</i>	
An Inductive Loop Detector for Personal Transporters in Urban Cycle Lanes	2625
<i>Thomas P. Rajan, Bobby George</i>	
Distributed Regularization-Based Nash Equilibrium Seeking for Merely Monotone Games Under Directed Graphs: A Prescribed-Time Approach	2631
<i>Jinyang Rui, Lei Ding</i>	
Predicting DC-Link Capacitor Current Ripple in AC-DC Rectifier Circuits Using Fine-Tuned Large Language Models	2637
<i>Mohamed Zeid, Subir Majumder, Hasan Ibrahim, Prasad Enjeti, Le Xie, Chao Tian</i>	
Reconfigurable Grid Following/Grid Forming Control Based Photovoltaic Multilevel Inverter for Grid Stability Support.....	2643
<i>Supratik Bhowmick, Chandan Chakraborty</i>	
A High-Voltage Gain Bidirectional DC-DC Converter for Battery Storage Applications.....	2649
<i>Luis H. Diaz-Saldierna, Jesus Leyva-Ramos, Ma. Guadalupe Ortiz-Lopez</i>	
Open-Circuit Fault Diagnosis for Power Modules Based on Light Gradient Boosting Machine.....	2655
<i>Quanxue Guan, Jiabei Hu, Xue Hu, Di Zhou</i>	
Design and Implementation of a Novel Mechanism for Introducing Static Eccentricity to a DFIM	2661
<i>Amir Kermanizadeh, Solihah Sharief Shiekh, Paul Barendse, Azeem Khan, Pragasen Pillay</i>	
Conceptual Design of a Reinforcement Learning Agent for Active Wake Control in Wind Farms.....	2667
<i>Philip Krajinski, Constantinos Sourkounis</i>	

Human-Robot Collaborative Omnidirectional Mobility for Picking Work Assistance : 1st Report: Proposal of the Operational Interface and Its Feasibility Study	2673
<i>Ryuki Matsuda, Sho Yokota, Daisuke Chugo, Hiroshi Hashimoto</i>	
Angular Velocity Estimation for a Pneumatic Motor with Pressure and Flow Sensors.....	2678
<i>Zuocheng Feng, Yoshiyuki Hatta, Kazuaki Ito</i>	
Operating Region of a Three-Phase UPQC Including Photovoltaic Power Injection.....	2684
<i>Jorge Varela, José Espinoza, Luis Morán, Miguel Torres, Miguel Albornoz</i>	
Enhanced Model Predictive Control for Voltage Source Inverters in Photovoltaic Microgrids with Unbalanced Loads and Wide Frequency Ranges.....	2690
<i>Matias Garbarino, José Espinoza, Jaime Rothen</i>	
Real-Time Power System Model for Laboratory Scale Wind Farm PHIL-Simulation	2696
<i>Vile Kipke, Tim Stotten, Constantinos Sourkounis</i>	
Facial Expression Recognition Via Closed-Loop Transcription.....	2703
<i>Xuan Liu, Jiachen Ma, Qiang Wang</i>	
Adaptive Dynamic Power Allocation for Enhanced Performance in Fuel Cell-Supercapacitor OEWM Systems.....	2709
<i>Khaled Safsouf, Jean Sawma, Hadi Y. Kanaan</i>	
Hybrid Fractional Order and Model Predictive Control Method for Single-Phase Five-Level T-Type Inverter with LCL Filter	2715
<i>Mokhtar Aly, Eltaib Abdeen D. Ibrahim, Fernanda Carnielutti, Margarita Norambuena, Samir Kouro, José Rodriguez</i>	
A Cloud-Edge Adaptive Framework for Equipment Predictive Maintenance in IIoT	2721
<i>Zidi Jia, Lei Ren</i>	
Grid-Forming Control: Utilizing Andronov-Hopf Oscillator Dynamics with Filterless Droop Characteristics	2727
<i>Yousef Abudyak, Mohammad Hossein Rezaei, Issa Batarseh, Houshang Salimian Rizi, Alex Q. Huang</i>	
Model Predictive Control-Based Dual Input Split Source Inverter for PV Applications	2733
<i>Mustafa Abu-Zaher, Mokhtar Aly, Fang Zhuo, Mostafa Ahmed, José Rodriguez, Abualkasim Bakeer, Alaaeldien Hassan</i>	
A Novel Motor Drive and Battery Charger System Using Eight-Switch Converter for EVs Incorporating Symmetrical Six-Phase Machines.....	2739
<i>Faheem Shafeeqe Channar, Mohamed Diab, Zhengyu Lin</i>	
Structural Impact of Grid-Forming Inverters on Power System Coherency.....	2745
<i>Sayak Mukherjee, Ramij Raja Hossain, Kaustav Chatterjee, Soumya Kundu, Kyung-Bin Kwon, Sameer Nekkhalpu, Marcelo A. Elizondo</i>	
Analysis of Enhanced Power Control Strategy for on the Move Battery Charging of Electric Vehicles	2752
<i>Kundan Kumar, Kantipudi V. V. S. R. Chowdary, Vima Mali, Sanjeet Dwivedi</i>	
Graph Attention Convolutional U-NET: A Semantic Segmentation Model for Identifying Flooded Areas.....	2757
<i>Muhammad Umair Danish, Madhushan Buwaneswaran, Tehara Fonseca, Katarina Grolinger</i>	

HLS Design of a Reconfigurable Quaternion Neural Network Hardware Accelerator	2765
<i>Alin Tisan, Clive Cheong Took</i>	
Nonlinear MPC Using an Improved Nested Partitions Algorithm	2771
<i>Anderson Cavalcanti, João Nascimento</i>	
Impact of Protection Devices on the Unavailability Risk of Low-Voltage Direct Current Systems	2781
<i>Glenn Emmers, Johan Driesen</i>	
Grid-Connected Five-Level Split-Source Packed U-Cell Inverter – a Proof of Concept	2787
<i>Ahmed Aljabi, Hamza Makhamreh</i>	
Integration of Laser Scanning and Projection Speckle Pattern for Advanced Pipeline Monitoring	2792
<i>J. Fabián Villa-Manriquez, Oleg Sergiyenko, Cesar Sepúlveda-Valdez, Ruben Alaniz-Plata, José A. Núñez-López, Paolo Mercorelli, Wendy Flores-Fuentes, Julio C. Rodriguez-Quinonez, Vera Tyrsa, David Meza-Garcia, Fernando López-Medina, Humberto Andrade-Collazo, Moises Jesus Castro-Toscano</i>	
Carrier-Modified Pulsewidth Modulation for a Single DC Power Source Driven Cascaded Three-Level Inverter Drive	2798
<i>Swapnil Tripathi, Uddhav Surve, Srirama Srinivas</i>	
High Gain Non-Isolated Bidirectional Hybrid DC-DC Converter	2804
<i>Reza Rezaei, Mohammad Nilian, Mohammad Hossein Rezaei, Issa Batarseh</i>	
A Plug and Play Distributed Secondary Controller for Microgrids with Grid-Forming Inverters.....	2809
<i>Vivek Khatana, Soham Chakraborty, Murti V. Salapaka</i>	
Improving Speech Emotion Recognition with Emotion Dynamics.....	2815
<i>Pooja Kumawat, Aurobinda Routray</i>	
Finite-Time Trajectory Tracking for Wheeled Mobile Robot.....	2821
<i>Antara Banerjee, Eram Taslima, Vinay Pandey, Baby Diana, Shyam Kamal, Xiaogang Xiong</i>	
CLLLC Based Multiport Hybrid Microinverter	2827
<i>Mohammad Nilian, Reza Rezaei, Issa Batarseh</i>	
A Distributed Malicious Agent Detection Scheme for Resilient Power Apportioning in Microgrids	2832
<i>Vivek Khatana, Soham Chakraborty, Govind Saraswat, Sourav Patel, Murti V. Salapaka</i>	
Comparative Analysis of Impedance-Based Stability Assessment Methods for Inverter-Based Resources	2839
<i>Lei Meng, Ulas Karaagac, Keijo Jacobs, Tao Xue, Jean Mahseredjian, Renan M. Furlaneto</i>	
A Modified Proportional Decentralized Charge Controller of Electric Vehicles for the Improvement of Local Voltage Profile.....	2847
<i>Md Ismail Hossain, Mohamed Zaery, Mohamed Elkadeem, Ali T. Al-Awami, Mohammad A. Abido</i>	
Balancing Charging Station Utilization and Throughput in Electric Vehicle Charging Stations with Queuing Theory.....	2853
<i>Praveen Kumar, Burak Ozpineci, Pedro Ribeiro, Veda Galigekere</i>	
Small-Signal Analysis Framework for Microgrids.....	2858
<i>Reinier López Ahuar, César Silva</i>	

A Novel Framework to Quantify Power Grid Resilience	2864
<i>Srikanth B. Yoginath, Pratishtha Shukla, Maksudul Alam, Nils Stenvig, Teja Kuruganti</i>	
Local Path Planning with Dynamic Obstacle Avoidance in Unstructured Environments	2870
<i>Okan Arif Guvenkaya, Selim Ahmet Iz, Mustafa Unel</i>	
Robust Predictive Control Based on Evolving Intervals for Greenhouse Energy Management.....	2876
<i>Javier Ocaranza, Oscar Cartagena, Doris Sáez, Alex Navas-Fonseca</i>	
Fault-Tolerant Strategy with Reduced Transient Torque Pulsations for SiC MOSFET-Based Soft Starter	2883
<i>Jiale Zhou, Xiuhu Sun, Ali Parsa Sirat, Qiang Mu, Yao Wang, Tiefu Zhao</i>	
Detection of Electric Motor Damage Through Analysis of Sound Signals Using Bayesian Neural Networks	2889
<i>Waldemar Bauer, Marta Zagórowska, Jerzy Baranowski</i>	
Mixture Based Classifier Using Gaussian Processes for Induction Motor Diagnosis	2894
<i>Adrian Dudek, Kacper Jarzyna, Jerzy Baranowski</i>	
Real-Time Lifetime Prediction of Semiconductor Devices Using Hardware-In-The-Loop	2900
<i>Lee Gill, Gab-Su Seo, Alan J. Michaels</i>	
Convolutional Variational Autoencoder-Based Unsupervised Learning for Power Systems Faults	2906
<i>Maksudul Alam, Srikanth B. Yoginath, Isabelle Snyder, Chris Winstead, Nils Stenvig</i>	
Computationally Efficient Impedance Scanning Approach for Inverter-Based Resources	2912
<i>Chenxi Ouyang, Renan M. Furlaneto, Lei Meng, Keijo Jacobs, Tao Xue, Ulas Karaagac, Jean Mahseredjian</i>	
Analysis of Converter Valve-Side Single-Phase-To-Ground Faults in Symmetrical Monopolar MMCs.....	2919
<i>Gen Li, Pingyang Sun, Sahar Pirooz Azad, Georgios Konstantinou</i>	
Fortifying SplitFed Learning: Strengthening Resilience Against Malicious Clients.....	2925
<i>Ashwin Kumaar, Raj Mani Shukla, Amar Nath Patra</i>	
Decentralized Privacy-Preserving Federated Learning for Ultrasonic Nerve Image Segmentation	2933
<i>Gowtham Vinjamuri, Suvendu Chandan Nayak, Rekha Sahu, Raj Mani Shukla, Tapadhir Das</i>	
A Magnetically Coupled 2-D Waveguide Power Transfer.....	2940
<i>Yuichi Masuda, Hiroyuki Shinoda</i>	
Torque Ripple Modeling and Mitigation for PMSM by Harmonic Current Injection Based on General Airgap Field Modulation Theory	2946
<i>Minrui Gu, Zheng Wang, Chenyu Zhu, Ming Cheng</i>	
Building Highly Maintainable Software for Energy Automation Systems Using Abstraction Layering	2952
<i>Arsalan Liaqat, Max Somerville, Matthew M. Y. Kuo, John Spray, Chen-Wei Yang, Roopak Sinha</i>	
Gait Pattern Generation and Analysis of a Hexapod Ant Robot Using Reinforcement Learning.....	2958
<i>Manula Thennakoon, Chasila Withanage, Umeshika Karunaratne, D. Kasun Prasanga, A. M. Harsha S. Abeykoon</i>	

EMT-TS Hybrid Simulation for Large Power Grids Considering IBR-Driven Dynamics	2964
<i>Min Xiong, Bin Wang, Deepthi Vaidhynathan, Jonathan Maack, Yuan Liu, Shrirang Abhyankar, Bruce Palmer, Rodrigo Henriquez-Auba, Andy Hoke, Kai Sun, Vijay Vittal, Mahsa Sajjadi, Mohammed Khamees, Kaiyang Huang, Deepak Ramasubramanian, Vishal Verma, Matthew Reynolds, Jin Tan</i>	
Applying Inline Monitoring to Detect Run-Time Security Incidents in Water Distribution Systems	2970
<i>George E. Raptis, Muhammad Taimoor Khan, Christos Koulamas, Dimitrios Serpanos</i>	
Electrical Design and Evaluation for a 10 kV SiC Power Module-Based Submodule of a Modular Multilevel Converter	2976
<i>Qichen Yang, Sihun Song, Nash Bonaventura, Isabel Barnola, Robin Ramin, Christoph Diendorfer, John Hauer, Matthew Bosworth, Karl Schodar, Michael Steurer</i>	
Temperature Control Board Design and Validation for Skipper-CCD Sensors Using a Buck Converter.....	2983
<i>Martin Barrientos, Marcelo Barrientos, Jorge Rodas, Carlos Romero, Alfredo Renault, Claudio Chavez, Ana Martina Botti</i>	
Solar PV Integrated Battery Swappable Charging Station for Electric Vehicles	2988
<i>Moumita Das</i>	
Dual-Purpose Dc-Dc/Ac PWM Modular Power Converter as Grid-Forming Unit in a Droop-Controlled Ac Nanogrid	2994
<i>Carlos Roncero-Clemente, Javier-Gutiérrez Escalona, Oleksandr Matiushkin, V. Fernão Pires, Maria Isabel Milanés-Montero, Enrique Romero-Cadaval</i>	
Hardware-Friendly Nyström Approximation for Water Treatment Anomaly Detection.....	3000
<i>Marcin Aftowicz, Markus Fritscher, Kai Lehniger, Christian Wenger, Peter Langendörfer, Marcin Brzozowski</i>	
Droop Control with DC-Link Feedforward Strategy for Multifunctional DC Fast Charging Stations.....	3007
<i>Gabriel A. Salvatti, Rafael C. Beltrame, Marcello Mezaroba, Alessandro L. Batschauer, Cassiano Rech</i>	
Common Mode Analysis of Non-Isolated Integrated Chargers Based on NPC Inverter for Electric Vehicles	3013
<i>Fabio Bernardi, Emilio Lorenzani, Davide Barater, Germán Fañanás Puigjaner, Sergio Busquets-Monge</i>	
Wireless Power and Data Transfer System Using Split Transformer with Combined Windings.....	3019
<i>Fabio Bernardi, Giovanni Migliazza, Fabio Immovilli</i>	
Series Connected Cell Monitoring System of Li-Ion Battery with I2C and Cloud Interfacing	3025
<i>Rahul Sarker, Aaqib Ahmad, A. V. Ravi Teja, Saifullah Payami</i>	
Cyber-Physical Distribution System Planning Considering Spatial-Temporal Flexible Resources: A Resilience Enhancement Solution	3031
<i>Shutan Wu, Lei Zhu, Changping Yu, Qi Wang</i>	
Virtual Cable Impedance Based Load Sharing in a Microgrid for Parallel Connected Grid Forming Converters	3037
<i>Vikram Roy Chowdhury, Brian Miller, Barry Mather</i>	
Operation and Control of Electric Vehicle Charger with Enhanced Dynamic Performance Under Non-Ideal Grid Voltage Condition.....	3043
<i>Vikram Roy Chowdhury, Md Shafquat Ullah Khan</i>	

A Simplified Hybrid Model for State of Charge Estimation Using 1-D Kalman Filter and Coulomb Counting	3049
<i>Kritika Garg, Rahul Sarker, Aaqib Ahmad, Mehakpreet Kaur, A. V. Ravi Teja</i>	
Predictive Maintenance with Large Language Models and Transformer-Based Survival Analysis	3055
<i>Aurora Esteban, Victor Cobilean, Rashmika Nawaratne</i>	
Modeling and Control of a Hybrid AC-DC-Modular Multilevel Three-Port Converter.....	3061
<i>Yue Hu, Jianjun Ma, Shuli Wen, Miao Zhu</i>	
On the Assessment of Reinforcement Learning Techniques for Path Planning of Skid-Steer Mobile Robots Subject to Terrain Constraints	3067
<i>Kevin Dawson, Oswaldo Menendez, Christian Camacho, Miguel Torres-Torriti, Alvaro Prado</i>	
Video Summarisation with Incident and Context Information Using Generative AI	3074
<i>Ulindu De Silva, Leon Fernando, Kalinga Bandara, Rashmika Nawaratne</i>	
Improving Grid-Connected PV Systems Through a Predictive Control Strategy with Asymmetrical Cascaded H-Bridge Multilevel Converters.....	3080
<i>Julio Pacher, Alfredo Renault, Jorge Rodas, Leonardo Comparatore, Carlos Paredes, Oscar Paredes, Marco Rivera, Pat Wheeler</i>	
Generative AI and EEG-Based Music Personalization for Work Stress Reduction.....	3086
<i>Varsha Wijethunge, Saneru Akarawita, Tharushka Hegodaarachchi, Shakya Abeytunge, Gihan Gamage, Manjusri Wickramasinghe</i>	
Small Footprint Inductive Power Transfer Based on Split-Transformer: Design and Experimental Validation	3092
<i>Fabio Bernardi, Giovanni Migliazza, Fabio Immovilli</i>	
Effects of Rotor Geometry on Equivalent-Circuit Parameters of Variable-Pole Induction Machines.....	3098
<i>Parag Bajaj, Soumil Chaubal, Anuj Maheshwari, Arijit Banerjee, Philip T. Krein</i>	
AI-Driven Proportionate Power Sharing in Virtual Synchronous Generators for Optimizing the Source Conditions and Efficiency	3105
<i>Uzair Asif, Silvanus D'Silva, Mohammad B. Shadmand, Sertac Bayhan, Haitham Abu-Rub</i>	
Design and Fabrication of Wearable Sensors for the Measurement of Ammonia Concentration in Air.....	3111
<i>Andrew R. Hall, Nathan Hose, Harris Nakajima, Seong-Joong Kahng, Jae-Hyun Chung, Igor Novosselov, Christopher Simpson, Alexander Mamishev</i>	
Impact of Discretization Techniques on Model Predictive Control of SRMs.....	3117
<i>Prabhat Prabhat, A. V. Ravi Teja</i>	
Quantification of Void Effects on High Voltage Power Cable Insulation Degradation	3123
<i>Hilal Al-Kuwari, Shady S. Refaat, Mohammad Alshaikh Saleh</i>	
A Multilevel, Multimodule DC-DC Converter Architecture for Universal Electric Vehicle (EV) Battery Charging Applications	3128
<i>Shibaji Basu, Arjun Ivimey, Praveen Jain</i>	
Feedback Linearization Control of Classical Second Order DC/DC Converters	3134
<i>Natalia Soto, Sebastián Riffo, Carlos Restrepo, Catalina González-Castaño, Alejandro Garcés-Ruiz</i>	

A Real-Time Monitoring Architecture for Enhanced Cybersecurity in the EV Ecosystem.....	3140
<i>R. Reghunath, M. A. Sayed, K. Sareddine, R. Atallah, D. Jafarigiv, M. Kassouf, C. Assi, M. Ghafouri</i>	
Enhancing Grid Stability Through Grid-Interactive Efficient Buildings with Deep Reinforcement Learning: Innovations and Challenges	3146
<i>Aya Amer, Sertac Bayhan, Haitham Abu-Rub, Mehrdad Ehsani, Ahmed Massoud</i>	
A Reinforcement Learning-Based Approach for Early Prediction of Industrial Alarm Floods	3152
<i>Md Rezwan Parvez, Mohammad Hossein Roohi, Ziyi Guo, Fangwei Xu</i>	
Data-Driven Monitoring and Benchmarking of a Permanent Magnet Synchronous Motor Using Digital Twins	3158
<i>Mohsen Zeynivand, Giambattista Gruosso</i>	
Continuous-Control-Set Model Predictive Control for Multi-Active-Bridge Converter Considering Phase Shift Constraints.....	3164
<i>Haojun Qin, Chang Liu, Shuang Li, Chenyue Chen, Ming Liu, Chengbin Ma</i>	
Generative AI for Improved Defect Detection in Semiconductor Wafers	3170
<i>Thien Huynh, Duy Truong, Tharindu Bandaragoda</i>	
Selective Harmonic Control in Two-Level Inverters with Three Switching Angles Using a Graphical 3D to 2D Approach	3176
<i>Sayantika Mukherjee, Pratik Kalkal, A. V. Ravi Teja</i>	
Rotor Fault Diagnosis of Large Hydrogenerators Using Vibration Data and VAE-Desirability Function.....	3182
<i>Rony Ibrahim, Ryad Zemouri, Antoine Tahan, Bachir Kedjar, Kamal Al-Haddad, Arezki Merkhoul</i>	
Designing and Optimizing Novel Hybrid-PM Variable Flux Machines.....	3188
<i>Hesham S Badahdah, Ayman El-Refaie</i>	
NSSA : A Novel Sensor Selection Algorithm Based on Information Complexity and Its Application to Multi-Source Navigation	3194
<i>Xue Du, Ziyi Wang, Siyuan Du</i>	
A Wireless Charging System with Bipolar Partial Power Conversion for 400V/800V EV Battery	3200
<i>Muxing Wu, Io-Wa Lam, Cheng Gong, Chi-Seng Lam</i>	
Annotation Guided Generative Adversarial Networks for Image Augmentation of Age-Related Macular Degeneration	3204
<i>Raja Chandrasekaran, Saketh Reddy Balpunuri, Isuru Senadheera, Vishnu Sai Nallagatla, Lokesh Akula, Praveen</i>	
Guidelines for the Application of Genetic Algorithm in Energy Management System.....	3210
<i>Anas Abdullah Alvi, Luis Martínez-Caballero, Enrique Romero-Cadaval, Eva González-Romera, Radek Kot, Mariusz Malinowski</i>	
State Feedback Based Multi-Mode Control Design in Buck LED Drivers with Enhanced Performance and Smooth Transition for Automotive Applications.....	3216
<i>Mrinmay Bhowmik, Dipayan Chatterjee, Ayush Kumar Patel, Jitendra Agrawal, Santanu Kapat</i>	

Statistical Performance and Stability Evaluation of Metaheuristic-Based PID Tuning for Flyback Converters	3222
<i>Hafiz Hamza Asghar, Muhammad Ahmad Iqbal, Ijaz Haider Naqvi</i>	
Soft-Start Method for Boost Converter Under Rapid Irradiance Changes	3228
<i>Luis Martínez-Caballero, Radek Kot, Adam Milczarek, Mariusz Malinowski</i>	
Comparative Study of Battery Aging on Battery Electric Vehicle and Battery-Ultracapacitor Hybrid Energy Storage Systems	3234
<i>Sobhika Narayanan, Sreejith Chakkalakkal, Ali Emadi</i>	
Boosting Deep Reinforcement Learning-Based Path Planning for Robotic Manipulators with Egocentric State Space Descriptions	3240
<i>Sven Weishaupt, Ricus Husmann, Harald Aschemann</i>	
Development of FES Upper and Lower Limbs Interlocking Motion Control System to Induce Periodic Rhythm.....	3247
<i>Riku Nakabayashi, Hiroyuki Kawai, Yoshihiro Kushima, Toshiyuki Murao, Kenji Hirata, Miyako Kishitani</i>	
Parameter Design of Digital P-PI Controller for Motor Positioning Systems Using Limited Pole Placement Method.....	3253
<i>Yoshiyuki Urakawa, Ngamlamai Sirichai</i>	
Rapid Control of Quantum Systems: A Continuous Nonsmooth Function Based Approach	3258
<i>Eram Taslima, Shyam Kamal, R. K. Saket, Antara Banerjee, Xiaogang Xiong</i>	
Conductive EMI Attenuation of GaN-Based Bi-Directional Grid-Tie Inverter for Ultra-High-Speed PMSM Application.....	3264
<i>Tohid Asefi, Ralph Kennel, Majid Sanatkar Chayjani, Alireza Davari, Freddy Flores-Bahamonde</i>	
Miniaturization of High Voltage Power Supply for Portable Electrostatic Filtration	3270
<i>Jia Hao Joe Wang, Cynthia Yu, Cameron Urquhart, Zane Hernke, Jan Leuca Espelien, Christopher Simpson, Igor Novosselov, Alexander Mamishev</i>	
Model Predictive Robust Control for a Capacitive-Coupling Grid-Connect Inverter (CGCI) in Power Quality Compensation.....	3280
<i>Pak-Ian Chan, Wai-Kit Sou, Chi-Seng Lam</i>	
Large Language Model for Extreme Electricity Price Forecasting in the Australia Electricity Market	3286
<i>Chen Liu, Linzhe Cai, Geordie Dalzell, Nishan Mills</i>	
Exploiting Physics to Learn an Optimal Swing-Up-Strategy for a Variable-Length Pendulum Using Deep Reinforcement Learning.....	3292
<i>Sven Weishaupt, Harald Aschemann</i>	
Parallel Wire Mechanism for Gravity Compensation with Variable Elastic Force	3298
<i>Yusaku Kuroki, Seiichiro Katsura</i>	
Analysis of Stray Flux Signals for Sparking Fault Detection in DC Machines	3304
<i>Jorge E. Salas Robles, Vicente Biot-Monterde, Jose Antonino-Daviu, Alfredo Quijano-Lopez</i>	
Eye Gaze Prediction in Videos Using Deep Neural Network.....	3309
<i>Redwanul Haque Sourave, Javed I. Khan</i>	

Validation Through HIL of an MPC Regulator for Thermoforming Applications	3315
<i>Enrico Spateri, Giambattista Gruosso</i>	
Optimal Design Methodology for Dual Active Bridge for Flow Battery Application.....	3321
<i>Sourabh Singh, Jelle Zeilstra, Aditya Shekhar, Pavol Bauer</i>	
Model-Based Systems Engineering of the Event-Driven Industrial Internet of Things	3326
<i>Amirali Amiri, Max Thoma, Gernot Steindl, Christoph Klaassen, Wolfgang Kastner</i>	
Rapid Control Prototyping on Standard Industrial Automation Hardware	3332
<i>Fabian Karau, Michael Leuer</i>	
Virtual Admittance Based Modeling and Stability Analysis of Grid-Forming Inverter Under Clark Transformation	3339
<i>Boyuan Cui, Liang Huang, Chao Gao, Poh Chiang Loh</i>	
Automated Crack Analysis and Reporting in Civil Infrastructure Using Generative AI	3345
<i>Sanjay Kumar K. J, K. L Amritha Nandini, S. P Saran Dharshan, Sowmya V, Tharindu Bandaragoda</i>	
Design Optimization of a Starter Generator for More Sustainable High Power Density Aerospace Applications.....	3351
<i>Giampaolo Devito, Antonis Theofanous, Michael Galea, Davide Barater, Stefano Nuzzo</i>	
Design and Implementation of a Rotorless Wind Turbine Simulator	3357
<i>Kecan Yu, Kevin Norman, Shafquat Yasar Aurko, Beibei Ren, Qing-Chang Zhong</i>	
Hardware-In-The-Loop (HIL) Simulation: Modeling, Characterization and Analysis of a Distributed Energy Resources in a Microgrid Network	3363
<i>Fabiano Salvadori, Paulo G. M. Leandro, Manoel B. Soares, Isaac S. De Freitas, Euzeli Cipriano Dos Santos</i>	
Scenario Recognition and Tracking for Cargo Handling Operations in Autonomous and Non-Sparse Outdoor Industrial Environments	3369
<i>Juliana Veiga Dos Santos, Guilherme Volkmer De Azambuja Silva, Eduardo Nunes Borges, Paulo Lilles Jorge Drews, Silvia Silva Da Costa Botelho</i>	
Real-Time Energy Management in Multi-Source, Multi-Charge Systems: Power Hardware-In-The-Loop Validation	3375
<i>Hussein Obeid, Huan Li, Ahmad Eid El Iali, Hamid Gualous</i>	
Experimental Analysis of an Optimal Distributed Energy Dispatching Scheme for an Electric Vehicle Drivetrain Controller	3383
<i>Hamed Nademi, Christopher Lee, Jonas Zyserman, Peter Klarwein</i>	
Finding Most Influential Distributed Generators for Microgrids Control with Switching Communication Networks.....	3388
<i>Guangrui Zhang, Zhiyi Chen, Zhaohui Liu, Xinghuo Yu, Mahdi Jalili</i>	
A Novel Approach to Agoraphilic Path Planning Algorithm with Semantic Terrain Awareness	3394
<i>W. M. D. R. Gunathilaka, Gayan Kahandawa, M. Yousef Ibrahim, H. S. Hewawasam, Linh Nguyen</i>	
Experimental Validation of Admittance-Based Bilateral Teleoperation Preventing Position Drift Using Position-Controlled Industrial Manipulators.....	3400
<i>Izumi Kotani, Takahiro Nozaki</i>	

Interleaved Dual Buck Converter for Low-Carbon Hydrogen Production: Electrolyzer Current Control and Input Capacitors Voltage Balancing.....	3406
<i>Diego Concha, Hugues Renaudineau, Ana Llor, Maurice Fadel, Henri Schneider, Javier Solano, Thierry Meynard, Samir Kouro</i>	
High Performance Control of an Asymmetrical Six-Phase Induction Machine Using a Five-Level Cascaded H-Bridge Inverter for EV Drivetrains	3412
<i>Mohammad Umar Khan, Obrad Dordevic, Martin Jones</i>	
CNN-Driven Real-Time Intrusion Detection and Mitigation Scheme for Solid-State Power Substation	3418
<i>Silvanus D'Silva, Harsha Vardhan Reddy Modugu, Mateo D. Roig Greidanus, Shantanu Gupta, Mohammad B. Shadmand, Sudip K. Mazumder</i>	
Optimal Design and Control of DC Charging Stations Using CLLC Converter for Grid Integration.....	3424
<i>Pietro Minerva, Amirhosein Gohari Nazari, Mohammad B. Shadmand, Sertac Bayhan</i>	
A Comprehensive Analysis for Efficient Single Input Multiple Output Inductive Wireless Power Transfer Systems	3430
<i>Ummemisbah Bhisti, Sheldon Williamson</i>	
Moving Obstacle Avoidance with Potential Function Using Estimated Velocity of Obstacle.....	3436
<i>Yusaku Koike, Koichi Hidaka</i>	
Modeling Human Learning Characteristics for Analyzing Human Teaching Methods	3442
<i>Kota Kobayashi, Hiroshi Igarashi</i>	
High-Frequency AC Integration: A Critical Analysis on the IEEE-33 Bus Standard System	3448
<i>Gajendra Singh Chawda, Wencong Su, Mengqi Wang</i>	
Resiliency of Vehicle Platoon Network Topologies Under Physical Attack.....	3454
<i>Constance Hendrix, Gedare Bloom</i>	
Improving Indoor Air Quality Using a Box Fan Filter in a Navajo Nation Home - Healthy Hooghan Project.....	3460
<i>Victoria Charley, Sundaram Arumugam, Conrad Begay, Peter Romine</i>	
Five-Level Rectifier with Floating and DC-Link Capacitor Voltage Balancing.....	3468
<i>Wilmar A. P. Castiblanco, Carlos Da Silveira, Cindy Ortiz Gamba</i>	
Thermal Loss Analysis for Model Predictive Controlled Three-Level F-Type Inverter.....	3474
<i>Badreddine Kanouni, Ahmed Elsanabary, Ahmed Shawky, Mokhtar Aly, Jose Rodriguez</i>	
Enhanced Power Control of Three-Phase Grid-Connected Inverters Using Proportional-Integral-Resonant Controller Under Unbalanced Conditions with a Comparative Analysis Between PI and PR Controllers	3479
<i>Mohammad Alathamneh, Haneen Ghanayem, Xingyu Yang, R. M. Nelms</i>	
Experimental Investigation of Torque Ripple Minimization in Three-Phase PMSMs Under Open-Circuit Fault Conditions Utilizing an Adaptive Proportional-Integral-Resonant Controller	3487
<i>Haneen Ghanayem, Mohammad Alathamneh, R. M. Nelms</i>	
Interleaved Cuk Converter Wave Energy System with Advanced Control and Grid Support Functions for Seamless Integration	3492
<i>Vikram Roy Chowdhury, Kumaraguru Prabakar, Ben McGilton</i>	

A Simplified Non-Linear Active Disturbance Rejection Control for Electric Traction Drives	3498
<i>Ahmed Fathy Abouzeid, Ahmed Elsanabary, Mahmoud Fawzi, Mokhtar Aly, Ahmed Sobhy</i>	
Modbus Covert Channels Within Industrial Automation and Control Systems	3504
<i>Erkin Kirdan, Karl Waedt</i>	
Control for 2-DOF Electroaerodynamic Levitation Systems Considering Discharge Characteristics	3510
<i>Shigeki Yashita, Hiroaki Katagiri, Kazuki Yane, Tomoya Kitamura, Hiroyuki Tsubata, Takahiro Nozaki</i>	
Applying Embedded Multi-Core Control Technologies for the Next Generation Industrial Edge Applications.....	3516
<i>Xinkai Zhang, Shang Gao, Bintao Yu, Wenbin Dai</i>	
Analysis of the Physical Capabilities of Individual Elderly People Using Muscle Synergy and a Standing Assistance Robot Based on This Analysis	3522
<i>Haruki Asai, Masataka Miyahara, Daisuke Chugo, Satoshi Muramatsu, Sho Yokota, Ken-Ichi Tabei, Jin-Hua She, Hiroshi Hashimoto</i>	
Research on Speed Prediction Algorithm for Underwater Unmanned Vehicles	3528
<i>Xue Du, Zhitaofeng, Chenglong Xu, Yu Su, Shen Tian</i>	
Comparison of Predictive Control and State Feedback Control for Matrix Converters	3535
<i>Yuan Liu, Galina Mirzaeva, Yunxun Mo</i>	
Research on Intermittent Pinning-Containment Control of the Underactuated AUV Swarm	3541
<i>Xue Du, Wanying Wei, Yu Su, Qiyang Wu, Xiangsong Meng</i>	
Multi-Agent Deep Reinforcement Learning Based Secondary Voltage Control of Inverter-Based AC Microgrids.....	3547
<i>Manas Shil, G. N. Pillai, Manu Kumar Gupta</i>	
Real-Time Machine Learning for Power Grid SCADA Alarm Event Detection Decision Support	3553
<i>Chen Liu, Geordie Dalzell, Elena Kranz, Xinghuo Yu, Adrian Kelly, Mahathir Almashor</i>	
Autonomous Mobile Robot Control in Unknown Environment with a Simple Map	3559
<i>Sota Ushigome, Yasutaka Fujimoto</i>	
Imitation Learning and Generation of Motion Based on Transformer Model Using Force-Based Two-Channel Bilateral Control	3565
<i>Yifu Hu, Yuki Nagatsu</i>	
An Effective Hybrid Approach for Detection of False Data Injection Attacks in Connected Battery Systems with Noisy Measurements	3571
<i>Farshid Naseri, Zahra Kazemi, Nima Tashakor, Anders Christian Solberg Jensen, Corneliu Barbu, Erik Scholtz</i>	
Analysis and Design for Inductively Coupled Plasma Power Source with Multi-Level Power Mode.....	3577
<i>Chenyue Chen, Jun Ma, Ming Liu</i>	
Dynamical System Based Socially-Aware Navigation for Mobile Robot	3583
<i>Xiang Chen, Steven Liu</i>	
Reconfigurable Intelligent Surfaces for Industrial Applications: Challenges and Opportunities	3589
<i>Véronique Georlette, Danilo Erricolo</i>	

Novel Hybrid Modular Multilevel Converter with Capacitor Voltages Self-Balancing and DC-Fault Blocking Abilities for MMC-HVDC	3595
<i>Jinliang Huang, Kaijie Li, Yuanmao Ye, Xiaolin Wang, Wei Han</i>	
Supercapacitor-Battery Hybrid Energy Storage for Portable Smart Devices Using Supercapacitor Swapping Energy Harvester	3601
<i>Kavishka Dissanayake, Dulsha Kularatna-Abeywardana, Nitish Patel, Nihal Kularatna</i>	
Robot Command Upgrade by Integration of Position and Force Information from Multiple Motion Reproduction Results.....	3607
<i>Kazuki Yane, Takahiro Nozaki</i>	
A Single-Carrier Modulation Strategy for the Reduction of the DC-Link Voltage Ripple of a 5-Level Multilevel DC-Link Inverter	3613
<i>Almachius Kahwa, Besong John Ebot, Yasutaka Fujimoto, Francis Mwasilu, Joseph Olorunfemi Ojo</i>	
Automation of Server Management Tasks and Data Aggregation Using Generative AI	3619
<i>Benedictus Bimo Cahyo Wicaksono, Anggito Anju Hartawan Manalu, Abidjanna Zulfa Hamdika, Edward Yosafat Sirait, Jhoni Ananta Sitepu, Prabod Rathnayaka, Dini Adni Navastara</i>	
Pitching Motion Suppression with Better Energy Efficiency Performance in Large EVs.....	3625
<i>Naoki Eguchi, Kan Akatsu</i>	
Grid Forming Converter with MVDC Input and LVAC Output: Analysis and Control Hardware-In-The-Loop Validation.....	3631
<i>Manuel A. Barrios, Saeed Golestan, Wenfa Kang, Ali Akhavan, Juan C. Vasquez</i>	
High Speed Common-Mode Switching in the Context of Highly Integrated Drive Systems.....	3638
<i>Hans-Georg Kneidinger, Annette Muetze</i>	
Rare-Earth Magnet Reduction on Interior PM Motor Based on the Consequent Pole Rotor Design	3644
<i>Yi-Cin Ko, Shih-Chin Yang, Wei-Cheng Hsieh, Shih-Hsien Chen, Chien-Te Wu</i>	
A Comparative Review of Conventional and Emerging Techniques for Battery State Assessment	3649
<i>Mohannad Alkhalil, Sulaiman Mohaidat, Juhyun Bak, Kevin James, Xiaoqi Liu, Fadi Alsaleem, Michael Hempel, Hamid Sharif-Kashani, Jan Haase, Mahmoud Alahmad</i>	
Probing Signal Injection for Compatible Realization of Operationality and Impedance Identification	3655
<i>Akira Takakura, Kazuki Yane, Takahiro Nozaki</i>	
Optimized Sequence Control of a Fuse-Semiconductor Hybrid Circuit Breaker Through Real-Time Fuse State Estimation	3661
<i>Songah Shin, Reon Sasaki, Yusuke Nakano, Naoto Kodama, Shungo Zen, Yasushi Yamano, Yuki Inada, Wataru Ohnishi</i>	
Active Control of Pyrofuse in Circuit Breaker with State Estimation of Current-Limiting Fuse.....	3667
<i>Taichi Nakano, Reon Sasaki, Wataru Ohnishi, Yasushi Yamano, Yuki Inada</i>	
Bidding Strategies and Energy Management for Community Power Operators Incorporating Building Thermal Inertia	3673
<i>Junyan Shao, Baoze Wei, Qian He, Hanchi Zhang, Juan C. Vasquez, Josep M. Guerrero</i>	

Digital Twin of Electric Drivetrain: Approach for Virtual Validation of Different Load Profiles	3678
<i>Muhammad Azeem, Mehmet Güleç, Peter Sergeant, Karel Vanthuyne, Simon Vanpaemel, Mohamed Amine Frikha, Xiao Ma, Niels Divens, Mohamed El Baghdadi</i>	
Controller Design for Water Treatment Plants Using Data-Driven Control	3685
<i>Masaki Furukawa, Yasutaka Fujimoto</i>	
Resilient Power Inverter Network: A Hardware-In-The-Loop Simulation Case Study	3690
<i>Kamil Hassan, Denis Vettoretti, Daniel Selvaratnam, Henrik Sandberg, Filip Probstl Andrén</i>	
Simultaneous Two-Axis Position Estimation of Receiver Coil Using Different Radii of Transmitter Coils in WPT	3698
<i>Yuhei Tomioka, Takahiro Nozaki</i>	
Basic Investigation of an IPMSM Employing Rotor Skew for Enhancing Output Power Under Field Weakening Control.....	3704
<i>Yu Ichimura, Ren Tsunata, Masatsugu Takemoto, Jun Imai</i>	
Bidding Curve Design for Hybrid Power Plants with Uncertain Solar Forecast	3710
<i>Yue Chen, Yashen Lin, Mia E. Moore, Xiaoge Huang, Xi Chen, Ziang Zhang</i>	
Distributed Nonlinear Model Predictive Control of Heterogeneous Battery Storage Systems	3717
<i>Filip Vrbanc, Mateja Car, Mario Vašak, Vinko Lešić</i>	
Performance of Brushless Multiphase Synchronous Generator (BMSG)	3723
<i>Sagar Kumar Dash, Suman Maiti, Chandan Chakraborty</i>	
Benchmarking Performance of Neural Network Architectures in Conventional Industrial Hardware	3729
<i>Serge Pacome Bosson, Václav Šmídl</i>	
Unique Supporting Toolbox for Selecting Renewable Energy in Specific Geographical Locations, Prioritizing Resilience and SDGs	3735
<i>Bharath Kumar Sugumar, Yajuan Guan, Norma Anglani</i>	
Estimation of Remaining Useful Life of Ball-Bearings Based on Complex Autoregressive Model of Double-Axis Motor Current	3741
<i>Chen-Pei Yi, Po-Huan Chou, Wei-Der Chung, Shih-Chin Yang</i>	
Inductance Polynomial Fits in Sequential Quadratic Programming for Maximum Torque Per Ampere	3747
<i>Mathis Allen, Shanelle N. Foster</i>	
Mitigation of Low Order Current Harmonics Arising from Dead Time in HERIC Inverters.....	3753
<i>Sobhan Mohamadian, Amir Ghasemian, Morteza Dezhbord, Prasoon Chandran Mavila, Concettina Buccella, Carlo Cecati</i>	
Design and Analysis of Optimized Mast Structure for a Blade-Less Wind Turbine.....	3760
<i>Kishor Kumar Verma, Sonu Sonkar, Parau Majhi, Vishal, A. V. Ravi Teja</i>	
Backstepping-Based Input-Output Linearization of a Peltier Element for Ice Clamping Using an Unscented Kalman Filter	3766
<i>Felix Van Rossum, Benedikt Haus, Paolo Mercorelli, Harald Aschemann</i>	
Cascaded Backstepping Control for a Permanent Magnet Linear Motor Using a Dual Kalman Filter	3773
<i>Harald Aschemann, Felix Van Rossum, Benedikt Haus, Paolo Mercorelli</i>	

Investigation of Radial Force Harmonics Reduction in Consequent-Pole Permanent Magnet Vernier Motors by Current Harmonic Injection	3780
<i>Candra Adi Wiguna, Yanlei Yu, Yu Zeng, Qingxiang Liu, Josep Pou, James Wang Ming, Armen Baronian, Huanqing Sun, Christopher H. T. Lee</i>	
ZPUC-MMC: Real-Time Implementation with Model Predictive Control	3786
<i>Fadia Sebaaly, Rawad Zgheib, Kamal Al-Haddad</i>	
Development of an RFID-Based Indoor Localization System to Support Firefighters in Burning Buildings	3794
<i>Martina Schumann, Jan Haase</i>	
IEEE 802.1CB Frame Elimination in a Wireless HSR Architecture	3800
<i>Karl Montgomery, Susruth Sudhakaran, Mohamed Kashef Hany, Jing Geng, Dave Cavalcanti, Richard Candell</i>	
Image Processing and Deep Learning Based Failure Detection for Maintenance Optimization in Photovoltaic Panels	3807
<i>Ricardo Menezes Prates, Ana Beatriz Rodrigues Massaranduba, Jadsonlee Da Silva Sá, Adeon Cecilio Pinto, Eubis Pereira Machado, Joaquim Junior Isidio De Lima, Carlos Augusto Oliveira Rocha, José Bione De Melo Filho, Rodrigo Pereira Ramos</i>	
MPPT-Based Optimal Frequency Control of LLC Resonant Converter in PV-Powered EV Charging Stations	3813
<i>Mohammad N. Alzyod, Mohammad A. Abido, Kotb M. Kotb</i>	
Enhanced MPPT Strategy for Solar PV Under Partial Shading Using Improved Grey Wolf Optimization	3819
<i>Gajendra Singh Chawda, Wencong Su, Mengqi Wang</i>	
Analysis of DC Bus Bar Inductance on Performance of 2-Level Inverter	3825
<i>Hari Sankar Natesan Sugumar, Nimananda Sharma, Artem Rodionov, Yujing Liu, Pablo Paz Sagues, Andre Uhlemann</i>	
Time Domain Simulations of Overhead Transmission Lines Using a Custom Real and Constant Transformation Matrix	3832
<i>Pablo Torrez Caballero, Felipe P. De Albuquerque, Ronaldo F. R. Pereira, Eduardo C. M. Da Costa, José Humberto A. Monteiro, Wanderley Araújo De Castro Júnior</i>	
Prediction of Driving Range Per Charge for e-Mobility Using a Vehicle Dynamics Model	3838
<i>Byeonggwon Jang, Keun Ha Choi, Hyoseo Choi, Yongju Jung, Weongweon Choi, Kyung-Soo Kim</i>	
Model Predictive Obstacle Avoidance for a Leg/Wheel Mobile Robot Utilizing Sample-Based Optimization	3844
<i>Takahiro Onizawa, Kazuma Sekiguchi, Kenichiro Nonaka</i>	
Carbon Dioxide Real-Time Tracking Exploiting Light-Induced Thermoelastic Spectroscopy	3852
<i>Luigi Melchiorre, Giansergio Menduni, Andrea Zifarelli, Marilena Giglio, Pietro Patimisco, Giovanni Magno, Angelo Sampaolo, Marco Grande, Vincenzo Spagnolo</i>	
Predictive Control of IPMSM Using a Precise Mathematical Model with Low Implementation Demands	3856
<i>Ondrej Suchý, Štěpán Janouš, Jakub Talla, Tomáš Košan</i>	

A Stochastic Approach to Modeling Long-Term Degradation of the Electronic Security Systems as a Crucial Element of Evaluation of Physical Protection Systems (PPS)	3862
<i>Jan Kapusta, Waldemar Bauer, Jerzy Baranowski</i>	
Experimental Estimation of Parasitic Capacitance of Thermal Interface Material Using Double Pulse Test Circuit Under Realistic Operating Conditions.....	3869
<i>Kalyani V. Lande, J Satheesh Reddy, Arun Karuppaswamy B</i>	
Coordinated Optimal Energy Management Strategy for Grid-Supporting Microgrid	3875
<i>Shushan Qiu, Yidan Shen, Yingpei Li, Hui Zhong, Zheng Wang, Kaushik Rajashekara</i>	
Behavior of Multiple PV Plants in Future Power Grids During Events	3881
<i>Phani R V Marthi, Sayan Samanta, Suman Debnath, Nilanjan Ray Chaudhuri</i>	
Tracking Control for Thermofluidic Systems with Input Constraints and Relative Degree One	3887
<i>Ricus Husmann, Harald Aschemann</i>	
Impact of Orientation and Phase-Shift in Carrier Signals on Line-Current Harmonics for an OWIM Drive Operated with Synchronous PWM	3894
<i>Shayak Chaudhuri, Avinish Tripathi, Amit Kumar Jain</i>	
Realistic Local Electricity Markets: A Survey of Enabling Technologies	3900
<i>Rawia Alhalbouni, Khaled Abedrabbob, Luluwah Al-Fagih</i>	
Variable Reduction-Ratio Gear for Environmentally Adaptive Robots.....	3906
<i>Nagayoshi Iemura, Seiichiro Katsura</i>	
A Novel Active Damping Method in Grid Connected Inverter Using Multiple Feedback	3912
<i>Pooja, Gagan Teotia, A. V. Ravi Teja</i>	
Optimal Power Management of Multi-Energy Community Considering the Local Energy Market	3918
<i>Younes Zahraoui, Sebastien Gros, Irina Oleinikova</i>	
Induction Motor Multi Incipient Fault Detection Based on Gradient Boosting Algorithms.....	3924
<i>Rehaan Hussain, Mohammad Alshaikh Saleh, Shady S. Refaat</i>	
Impact of the Saturation on Diagnosis of Short Circuit in the Field Winding Based on the Measurement of the Magnetic Air Gap Flux	3930
<i>Simon Bernier, Olivier Kokoko, Arezki Merkhoul, Kamal Al-Haddad</i>	
Cost-Effective Safety-Related Fieldbus-Interface for Actuators in Automation	3937
<i>Christian Mühlfeld, Jens Onno Krah</i>	
A Capacitor Voltage-Balancing Method for Modular Multilevel Converter with Three-Level SMs in Variable-Speed Drives	3943
<i>Duc Dung Le, Shivam Chaturvedi, Shahid Aziz Khan, Mahdi Ghavaminejad, Mengqi Wang, Wencong Su</i>	
Internal Faults Analysis of MMC Using State-Space Modeling	3948
<i>Shilpi Kedia, Rohit S. Thute, Himanshu J. Bahirat</i>	
Modeling and Control of a 4-Port Dual Active Half-Bridge Power Converter	3954
<i>Andrea Zilio, Youssef A. Fahmy, Paolo Mattavelli, Matthias Preindl</i>	
Pulse Width Modulation Drive System for Solenoid Flow Regulation	3960
<i>Jardel J. P. Prado, Stephanie L. Brião, Felipe G. Oliveira, Paulo L. J. Drews</i>	

How Does the Cyber Security Regulation for Processes and Products Go Hand in Hand for Europe?.....	3966
<i>Alexander Sänn</i>	
A New Adaptive Model Reference Control Algorithm for a Class of DC-AC Inverters.....	3971
<i>Jing Wang</i>	
Analysis of Snubber Topologies for LVDC Bipolar, Bidirectional Solid-State Protection Devices.....	3975
<i>George Govaerts, Johan Driesen, Wilmar Martinez</i>	
Reducing Torque Ripple in Switched Reluctance Motors Using a Novel Power Converter	3982
<i>Yohannes Tecklehaimanot, Mohammed Elgendy, Shafiq Odhano, Volker Pickert</i>	
Parameter Identification and Controller Design for Limited-Angle Servo Motor Drives Using Acceleration Estimation Technique.....	3988
<i>Yi-Jen Lin, Po-Huan Chou, Shih-Chin Yang</i>	
Coordinated EMS for Stability Enhancement of NMGs During Disturbance and Fault Conditions.....	3994
<i>Hossam M. Hussein, Mahmoud S. Abdelrahman, Ibtissam Kharchouf, S M Sajjad Hossain Rafin, Osama A. Mohammed</i>	
Decoupled, Decentralized, LQR-Based Controls for E3 HEMP/GMD Mitigation on the Power Grid.....	4000
<i>Connor A. Lehman, Timothy J. Donnelly, Rush D. Robinett, Wayne W. Weaver, David G. Wilson</i>	
Impedance Control of a Compliant Robotic Leg for Reducing Landing Ground Impact.....	4006
<i>Junlei Zhu, Yu Hu, Yiming Chen, Jiahao Chen</i>	
An Introduction to the Federated Architecture for Secure and Transactive Distributed Energy Management Solutions (FAST-DERMS)	4012
<i>Jason S. Macdonald, Maxime Baudette, Venkateswara Reddy Motakatla, Yashen Lin</i>	
Neural Network Based Parameter Identification for LLC Resonant Converters.....	4020
<i>Nicholas Green, Mohammed Agamy</i>	
Intelligent Tuning of PID Controllers: Comprehensive Approach Based on Modified Particle Swarm Optimization (PSO) Algorithm	4026
<i>Julio César Zambrano Abad, Marco Alexander Carpio Alemán</i>	
A Method for SiC-Mosfet Junction Temperature Estimation in Traction Inverters.....	4032
<i>Leonardo Rafael Willers, Eduardo Cattani Silva, Paulo Henrique Alves Silva E Silva, Lucas Rossato Rocha, Rodrigo Padilha Vieira</i>	
State-Space Models for Control Interaction Analysis of DFIG and FSC Wind Parks.....	4038
<i>Jisoo Kim, Jean Mahseredjian, Ulas Karaagac, Antoine Lesage-Landry, Ahda P. Grilo Pavani, Chul-Hwan Kim</i>	
Impedance Emulation Control of Wave Energy Converters.....	4046
<i>Pranav Chandran, Inyong Kim, Ted Brekken, B. Johnson</i>	
DMM-ESH Technique for Real-Time Simulation of Three-Level NPC Dual Active Bridge Converter.....	4052
<i>Zheng Yan, Tarek Ould-Bachir, Karim Meddah, Téo Robert, Romain Monthéard, Emmanuel Rutovic</i>	

Fault-Ride-Through (FRT) Control of a Grid-Connected Fixed-Speed Wind Energy Conversion System Using STATCOM	4058
<i>Ayobami Olajube, Satish Vedula, Koto Omiloli, Olugbenga Moses Anubi</i>	
GaN HEMTs Based Quad-Active-Bridge DC-DC Converter for PV-Battery-EV-Grid Systems	4064
<i>Xin Gao, Reza Ilka, Benjamin Luckett, Jiangbiao He</i>	
Thermal and Efficiency Analysis of High-Power Traction Inverters: Methodology and Case Studies	4070
<i>Leonardo A. Brum Viera, Paulo H. A. S. E Silva, Pedro Vianna, Gabriel Salvatti, Rodrigo P. Vieira, Humberto Pinheiro, Cassiano Rech</i>	
Direct Torque and Direct Flux Model Predictive Control of Five-Phase Permanent Magnet Synchronous Motor Using Four-Leg Inverters.....	4076
<i>Saeid Saeidabadi, Saeed Aliamooei-Lakeh, Leila Parsa, Keith Corzine</i>	
Design and Analysis of Differential Mode Active EMI Filter for GaN-Based Totem Pole PFC Converter.....	4081
<i>Ali Anwar, Mustafeez-Ul-Hassan, Abdul Basit Mirza, Abdul Muneeb, Fang Luo</i>	
Active Current Balancing Scheme for Steady-State Operation of Parallel IGBTs in Hybrid Circuit Breakers.....	4087
<i>Shan Jayamaha, Carl Ho, Athula Rajapakse</i>	
Model Predictive Current Control Combined Sliding Mode Control for Flux Switch Permanent Magnet Machine Drive System	4093
<i>Mohammadreza Mamashli, Mohsin Jamil</i>	
An Integrated Stacked Sparse Autoencoder and CNN-BLSTM Model for Ultra-Short-Term Wind Power Forecasting with Advanced Feature Learning	4099
<i>Jinjie Liu, Behzad Kazemtabrizi, Hailiang Du, Peter C. Matthews, Hongjian Sun</i>	
FPGA-Based Hardware Acceleration for Model Predictive Control of Power Electronic Converters.....	4105
<i>Zhengchen Guo, R. Mark Nelms</i>	
A Machine Learning Approach to Capacity Estimation of Lithium-Ion Batteries Using Electrochemical Impedance Spectroscopy	4111
<i>Sakshi Sharma, Bijaya Ketan Panigrahi</i>	
Enhancing Voltage Stability and Optimizing Power Management in DC Microgrids Using Model Predictive Control Considering Various Load Types.....	4117
<i>Saeed Aliamooei-Lakeh, Keith Corzine, Leila Parsa</i>	
Efficiency Analysis of Charging Profiles in Electric Vehicle Fast Charging Stations	4123
<i>Juan Jose Porras, Hugues Renaudineau, Alexander Palacio, Abraham M. Alcaide, Samir Kouro</i>	
Smart Protection Mechanisms for PV Farms Through Integration of Solid-State Circuit Breakers	4129
<i>Elias Nadi, Shervin Salehi Rad, Javad Chevinly, Fei Lu, Hua Zhang</i>	
A Heterogeneous Graph Framework for ML Applications in Electric Circuits.....	4133
<i>Ahmed K. Khamis, Mohammed Agamy</i>	
Investigating Effects of Timescale Delays on the Ride-Through Capabilities of the Grid-Forming Inverter	4139
<i>K'Adesh Hepburn, Roy McCann, Mojtaba Ahanch</i>	

Design and Analysis of Electric Machines Assisted by Scientific Machine Learning.....	4145
<i>Peng Han, Jingchen Liang, Pavani Gottipati, Mark Solveson</i>	
Solid-State Circuit Breaker with a Gate Driver for Avalanche Voltage Prevention.....	4151
<i>Taro Takamori, Ryosuke Ota, Keiji Wada</i>	
SCAN: Secure CAN Framework by Using Deep Learning.....	4157
<i>Sumansmita Rout, Ayantika Chatterjee</i>	
Design and Analysis of Integral Terminal Sliding Mode Control of Grid-Connected Inverters.....	4163
<i>Abu Sufyan, Mohsin Jamil</i>	
A Multilevel Step-Up DC-DC Converter for Interfacing Offshore Wind Turbines with DC Grids	4169
<i>Shibaji Basu, Praveen Jain</i>	
Analysis of Sensor Placement and Signal Processing Enhancement for Vehicle Speed Measurement Through Rumble Strip-Induced Ground Vibrations	4176
<i>Dhirath Thanglerdsumpan, Paramote Wardkein, Lerson Kirasamuthranon</i>	
Vision Transformer-Based Approach for Solder Mask Fault Detection	4183
<i>Walter J. S. Viana, Neandra P. Ferreira, Sharlene S. Meireles, Mario Otani, Paulo L. J. Drews, Felipe G. Oliveira</i>	
Vector Based Transformer Winding Power Loss Calculation and Reduction for Arbitrary Currents.....	4189
<i>Zhedong Ma, Yiming Li, Shuo Wang, Yirui Yang</i>	
YOLOv8-LLE: An Improved Algorithm for Object Detection of Autonomous Driving Road Scenes in Low-Light Environments	4195
<i>Yurui Wu, Shaodong Zhou, Hui Zhang</i>	
High Voltage Pulse Generator Based on Multilevel Modular Converter for Water Treatment.....	4201
<i>Henry M. Zapata-Fonseca, Johan I. Guzman, Marcelo A. Perez</i>	
Crucial Examination of Thermal Behavior of Solid-State Battery for Intelligent Gray Box Model- Based Automotive Battery Management Systems.....	4207
<i>Akash Samanta, Chandan Chetri, Sheldon Williamson</i>	
Enhancing Electric Vehicle Charging Predictions: A Physics-Informed Neural Network Approach	4212
<i>Naheel Faisal Kamal, Ali Sharida, Sertac Bayhan, Haitham Abu-Rub, Hussein Alnuweiri</i>	
Shunt Resonant Solid-State Circuit Protection for No Delay Coordination and Less Inductive Fault Limitation in Compact MVDC Systems.....	4218
<i>Tiancan Pang, Muhammad F. Rahman, Madhav D. Manjrekar</i>	
A Novel Framework for Designing Asymmetrical Multilevel Circuits to Improve Fidelity and Practicality.....	4225
<i>Jinshui Zhang, Stefan M Goetz</i>	
Parasitic Capacitances in High Step Ratio Planar Transformers for Dual Active Bridge Converters: Cause and Effect.....	4231
<i>Abdul Muneeb, Abdul Basit Mirza, Mustafeez Ul Hassan, Ali Anwar, Andrew Castiblanco, Fang Luo</i>	
Investigation of Switching Mechanical Wave in Single-Tube IGBT Using Laser Interferometric Vibrometer.....	4237
<i>Jiahao Wang, Cong Chen, Quan Zhou, Lulu Tian, Libing Bai, Yuhua Cheng</i>	

Simulation of Electrical-Thermal-Mechanical Deformation in IGBT Modules Under Alternating Loading Current	4242
<i>Cong Chen, Jiahao Wang, Libing Bai, Jie Zhang, Quan Zhou, Lulu Tian</i>	
A Three-Terminal Output AC/DC Converter with Automatic Power Decoupling and Common Ground.....	4247
<i>Zhehao Wu, Weimin Wu, Houqing Wang, Frede Blaabjerg, Mohamed Orabi, Liang Yuan</i>	
Passive Identification of Rogue Industrial Access Points Using a One-Class Machine Learning Model	4253
<i>André L. De S. Paula, Eduardo K. Viegas, Altair O. Santin</i>	
Assessing Dynamic Response of MTDC Offshore-Onshore Energy Systems for Stability Enhancement in Hybrid Power Systems.....	4259
<i>Owen Van Hooff, Monika Sharma, José L. Rueda Torres, Peter Palensky</i>	
Precise Modeling Approach of Litz-Wire Based Planar Rectangular Spiral Coils with Ferrite Core and Lateral Misalignment for WPT Applications	4265
<i>Avanish Pandey, Jalaj Kumar, Suvendu Samanta</i>	
Temporal Sensitivity Analysis for Enhanced Dynamic Equivalent Circuit Modeling of Lithium-Ion Batteries in On-Board Battery Management Systems	4271
<i>Alvin Huynh, Akash Samanta, Sheldon Williamson</i>	
Enhanced Power Sharing Accuracy in Islanded Microgrids with Local Loads: An Approach to Droop Control Techniques.....	4277
<i>Ahmed Lakhdar Kouzou, Ali Sharida, Sertac Bayhan, Haitham Abu-Rub</i>	
An Active Capacitor Voltage Balancing Method for a Four-Level Single Flying Capacitor Converter.....	4283
<i>Javad Ebrahimi, Fatemeh Nasr Esfahani, Suzan Eren, Alireza Bakhshai</i>	
Experimental Efficiency Comparison Between the LLC Resonant Converter and the Phase Shifted Full Bridge Converter Operating as Battery Chargers.....	4289
<i>Oswaldo López-Santos, David A. Zambrano-Prada, Hugo Valderrama-Blavi, Freddy Flores-Bahamonde, Carlos A. Torres Pinzón, Luis Martínez-Salamero</i>	
Operation Analysis and Verification of H-Bridge Modular Cascaded Linear Amplifier to Improve Efficiency by Increasing the Number of Cells.....	4295
<i>Shunsuke Ishida, Hidemine Obara</i>	
Model Predictive Virtual Oscillator Controlled Inverters in Islanded Mode of Operation	4301
<i>Sima Azizi Aghdam, Mohammed Agamy</i>	
The Impact of Mechanical Stress Due to Press Fit on Stator Core Loss	4307
<i>Sara Maroufian, Kerem Arpacioğlu, Karim Hattou, Ruisheng Shi</i>	
Challenges and Prospects of Power Sharing Schemes in a Power Electronics Dominated Grid.....	4312
<i>Uzair Asif, Alireza Zare, Reza Behnam, Mohammad B. Shadmand, Sertac Bayhan</i>	
Enhancing Parameter Estimation in Modified Spencer Models Using the Firefly Optimization Algorithm	4319
<i>Fatemeh Behbahani, Mehdi Behbahani</i>	
ORFLEX: Open Platform for Rapid Testing and Deploying Local Flexibility Markets	4327
<i>J. A. Dominguez, S. Sabir, N. Henao, K. Agbossou, J. C Oviedo-Cepeda, J. Campillo</i>	

Optimized Soft Starting of SiC MOSFET-Based Soft Starter with Constant Transient Current for Motor Control Center Applications	4333
<i>Jiale Zhou, Xiuhu Sun, Ali Parsa Sirat, Qiang Mu, Yao Wang, Tiefu Zhao</i>	
Fast Sensorless Voltage Balancing in PUC5 Inverter with Phase-Shift Modulation	4339
<i>Hanzi Zhu, Azadeh Kermansaravi, Pavol Bauer, Hani Vahedi</i>	
Cost-Benefit Analysis of Electric Vehicle Parking Facilities Integrated Renewable Energy Source and Battery Storage	4345
<i>Fareed Ahmad, Imtiaz Ashraf, Atif Iqbal, Mohd Bilal</i>	
A Power-Boosted WPT System Using Both 1 st and 3 rd Harmonics and Decoupled Magnetic Couplers	4351
<i>Xuxing Duan, Wei Han, Jin Li, Youhao Hu, Yilin Zhang</i>	
Turn-Off Overvoltage in SiC Power Electronic Converters	4356
<i>Mikel Galdeano, Ernesto L. Barrios, David Elizondo, Pablo Sanchis</i>	
Dual-Loop Control Based Receiver Resonant Frequency Tracking and Mutual Inductance Identification in Wireless Power Transfer System.....	4362
<i>Chang Liu, Wei Han, Guangyu Yan, Xuxing Duan</i>	
Path Planning of Mobile Robot Based on Multi-Strategy Adaptive Improved Ant Colony Algorithm.....	4368
<i>Zhaohong Wang, Wu Wang, Caixue Chen</i>	
A Non-Uniform Frequency Dithering Technique to Attenuate Electromagnetic Interference (EMI) in a SiC MOSFET-Based DC-DC Buck Converter	4374
<i>Kousik Ghosh, Vibhav Pandey, Kamalesh Hatua</i>	
An Intentional Islanded Mode of Operation for a Four-Leg Converter Under Rapid and Asymmetrical Load Changes.....	4380
<i>Adam Milczarek, Radek Kot, Luis Martinez-Caballero, Mariusz Malinowski</i>	
Incremental Model Predictive Control for Velocity-Controlled Robot Manipulators	4387
<i>Yongchao Wang, Hengrui Li, Cong Li, Fangzhou Liu</i>	
Deep Learning Based Corona Discharge Severity Classification for High Voltage Equipment.....	4393
<i>Maher Messaoudi, Sayed Mohammad Kameli, Shady S. Refaat, Haitham Abu-Rub, Mohamed Trabelsi</i>	
Design of an Aerial PV Cleaner.....	4398
<i>Jacques Hobeika, Tina Seif, Samir Tawil, Sergio Matta, Oriana Eid, Ivana Nassar, Rayan Abdul Samad El Skaff, Hadi Kanaan, Ahmad Hably</i>	
Investigation of XLPE Power Cable Insulation Degradation Under Chemical, Electrical, and Mechanical Stress	4404
<i>Abdelaziz Abuelrub, Shady S. Refaat, Sayed Mohammad Kameli</i>	
Distributed Nesterov Gradient for Differentially Private Optimization with Exact Convergence.....	4409
<i>Yang Yuan, Wangli He</i>	
Machine-Learning-Based Anomaly Detection System for Cyber-Physical Attack on a Solid-State Transformer	4415
<i>Souradeep Bhattacharya, Mateo D. Roig Greidanus, Shantanu Gupta, Debotrinya Sur, Sudip K. Mazumder, Manimaran Govindarasu</i>	

AI-Based Effective Virtual Inertia Estimation in a Meshed Network of Inverters	4421
<i>Hamideh Alvand, Alireza Zare, Mohammad B. Shadmand, Sudip K. Mazumder</i>	
Proposing Bus Adapter Connections in IEC 61499	4427
<i>Pranay Jhunjhunwala, Valeriy Vyatkin</i>	
A Model Predictive Control Solution on Wind Farms Incorporated with Dual Battery Energy Storage Systems	4433
<i>Mohana V. S. Srikar Pasumarthi, Thillainathan Logenthiran, Jie Sheng</i>	
Optimal Management of Grid-Interactive Efficient Buildings Via Safe Reinforcement Learning.....	4440
<i>Xiang Huo, Boming Liu, Jin Dong, Jianming Lian, Mingxi Liu</i>	
Speed-Dynamic-Decoupled Discrete Current Control Using Robust Pole Assignment for PMSM System with Low Inertia	4446
<i>Haitao Yang, Zibo Li, Jin Wang, Lingyu Tao, Libing Zhou</i>	
Adaptive Pulse Power Converter Using MagAmp for Bio-Medical Applications	4452
<i>Sai Sushma Pasupuleti, Harish Sarma Krishnamoorthy</i>	
New Proposed Multivendor Configuration Generation Tool According to the Standard IEC 61850 for Electric Substations.....	4458
<i>Yessica Monges, Mario Lopez, Enrique Chaparro</i>	
Electromagnetic Characteristic Analysis and Fault-Tolerant Control of Interturn Short-Circuits in SRM Drive System.....	4464
<i>Qiyuan Cheng, Shoujun Song</i>	
Nonlinear Control of a Vapor Compression Cycle Based on a Partial IOL.....	4470
<i>Ricus Husmann, Sven Weishaupt, Harald Aschemann</i>	
A Plug-And-Play Sensor System for Machine Fault Diagnosis in Lights-Out Manufacturing	4477
<i>Wanlin Yang, Fan Yang, Zhuo Zou</i>	
Parallel Drive Method of PMSM by Vector Control with One Inverter Using Three-Winding Current Transformers.....	4483
<i>Hodaka Nishimura, Koki Niwa, Toru Shimomura, Yuki Shimizu, Yoshitaka Kawabata</i>	
Multifunctional On-Board Charger for Electric Vehicles with Low-Voltage Auxiliary Battery Charging	4489
<i>Guanqun Qiu, Vinod Khadkikar, Bashar Zahawi</i>	
A Modular Bidirectional Topology for Grid-Tied PV Powered EV Chargers with Isolated Single-Stage Sub-Modules.....	4495
<i>Fatemeh Nasr Esfahani, Javad Ebrahimi, Alireza Bakhshai, Xiandong Ma, Ahmed Darwish</i>	
Digital Twin Integration Using Lingua Franca and FMI for Testing Factory Automation Software.....	4501
<i>Pietro Turco, Elisa Zanella, Andrea Valentini, Sebastiano Gaiardelli, Nicola Dall'Ora, Michele Lora, Franco Fummi</i>	
Predictive Modeling of Harmonic Distortion in Electrical Systems Using Machine Learning	4507
<i>Kevin Thomas, Ahasanur Rahman, Atif Iqbal, Shirazul Islam, Usama Attique, Muhammed Abdushakoor</i>	
Deployment Architectures of MQTT Brokers in Event-Driven Industrial Internet of Things.....	4513
<i>Amirali Amiri, Valentin Just, Gernot Steindl, Stefan Nastic, Wolfgang Kastner, Ian Gorton</i>	

Resonance Damping for Single-Stage Current Source Inverters in Motor Drive Applications.....	4519
<i>Giovanni Luca Fidone, Giovanni Migliazza, Emilio Carfagna, Fabio Immovilli, Emilio Lorenzani</i>	
Evaluation of SiC JFET/Si-PMOS Switch Under High Temperature Operating Life Test and Repetitive Current Limitation Conditions for Space Applications	4525
<i>A. Garrigós, D. Marroquí, E. Maset, D. Alcaraz, G. Terol, J. M. Blanes</i>	
Federated Learning and Comparative Analysis of Machine Learning Models for Small Signal Stability Analysis.....	4530
<i>Usama Attique, Muhammed Abdushakoor, Atif Iqbal, Shirazul Islam, Kevin Thomas, Ahasanur Rahman</i>	
Leveraging Grid-Forming Inverters for Enhanced EV Charging Station and Grid Interactions	4536
<i>Michael Lteif, Amirhosein Gohari Nazari, Mohammad B. Shadmand</i>	
Discrete-Time GPI Control of the Hydrostatic Unit in a Hydro-Mechanical Transmission.....	4542
<i>Dang Ngoc Danh, Harald Aschemann</i>	
Structuring a Model to Estimate Human Joint Motion from Surface-Electromyography	4548
<i>Daiki Sodenaga, Kosuke Shikata, Issei Takeuchi, Daswin De Silva, Seiichiro Katsura</i>	
Cyber-Physical Distribution Power System for Assessing Voltage Regulation with State Estimator and Topology Identification in the Loop	4554
<i>Santiago Sanchez-Acevedo, Raymundo E. Torres-Olguin, Tesfaye Amare-Zerihun, Rubi Rana, Alejandro Garces</i>	
A Novel Single-Stage Single-Phase Transformerless Grid-Connected Photovoltaic Inverter.....	4559
<i>Yuhao Liang, Weimin Wu, Houqing Wang, Frede Blaabjerg, Mohamed Orabi, Liang Yuan</i>	
Two-Pulse Width Modulation for Voltage Regulation and Reduction of Electromagnetic Field Radiated by Third Harmonic Current in Wireless Power Transfer System	4566
<i>Sakahisa Nagai, Toshiyuki Fujita, Osamu Shimizu, Hiroshi Fujimoto</i>	
Experimental Data Granularity Studies for the Development of NMC Li-Ion Battery Models	4572
<i>Andrés Bernabeu, Alejandro Clemente, Francisco Díaz, Lluís Trilla</i>	
Optimal Observation Planning Method for Agile Earth Observation Satellites Based on Improved Ant Colony Algorithm.....	4579
<i>Wei-quan Huang, He Wang, Dongmei Bai, Yanjie Song</i>	
Control Algorithm of Rail Power Conditioner for Traction Grid Based on PR Controller	4587
<i>Milos Straka, J. G. Pinto, Vojtech Blahnik, Martin Pittermann</i>	
Achieving IoT Harmonization Using XMPP in the IEEE P1451.99 Context.....	4593
<i>Peter Waher, Riccardo Brama</i>	
Automating CPPSs Analyses with SysML V2 and Lingua Franca in the Context of Industry 4.0.....	4599
<i>Sebastiano Gaiardelli, Jan Wilch, Franco Fummi, Birgit Vogel-Heuser</i>	
Intelligent Turning Cyber-Physical Systems Modeling Using SysML.....	4607
<i>Prithbey Raj Dey, David Enke, Mario Buchely</i>	
An RMRAC-Based Adaptive and Robust Control for a Multi-Winding Flyback Converter in OBC Application	4613
<i>Shahid Aziz Khan, Guilherme Vieira Hollweg, Mengqi Wang, Wencong Su, Shivam Chaturvedi, Ducdung Le, Mahdi Ghavaminejad</i>	

Digital Implementation Analysis of PRBS Impedance Shaping Algorithm to Estimate Multi-Sequence and Multi-Harmonic Systems.....	4617
<i>Oier Lopez-De-Suso, Alain Sanchez-Ruiz, Salvador Ceballos, Ander Ordone, Markel Zubiaga, Jose Manuel Gonzalez, Jose Miguel Gil-Garcia</i>	
Self-Attention Bottleneck Network for Self-Supervised Anomaly Detection in CAN Data	4623
<i>Devin Drake, Victor Cobilean, Harindra S. Mavikumbure, Morgan Stuart, Milos Manic</i>	
Solid-State Circuit Breaker for the Protection of Multiple Loads	4631
<i>Ana Rafaela Figueiredo Bento, Fernando Bento, Antonio J. Marques Cardoso</i>	
Dynamic Minimum Loads for FCR Market Participation of Alkaline Water Electrolyzers	4637
<i>Lucas Cammann, Erick F. Alves, Johannes Jäschke</i>	
Model Predictive Voltage Control Strategies for Two-Level Voltage Source Inverters.....	4643
<i>Héctor Levis, Rodrigo Zuloaga, Ariel Villalón, Marco Rivera, Claudio Burgos-Mellado</i>	
Dual-Input High Gain DC-DC Converter with Single-Switch for Renewable Energy Sources Integration	4649
<i>Seshagiri Rao Vemparala, M. S. Bhaskar, Mahmoud F. Elmorshedy, Dhafer Almakhlles</i>	
Intelligent Warehouse Robot for Classifying, Sorting, and Transporting Goods' Boxes.....	4655
<i>Ziyuan Zhao, Amna Mazen, Youssef Bazzi, Bingyi Wang, Sushuang Li</i>	
Decoupling Power Quality Issues in Grid-Microgrid Network Using Microgrid Building Blocks	4661
<i>Samrat Acharya, Priya Mana, Hisham Mahmood, Francis Tuffner, Alok Kumar Bharati</i>	
Compact Modeling of Layout Parasitic Effects on Power MOSFET Switching	4668
<i>Xueqing Liu, David Chang, Xiaobin Wang</i>	
Minimizing Costs and CO2 Emissions in Sustainable Electrified Vehicles' ESS	4673
<i>Ahmad Eid El Iali, Doumiati Moustapha, Machmoum Mohamed</i>	
Proposal of Virtual Indirect Modulation for the Single-Phase Matrix Converter Toward Realizing the Universal Direct Converter.....	4681
<i>Momoka Yabuuchi, Masato Koyama, Daiki Yutaka</i>	
Comparing Deep Neural Networks for 1D Multi-Label Power Quality Disturbance Classification: ResNet, MobileNet, and DenseNet.....	4687
<i>Han Shao, Rui Henriques, Hugo Morais, Elisabetta Tedeschi</i>	
Improved Post-Fault Recovery in MMC-HVDC Networks Using Enhanced Active Damping.....	4693
<i>Monika Sharma, José L. Rueda Torres, Peter Palensky</i>	
Research on the Effects of Voltage Support Functions on Islanding Detection Effectiveness of Distributed Energy Resources	4699
<i>Yuyang Liu, Te Li, Xuhua Liu, Shuliang Zhu, Xiaojie Shi, Lei Lin</i>	
An Anomaly Detection Model for CAN Networks Based on CNN and Transformer	4705
<i>Ankang Chen, Zhitao He, Dan Zhang</i>	
Basic Study on Vortex Ring State Detection of Multi-Rotor UAV Using Motor Counter Torque Observer	4711
<i>Manto Kamiya, Sakahisa Nagai, Hiroshi Fujimoto</i>	

Self-Adaptive Physics Informed Neural Network for Paper Insulation Degree of Polymerization Prediction	4717
<i>Alamera Nouran Alquennah, Mohammad Alshaikh Saleh, Ali Ghrayeb, Haitham Abu-Rub, Shady S. Refaat, Mohammed Al-Hajri, Sunil Khatri</i>	
Backstepping and Passivity-Based Composite Control Method for Stabilizing Voltage in Dynamic Wireless Charging	4723
<i>Milad Behnamfar, Arif Sarwat</i>	
Direct Speed Predictive Control of an Induction Motor	4729
<i>Emrah Zerdali, Marco Rivera, Jacopo Riccio, Patrick Wheeler</i>	
Impact of Grid Strength on Sub-Synchronous Oscillations in AC Systems with Type-4 Wind Farms Integrated.....	4734
<i>Tassneem Zamzam, Muhammad F. Umar, Yazan Qiblawey, Abdulrahman Alassi, Ali Ghrayeb, Haitham Abu-Rub</i>	
Toward Realism of Haptic Texture: Environment-Adaptive Vibrotactile Transformation	4740
<i>Keisuke Tozuka, Hiroshi Igarashi</i>	
ChebyRegNet: An Unsupervised Deep Learning Technique for Deformable Medical Image Registration	4746
<i>Muhammad Umair Danish, Mohammad Noorchenarboo, Apurva Narayan, Katarina Grolinger</i>	
Performance Improvement of an Industrial Servopositioner Using Load Side Acceleration Measurements.....	4754
<i>Roberto Oboe, Marco Pallaro, Marco Monte, Davide Pilaastro, Stefano Bizzotto</i>	
DC-Bus Voltage Controller Design for an SCIG Using Root-Locus with System Parameter Change Immunity	4760
<i>Tutan Debnath, Huang Hao, Kaushik Rajashekara</i>	
A Study on the Reliability Analysis of the Integrated Dual-Output Converter Using the Bayesian Networks	4767
<i>Mahdi Ghavaminejad, Mengqi Wang, Wencong Su, Ducdung Le, Shahid Aziz Khan</i>	
Distribution Systems Clustering Through Voltage Unbalance Sensitivity to Photovoltaic Presence	4774
<i>Rafael M Leite, Mário Oleskovicz, Daniel Barbosa, Flavio B. Costa</i>	
Extraction and Evaluation of Decoupled Electrical Terminal-Behavior Model for Machine Parameter Variation and Fault Detection	4779
<i>Xinliang Yang, Qing Lin, Vladimir Mitrovic, Rolando Burgos</i>	
Mitigation of Negative Impedance Instabilities in a Three Phase Interleaved Boost Converter Feeding Constant Power Load.....	4785
<i>Shivam Chaturvedi, Shahid Aziz Khan, Ducdung Le, Mengqi Wang, Wencong Su</i>	
Small-Signal Characterization of Selective Harmonics Elimination (SHE) Modulation and Its Impact on Passivity-Based Impedance Analysis	4791
<i>Qing Lin, Rolando Burgos</i>	
Dynamic Modeling and Real-Time Simulation of Wave-To-Grid System	4797
<i>Shuvankar Podder, Derek Jackson, Alexander Barajas-Ritchie, Eduardo Cotilla-Sanchez, Yue Cao</i>	

Actual Circuit Verification of LC Series Resonant Converter with Power Factor Control for Effective Power in Load Regulation.....	4804
<i>Akito Nakagaki, Eiji Hiraki, Kazuhiro Umetani, Ishihara Masataka, Yuto Yoshimura</i>	
An LC-CLC Compensated CPT System with Constant Voltage Output and Zero Phase Angle Optimizing Coupler Voltage.....	4811
<i>Dingyi Feng, Yuanbo Zha, Keyi He, Jianxing Jiang, Hao Ma</i>	
The Optimization of Building Integrated Photovoltaics Systems in Urban Environments	4817
<i>C. C. Lee, Elena Bian, Fanny Tang, C. H. Li, C. Y. Li, Xi Chen</i>	
Enhancing SCADA Alarm Management for Power Grids Using Large Language Models	4823
<i>Geordie Dalzell, Chen Liu, Saumil Shah, Elena Kranz, Xinghuo Yu, Mahathir Almashor</i>	
Thermal Inspection and Quality Assessment for AFP Processes Via Automatic Defect Detection and Segmentation	4829
<i>Muhammed Zemzemoglu, Mustafa Unel</i>	
A High-Gain Single-Switch Non-Isolated DC-DC Converter with Expandable Topology	4835
<i>Mohammad Hemati, Hossein Gholizadeh, Mohsen Hamzeh, Lazhar Ben-Brahim</i>	
A Double-Side Self-Tuning IPT Converter Immune to Parameters Variation Under Misalignment Condition.....	4841
<i>Bowei Zou, Zhicong Huang, Io-Wa Lam, Lam Chi-Seng</i>	
Deep Reinforcement Learning Based Energy Management for Smart Buildings with Heat Pump and Electric Vehicles	4847
<i>Xuan Jiang, Qianwen Xu</i>	
A Self-Powered Wireless Sensor System for Monitoring the Deformation of Gas Insulated Switchgear Expansion Joint	4853
<i>Xinyi Wang, Hui Wang, Hang Gao, Xitong Sun, Shudong Wang, Yunjia Li</i>	
Mimosa-Inspired Electrohydraulic Soft Actuator with Fast Response	4859
<i>Yinliang Gan, Nichen Tian, Zhiqiu Ye, Huaixuan Dai, Na Dong, Lipeng Chen, Geng Yang</i>	
Vehicle Movement Status Network on Drone-Perspective View with Adaptive Adversarial Learning	4865
<i>Youlkyeong Lee, Jehwan Choi, Kanghyun Jo</i>	
Integration of Reconfigurable Battery Systems in the Built Environment	4871
<i>Mohannad Alkhalil, Sulaiman Mohaidat, Juhyun Bak, Kevin James, Xiaoqi Liu, Fadi Alsaleem, Michael Hempel, Hamid Sharif-Kashani, Mahmoud Alahmad</i>	
Optimal Design for CLLLC Resonant Converter.....	4876
<i>Leonardo Augusto Bender, Gierri Waltrich, Anderson Silva Vaccari</i>	
PCB Coil-End Type Radial Flux PM-Motor	4882
<i>Masahiro Aoyama, Junpei Mukaiyama</i>	
Nonlinear Generalized Predictive Control for a Novel Thrust-Vectoring Hexarotor Using Super-Twisting ESO	4888
<i>Zonglin Li, Yipeng Yang, Zhan Li</i>	
Voltage Source Converters Using Series-Connected IGBTs Based on Active Clamping Module	4894
<i>Yan Wang, Shuai Shao, Weiqiang Zhou, Xingyu Pei, Junming Zhang</i>	

Grad-CAM for Network Models: To Support Aerial Vision Based Wildfire Perception.....	4900
<i>Linhao Qiao, Yufei Fu, Huajun Dong, Qiaomeng Qin, Youmin Zhang, Xiaobo Wu, Erfan Delfanian, Amin Taherzadeh, Hamza Benzerrouk, Hakim Guiddir, Howard Murray</i>	
A Comparative Analysis of Circuit Interruption Between Solid State Circuit Breaker and Mechanical Circuit Breakers	4906
<i>Javad Chevinly, Elias Nadi, Shervin Salehi Rad, Hua Zhang, Fei Lu</i>	
From Manual to Semi-Automated Safety and Security Requirements Engineering: Ensuring Compliance in Industry 4.0	4911
<i>Mukund Bhole, Wolfgang Kastner, Thilo Sauter</i>	
An Analysis of Single- And Dual-Phase Shift Modulation Techniques for Closed-Loop Control of Dual-Active Bridge Converter.....	4919
<i>Ruvini De Seram, Kushan Tharuka Lulbadda, Oruganti V. S. R. Varaprasad, Sheldon S. Williamson</i>	
Enabling Industrial Security Via Certificate Management Concepts in the Life Cycle of a Production Gray-Box.....	4925
<i>Marwin Madsen, Benedikt Geib, Mike Barth</i>	
Deep Adaptive Linear Algebra-Based Control for a Three-Phase Voltage Source Inverter	4933
<i>Oswaldo Menéndez, Diana López, Josehp Mery, Daniel Pesantez, Álvaro Prado, José Rodríguez</i>	
Impact of Charging Profiles on Cumulative Semiconductor Damage Used in EV Chargers	4939
<i>Alexander Palacio, Abraham M. Alcaide, Juan Jose Porras, Hugues Renaudineau, Samir Kouro</i>	
Effects of Magnetic Saturation on Optimal Efficiency Reference Generation for the Wound Rotor Synchronous Machine	4945
<i>Maxfield Parson-Scherban, Bernard Steyaert, Matthias Preindl</i>	
Service-Oriented Architecture for I4.0 Digital Twins.....	4951
<i>Nico Braunisch, Tom Gneuß, Uwe Schmidt, Marko Ristin, Hans Wernher Van De Venn, Martin Wollschlaeger</i>	
Variable Switching Frequency Modulation for Wide ZVS Range in Y-Inverter Using Adaptive Deadtime	4957
<i>Sadra Tavakolian, Babak Nahid-Mobarakeh</i>	
Enhanced Fault-Tolerant Triple Active Bridge Converter for DC Microgrid.....	4962
<i>Shushan Qiu, Tutan Debnath, Kaushik Rajashekara, Harish S. Krishnamoorthy</i>	
Artificial Neural Network-Based State Estimation for Low Observable, Unbalanced Microgrids for Microgrid Building Blocks.....	4968
<i>Jongchan Choi, Joao Pereira Pinto, Madhu Sudhan Chinthavali</i>	
Deep Learning with Attention Mechanism for Optical Diffractive Image Reconstruction	4974
<i>Asim Asrar, Kurichate Pavan Kalyan Raju, Pranab K. Dutta</i>	
Investigation of the Parameterization Influence in High-Frequency Models for Traction Motors with Hairpin Windings	4980
<i>Silvan Scheuermann, Matthias Brodatzki, Martin Doppelbauer</i>	

Advanced Hardware-In-The-Loop Testbed for Development of Grid Connected Medium Voltage Modular Multilevel Converter.....	4986
<i>Sihun Song, Isabel Barnola, Qichen Yang, Karl Schoder, Matthew Bosworth</i>	
Assessment of Residual Range of an Electric Vehicle: Experimental Validation Using Real World Driving Cycles.....	4993
<i>Bhanu Ganesh Ganta, Pradeep Kumar Yemula, Digvijay S. Pawar, Aishree Boruah</i>	
Microgrid Building Block Architecture, and Subcomponents Modeling and Demonstration in Controller Hardware-In-The-Loop	4999
<i>Aswad Adib, Michael Starke, Misael F. Martinez Montejano, Benjamin Dean, Joao Onofre Pereira Pinto, Steven Campbell, Madhu Chinthavali</i>	
A Tail Structure Driving System for Switched Reluctance Motor Using Full-Bridge Power Converter.....	5005
<i>Haitao Sun, Dayu Wang, Avinash Dornala, Ali Halawa, Yan Chen, Woongkul Lee</i>	
A 0.8 V Bandgap Voltage Reference with High PSRR for Low-Dropout Voltage Regulator in 22nm FD-SOI.....	5011
<i>Md. Zahidul Islam, John Venker, Abu Shahir Md Khalid Hasan, Jeff Dix, H. Alan Mantooth</i>	
Comparative Study of Sequential Model Predictive Torque Control Techniques Applied to a Six-Phase Induction Machine	5017
<i>Paola Maidana, Christian Medina, Jorge Rodas, Osvaldo Gonzalez, Magno Ayala</i>	
Control System Based on DOB for Island Mode Operation of DFIG	5023
<i>Adnan Osmanovic, Tarik Uzunovic, Asif Šabanovic</i>	
Impact of Power Flow Controller Location in High-Voltage DC (HVDC) Grids	5030
<i>Shubhangi Bhadoria, Frans Dijkhuizen, Hans-Peter Nee</i>	
Robust Battery State-Of-Charge Estimation in Presence of Model Uncertainties Using KalmanNet.....	5036
<i>Farshid Naseri, Anders Christian Solberg Jensen, Erik Schaltz</i>	
Advancing Automobile Manufacturing Inspections: YOLO-Based Missing Part Detection	5042
<i>Muhammad Tayyab, Laila Tul Badar, Anwar Ur Rehman, Francesco Durante, Federico Raparelli, Ammar Muhammad, Aqeel Ur Rehman</i>	
Application of FPGA in Power Electronics: State-Of-The-Art, Challenges, and Future	5048
<i>Mostafa Darvishi, Hani Vahedi</i>	
Synthesis of Power Supply Generator Circuit for X-Ray Device with Enhanced Performance.....	5054
<i>Nair Syam Sundar S, L. Umanand, K. Gopakumar</i>	
Unlocking the Potential of Value Stacking in Norwegian Distributions Systems	5060
<i>Jacob F. Von Krogh, Olimpo Anaya-Lara, Raymundo E. Torres-Olguin, Jonatan Kremets, Kasper E. Thorvaldsen</i>	
Application of Active Disturbance Rejection Control in Different Parts of Renewable Energy Systems: A Survey.....	5066
<i>Mahmoud F. Elmorshedy, Seshagirirao Vemparala, M. S. Bhaskar, Dhafer Almakhlles</i>	
Active EMF Concept: A Unified Observer for AC Machines	5072
<i>Rashad Ghassani, Zohra Kader, Maurice Fadel, Pascal Combes</i>	

Reinforcement Learning Based Control of Grid-Connected PUC5 Inverter.....	5079
<i>Azadeh Kermansaravi, Alamera Nouran Alquennah, Aleksandra Lekic, Mohamed Trabelsi, Ali Ghrayeb, Haitham Abu-Rub, Hani Vahedi</i>	
Linear Quadratic Tracker in Multi-Agent System	5085
<i>Reinier López, Dave Figueroa, Jaime Guzmán, César Silva</i>	
Parallel Interleaved Current Source Rectifiers for High-Power Hydrogen Electrolyzers and Optimal DC Inductance Design.....	5091
<i>Alvaro Iribarren, Ernesto L. Barrios, Julián Balda, Marco Rivera, Patrick Wheeler, Alfredo Ursúa, Pablo Sanchis</i>	
Real-World Environment Validation and Characterization of Microgrid Building Blocks	5097
<i>Sayonsom Chanda, Sanjeev Pannala, Rob Hovsapien</i>	
Autonomous Vision-Guided High-Precision Firefighting Using Unmanned Aerial Vehicles	5105
<i>Erfan Delfanian, Youmin Zhang, Huajun Dong, Linhan Qiao, Amin Taherzadeh, Xiaobo Wu, Hamza Benzerrouk, Hakim Guiddir</i>	
Testbed Demonstration of a Microgrid Building Block Prototype	5111
<i>Baza Somda, Akshay Kumar Jain, Haris Bin Ashraf, Chen-Ching Liu, Richard Zhang, Alok Kumar Bharati, Francis Tuffner, Kevin Schneider, Dan Ton</i>	
Fault Contribution of Grid-Following and Grid-Forming Inverters Considering Generic Inverter Controls and Ride-Through Requirements	5117
<i>Jinho Kim, Yuan Liu, Brett A Ross, Yousu Chen, Nader A. Samaan, Eduard Muljadi, Sangwon Seo</i>	
Real-Time AI-Based Line-Line Fault Detection and Localization in Power Electronics Dominated Grids.....	5123
<i>Matthew Baker, Mohammad B. Shadmand</i>	
Conducted Emissions Prediction and EMI Filter Design for a Variable-Frequency, Soft-Switching Inverter	5129
<i>Elliott Fix, Matthias Preindl</i>	
Optimization-Based Control Strategy with Deep Koopman Model for Constrained Complex Nonlinear Systems.....	5135
<i>Jinna Fu, Zheng Chen, Ya-Jun Pan, Xiaoyu Zhang, Wenjie Chen</i>	
Assessing Niche Readiness of DC Microgrid Applications: Insights from New Zealand's Energy Transition to Carbon Neutrality	5141
<i>Yannick Schöpper, Sarah Hermens, Andrew Laphorn, Sadeeshvara Silva</i>	
From C.elegans to Liquid Neural Networks: A Robust Wind Power Multi-Time Scale Prediction Framework.....	5148
<i>Mariam Mughees, Yuzhuo Li, Yunwei Ryan Li</i>	
Data-Driven Modeling for Grid Edge IBRs: A Digital Twin Perspective of User-Defined Models.....	5154
<i>Kaveri Mahapatra, Bhaskar Mitra, Soumya Kundu</i>	
A Generalized Space Vector Modulation (SVM) for Multi-Level Three-Phase Converters.....	5161
<i>Ashkan Barzkar, Rolando Burgos</i>	
Data-Driven Predictive Control of Office Temperatures Based on Multiple Linear Regression Model	5167
<i>Mihael Jakšić, Vinko Lešić</i>	

Simulation of Maximum Power Point Tracking Applied to a Wave Energy Converter	5173
<i>Henry Zapata-Fonseca, Marcelo A. Perez, Felipe Ruiz, Jose Rodriguez</i>	
Modeling, Control and Prototype of an Omnidirectional Mobile Robot for Applications in Gait Training	5179
<i>Victor Coch, Leonardo S. Correa, Gabriel A. Souza, Letícia P. A. Lopes, Mateus B. O. Pinto, Vinícius M. Oliveira</i>	
Serial Peripheral Interface Based Primary Layer Control of a Solid State Transformer	5185
<i>Shantanu Gupta, Yannal Nawafleh, Debotrinya Sur, Mateo D. Roig Greidanus, Mohammad Dehan Rahman, Xiaoqing Song, Sudip K. Mazumder, Juan C Balda, Rambabu Adapa</i>	
Overview of FPGA-Based Synchronization Techniques in Distributed Control Systems for Multilevel Power Converters.....	5191
<i>Mingze Gao, Vladimir Mitrovic, Rolando Burgos</i>	
Leveraging an Improved Particle Swarm Optimization Algorithm to Solve Combined Heat and Power Economic Dispatch Problems.....	5198
<i>Hualong Liu, Wenyan Tang</i>	
Comparative Study of Battery Management Algorithms on Customer Return and Battery Life in Building Energy Storage Applications	5206
<i>Sreejith Chakkalakkal, Sadaraboina Moses Vidya Sagar, Tissaphern Mirfakhrai, Wenpeng Liu, Vijay Bhavaraju</i>	
Adaptive PLL-Based Sensorless Control for CSI-Fed PMSM Drives Used in Submersible Pumps	5212
<i>Milad Bahrami-Fard, Majid Ghasemi Korrani, Mohammad Rastegar, Poras Balsara, Babak Fahimi</i>	
A Balancing Trajectory Combining MTPA and LMC	5218
<i>Minghao Gao, Guoyu Chu, Abdur Rahman, Rukmi Dutta</i>	
Photovoltaic Power Generation System with Improved Three-Phase Grid-Tied T-Type Inverter Based on MPC Control Strategy	5224
<i>Han Jun Jang, Byeong Su Ko, Jae Hwan Lim, Hae In Kim, Il Song Kim</i>	
Real-Time CAN Data Acquisition and Visualization: Synergizing Physical-To-Virtual (P2V) Twinning of Automotive Battery Management Systems	5230
<i>Mohit Sharma, Akash Samanta, Chandan Chetri, Sheldon Williamson</i>	
A Novel Large Language Model (LLM) Based Approach for Robotic Collaboration in Search and Rescue Operations.....	5236
<i>M. I. R. Shuvo, Nafiul Alam, Awal Ahmed Fime, Hannah Lee, Xiangxu Lin, Jong-Hoon Kim</i>	
Novel Non-Dissipative Loop Resonance Soft-Switching DC-DC Converter for HEV Gate Driver Power Supply	5242
<i>Silumin Sandaru Senanayake, Thilak Ananda Senanayake, Masayoshi Yamamoto</i>	
Dynamic Modeling of a Double-Stator Switched Reluctance Motor (DSSRM) Using a Lumped Parameter Circuit Model	5248
<i>Behnam Mosammam, Milad Bahrami Fard, Babak Fahimi, Poras T. Balsara</i>	
Bifurcation Analysis Under Various Modulation Techniques in PWM-Controlled DC-DC Converters	5254
<i>Mohammad Hassan Ghaderi, Milad Bahrami Fard, Nasim Rashidirad, Babak Fahimi, Poras T. Balsara</i>	

State-Of-The-Art in Cyber-Physical Security for Dynamic Wireless Charging of Electric Vehicles	5260
<i>Samaneh Yazdanipour, V. S. R. Varaprasad Oruganti, Jeonggi Son, Mohammadreza F. M. Arani, Sheldon S. Williamson</i>	
Distributed Resilient Control of DC Microgrids Under Unbounded FDI Attacks and Communication Link Faults Considering Balance of Charge State	5266
<i>Mohamadamin Rajabinezhad, Yi Zhang, Shan Zuo</i>	
Trajectory-Tracking Control of Electric Wheelchair by Cascaded Time-Scale Transformation*	5272
<i>Shiori Tomizawa, Hisakazu Nakamura</i>	
Mitigating False Data Injection Attacks in DC Microgrids with Multiple Interlinking Converters	5279
<i>Ramin Babazadeh Dizaji, Mohsen Ghafouri</i>	
A Novel Method of Coupling Coefficient Estimation for a Series-Series Wireless Power Transfer System	5286
<i>Saman Rezazade, Araz Saleki, Amir Shahirinia, Mohammed Agamy, M. Tavakoli Bina</i>	
Quality Grading Methods for Greenhouse Grown Crops Using Computer Vision and Machine Learning – a Review.....	5292
<i>Pandula Pallewatta, Kasun Karunanayaka, Samantha Mathara Arachchi, Thilina Halloluwa, Gihan Seneviratne</i>	
Capability and Requirement Processing for Industry 4.0 Asset Administration Shell Aided Network Management	5300
<i>Santiago Soler Perez Olaya, Sebastian Rupprecht, Hagen Borstell, Martin Wollschlaeger</i>	
Funabot-Grab: Tactile Internet for Grabbed Tactile with Fabric Actuator and Force Distribution Sensor	5306
<i>Shinichi Masaoka, Yuki Funabora, Shinji Doki</i>	
Loss-Minimizing Operation of Vehicle Powertrains with Front and Rear Electric Drive Units.....	5312
<i>David B. Dickson, Kallen R. Cunningham, David G. Taylor</i>	
Impact of Flux Barriers Shape on the Performance of Reduced Rare-Earth Multilayer Interior Permanent Magnet Synchronous Motor	5318
<i>Abhishek Shukla, Saptarshi Basak</i>	
A Study on Applying the Decoupled-Control Method on the Integrated Dual-Output Converter.....	5324
<i>Mahdi Ghavaminejad, Mengqi Wang, Wencong Su, Guilherme Hollweg, Ducdung Le, Shahid Aziz Khan</i>	
Prototype of Funabot-Plate: Contact Force Base Controlled Wearable Assistive Suit with Rigid Plate	5332
<i>Rin Yasuda, Shinichi Masaoka, Yuki Funabora, Shinji Doki</i>	
Design of Compact High Efficiency High Frequency Transformers Suitable for Solid State Transformer	5339
<i>Naoki Owada, Kan Akatsu</i>	
Cloud-Based Scheduling Mechanism for Scalable and Resource-Efficient Centralized Controllers	5345
<i>Achilleas Santi Seisa, Sumeet Gajanan Satpute, George Nikolakopoulos</i>	
Dual Control of Active Power and Virtual Impedance for Resilient Operation of Grid-Forming Inverters During Symmetrical Faults.....	5351
<i>Amirhosein Gohari, Mohammad B. Shadmand</i>	

XR-Based Caregiver Task Assistance Through 3D Human Pose Recognition in Intelligent Spaces	5357
<i>Atsushi Sugimoto, Mihoko Niitsuma</i>	
Real-Time Estimation of Inter-Turn Fault in Inverter-Fed Three-Phase Induction Motor Using ML-Based Vibration Analysis.....	5363
<i>Priyanka C P, Sanjeevikumar Padmanaban</i>	
Reducing the Finite Element Analysis Based Electric Machine Simulation Effort to a Sixth Without the Requirement of Specific Mesh Settings.....	5369
<i>Gereon Goldbeck, Gerd Bramerdorfer</i>	
Cross-Domain Learning for Power Grid Security: Harnessing Human Physiology for Anomaly Detection	5375
<i>Asef Zadehgoi-Mohammadi, Mohammad B. Shadmand</i>	
Nocturne - A Real-Time Driving Assistant at Night for Sri Lanka.....	5382
<i>Mohamed Safrullah Mohomed, Mohammed Ashfaq Ashar, Abdul Qadir Vilcassim, Sukumar Kavishan, Kasun Karunanayaka, Manjusri Wickramasinghe, Adrian David Cheok</i>	
Liquid Metal Transfer Experiment for Development of Electric Casting Systems	5389
<i>Masahiro Aoyama, Kaito Kumazaki</i>	
Recursive Estimation of Statistical Metrics Over Large Datasets Or Real-Time Signals.....	5395
<i>Luis Ibarra, Angel Romero-Laguna, Renato Galluzzi</i>	
Hierarchical Distributed Gossip Consensus Based Economic Dispatch in Networked Microgrids	5401
<i>Aditya Joshi, Skieler Capezza, Ahmad Alhaji, Mo-Yuen Chow</i>	
A Distributed Consensus Approach for Power and Water Co-Generation in Microgrids.....	5407
<i>Ahmad Alhaji, Skieler Capezza, Mo-Yuen Chow</i>	
Cost-Effective Force Distribution Optimization in Segmented LSRMs for Enhanced Electric Train Propulsion Performance and Reliability	5413
<i>Siamak Masoudi, Lazhar Ben-Brahim, Adel Gastli</i>	
A New Robust Approach for Synchronization of Single-Phase Inverters Using Sliding Mode Controlled Harmonic Oscillators.....	5419
<i>Rahul Noniya, Mohit Kachhwaha, Dev Vrat Krishna, Deepak Fulwani</i>	
Investigation of Power Losses and Possible Solutions for Frequency Control in Multiphase Interleaved DC-DC Boost Converters	5424
<i>Ahmed Djamel Ayad, Abdelmadjid Gouichiche, Yacine Badaoui, Ahmed Safa</i>	
AC Crowbar Protection Scheme for Medium-Voltage Solid-State Transformers	5431
<i>Adithyan Vetrivelan, Alex Q. Huang</i>	
A Novel Approach to Classify Power Quality Signals Using Vision Transformers	5437
<i>Ahmad Mohammad Saber, Alaa Selim, Mohamed M. Hammad, Amr Youssef, Deepa Kundur, Ehab El-Saadany</i>	
Mitigation of Reflected Overvoltage in Wind Turbine Generator-Converter Systems with a Smart Coil Concept.....	5443
<i>Lulu Wei, Majid T. Fard, Jiangbiao He, Joseph Sottile</i>	
Integrated On-Board Battery Charger with Galvanic Isolation Based on 6-Phase SPM Synchronous Machine for Electric Aircraft.....	5449
<i>Mohamed Y. Metwly, Jiangbiao He, Ayman S. Abdel-Khalik</i>	

Ripple Mitigation in Augmented Discontinuous Modulation Scheme-Based Differential Mode Inverter	5455
<i>Luiz Fernando M. Arruda, Sadegh Esmaeili Rad, Shantanu Gupta, Sudip K Mazumder</i>	
Multi-Objective Microgrid Management Considering Operating Costs, Battery Health, and Islanding Capability.....	5461
<i>Giuseppe La Tona, Massimiliano Luna, Maria Carmela Di Piazza</i>	
CUP Converter: A Design Guide for the New Topology	5468
<i>Cedric Somers, Kamal Al-Haddad</i>	
Passively Variable Flux PM Motor with Patterned Multi-Layer PCB Coil Technique.....	5474
<i>Masahiro Aoyama</i>	
Design Considerations for Integrated Motor Drives for Urban Mobility Applications	5479
<i>Xingqi Liu, Jiajun Yang, Weiduo Zhao, Giampaolo Buticchi</i>	
A Coordinated Control Strategy of Real-Time Compensation for DC Distribution System Based on EtherCAT Communication	5485
<i>Haomin Wu, Han Wei, Xin Zhang, Hao Ma</i>	
A Bi-Directional DC-DC Power Converter Topology Based on Efficiency for Electric Bike	5493
<i>Mehran Hameed, Shady S. Refaat</i>	
Adaptive Impedance Matching for Efficient Wireless Power Transmission Via a Perturbance and Observation Method	5499
<i>Fatemeh Nasr Esfahani, Mehdi Niroomand, Seyed M. Madani, Javad Ebrahimi, Alireza Bakhshai</i>	
Modified Integrated Regulator Strategy for High Density Interleaved DC-DC Converter with Enhancement Conversion Ratio and Losses Mitigation	5505
<i>Mohsen Karimi, Mohammad Farsijani, Mohsin Jamil</i>	
Predictive Control for Parallel Grid-Connected Inverters with Low-Voltage Ride-Through Capability	5511
<i>Anas Karaki, Abdelbasset Krama, Sertac Bayhan</i>	
A Cloud-Edge Intelligent Collaborative Framework and Its Applications in AIGC and Digital Twins	5517
<i>Haiteng Wang, Lu Jiao, Tuo Zhao, Lei Ren</i>	
Enhancing Safe Driving of Autonomous Buses in Obstructed-View Conditions Using Distributed Monocular Cameras.....	5521
<i>Yun Wu, Zhaocheng Gu, Zhi Wang, Daishi Watabe</i>	
Boost Packed E-Cell Thirteen-Level Inverter for Grid Interactive Systems	5527
<i>Abdelbasset Krama, Abdelbaset Laib, Anas Karaki, Sertac Bayhan</i>	
Buck-Boost Inverter for Improved Power Conversion in Induction Heating Applications.....	5533
<i>Héctor Sarnago, Pablo Guillen, José M. Burdío, Óscar Lucía</i>	
Mitigating Twice the Fundamental Frequency Ripple in Three-Phase to Single-Phase Power Converters Through Improved DC Link Voltage Control	5537
<i>Lorenzo Carbone, Meiqi Wang, Gioele Baia, Qilin Peng, Alan J. Watson</i>	
Design and Optimization of a Dual-Rotor and Flat-Type-Stator Transverse Flux Machine.....	5541
<i>Zhijun Ou, Hang Zhao, Liyang Liu, Xiangdong Su, Fang Li, Hui Wang</i>	

An Improved Switching Frequency Reduction Method for CHB Inverter with Supercapacitor and DC–DC Stage Under Hybrid Modulation Strategy	5547
<i>Ye Zhang, Zixin Li, Fanqiang Gao, Lingxiao Gao, Cong Zhao, Yaohua Li</i>	
A Role of RMAS, Blockchain, and Zero-Knowledge Proof in Sustainable Supply Chains.....	5551
<i>Massimiliano Pirani, Alessandro Cucchiarelli, Luca Spalazzi</i>	
Driver Steering Model Reflecting Personal Characteristics Utilizing Model Predictive Control	5555
<i>Suzuka Seki, Jun Ishikawa</i>	
Multi Active Bridge Converter with DPS Modulation for Bidirectional EV Charging from DC Traction Grid	5559
<i>Mykola Lukianov, Pawel Derkacz, Ryszard Strzelecki</i>	
Topology Optimization in Three-Phase C-Core SRMs	5566
<i>Gholamreza Davarpanah, Sajjad Mohammadi, James L. Kirtley</i>	
Performance Metric for Multiple Anomaly Score Distributions with Discrete Severity Levels	5570
<i>Wonjun Yi, Wonho Jung, Yong-Hwa Park</i>	
Work-In-Progress: A Revenue Assessment Framework for Hydrogen Production in Power Systems	5574
<i>Carlos J. Lopez-Salgado</i>	
Dynamic Complex Power Phase Angle Model and Control of Grid-Forming Inverter.....	5578
<i>Xiangjun Quan, Dale Li, Huiyu Miao, Fei Zeng, Xiaodong Yuan</i>	
Improving Magnetic Concrete Permeability by Electromagnetic Pulse-Enhanced Anisotropy	5583
<i>Xiuhu Sun, Jiale Zhou, Shen-En Chen, Tiefu Zhao</i>	
LoRaWAN-Based Non-Invasive Temperature Nodes for Detecting Technical Losses in Distribution Networks	5587
<i>Raúl Gregor, David Caballero, Magno Ayala, Sergio Toledo, Jorge Molinas, Marco Rivera</i>	
Identification of Best Candidate Topology for Paralleling Standardised VHF DC-DC Power Converters	5591
<i>Ansley Jugoo, Florentin Salomez, Sébastien Carcouet, Bruno Allard, Yves Lembeye</i>	
Multi-Agent Reinforcement Learning-Based Dynamic Pricing for EV Charing/Discharging	5595
<i>Qin Chen, Komla Folly</i>	
Reliability Analysis of DC EV Charging Stations for E-Mobility.....	5599
<i>Mahmudul Islam Masum, Sipeng Chen, Dhruva Sankalp Hassan Kiran, Kenny Franco, Milad Behnamfar, Adil Amaan, Mohd Tariq, Arif Sarwat</i>	
Three-Phase Instantaneous Current Control of Grid-Forming PMSG-WTG	5605
<i>Wenxuan Jia, Hui Pang, Xiangyu Pei</i>	
Leveraging Deep Learning for Fault Detection and Classification of Induction Machines: A Review.....	5609
<i>Mohammad Alshaikh Saleh, Shady S. Refaat, Jörg Kammermann</i>	
An Approach to Control Modular Multilevel Converters Using Varying Capacitor Voltages	5617
<i>Davide Tebaldi</i>	
A Binary Grasp Pose Discriminator with Attention-Bridging Based on Local Grasp Units	5621
<i>Yueqing Wang, Jiabao Dong, Jing Zhang, Lei Ren</i>	

Dual Loop Based Andronov-Hopf Oscillator Control of Grid-Connected Photovoltaic Systems	5625
<i>Sahil Gaurav, Chandan Kumar</i>	
A Participation Factor-Based Approach for Defining the EMT Model Boundary for Power System Simulations with Inverter-Based Resources	5631
<i>Mahsa Sajjadi, Tianwei Xia, Min Xiong, Kai Sun, Andy Hoke, Bin Wang, Jin Tan</i>	
Dancing with a Powered Wheelchair Driven by Rim Motors and Music Tempo Recognition	5635
<i>Yang-Sheng Fang, Yee-Pien Yang, Ren-Wei Cai</i>	
Analyzing Electrical Equivalent Circuit Models for Solid-State Batteries: Parameterization and Modeling	5641
<i>Dillip Kumar Mishra, Jiangfeng Zhang, Saroj Paudel, Morteza Sabet, Mihir Parekh, Apparao Rao, Yi Ding</i>	
Far Wake Model Implementation into the Three-Dimensional Dynamic Wind Farm Simulation Model SWiPLab-WFM	5645
<i>Vile Kipke, Paul Rowsell, Constantinos Sourkounis</i>	
A Digital Twin Modeling Code Generation Framework Based on Large Language Model.....	5649
<i>Jiabao Dong, Lei Ren</i>	
A Fast and Effective Open-Circuit-Fault Diagnosis Approach for Three-Level Power Converters	5653
<i>Haoyu Chen, Huimin Huang, Zhen Li, Yimin Zhang, Zhenbin Zhang</i>	
A New Switched Reluctance Motor with Embedded Permanent Magnets for Transportation Electrification	5659
<i>Gholamreza Davarpanah, Sajjad Mohammadi</i>	
Trans-Reciever Coil Design for Inductive Wireless Power Transfer in Static Electric Vehicle Charging	5664
<i>Abhishek Verma, Arun Kumar Verma</i>	
Enhancing Islanded Microgrid Resilience: Super-Twisting Algorithm with Hopf-Based Inverter Synchronization	5668
<i>Dev Vrat Krishna, Rahul Noniya, Deepak Fulwani, Bijan Bandyopadhyay</i>	
Three-Phase AC Power Routing and Its Field Demonstration	5672
<i>Ryo Takahashi, Daichi Nishihara, Takashi Hikihara</i>	
A Reluctance Equivalent EMF Model for Sensorless Position Estimation of Synchronous Reluctance Motor	5676
<i>Sonalika Singh, Ritesh Kumar Keshri, Vijay B. Borghate, Chandan Chakraborty, Giuseppe Buja</i>	
Modeling and Analysis of High Gain Pulse Generator for Hydrocarbon Synthesis from CO ₂	5680
<i>Chinara Kuldeep, N. Lakshminarasamma, Arun Karuppaswamy B</i>	
Addressing Privacy and Security Challenges at the Industry 5.0 Human-Intensive and Highly Automated Factory Floor	5684
<i>Mikhail Kolesnikov, Leonardo Lossi, Enrico Alberti, Udayanto Dwi Atmojo, Valeriy Vyatkin</i>	
Optimized Active Damping Control for Variable Speed Wind Turbines Drive Train Using PID-State Control.....	5690
<i>Abubakar Isa, Constantinos Sourkounis</i>	

Analysis of Second Harmonic Power Fluctuation Characteristics of Cascaded Multilevel Energy Storage Converters Under Wide Frequency Conditions.....	5694
<i>Jinhao Zhang, Fanqiang Gao, Zixin Li, Ye Zhang, Cong Zhao, Yaohua Li</i>	
WIP: Embodied Intelligence : Leveraging LLMs for Decision Making and MoCap for Gait	5699
<i>Senthil Kumar Selvaraj, C. Avaneesh Ketan, Radhika Goru, Poonam Upadhyay, V. Meenakshi, K. Siri Reddy</i>	
Analytical Approach for Maximum Power Point Calculation of Photovoltaic Modules: Based on the Fixed Point Method	5703
<i>José G. Tirado-Serrato, Jose De Jesus Chavez, Serguei Maximov, Reza Bakhshi-Jafarabadi, Marjan Popov</i>	
Image and Inspection Data Analysis to Group Electrical Components for Correlation with Remaining Useful Life	5709
<i>Maurice Artelt, Simon Kamm, Veronika Pavlova, Nasser Jazdi, Michael Weyrich</i>	
A Novel Decoupling Control Approach for a Triple Three – Phase Synchronous Reluctance Motor Drive System	5713
<i>Musayyibi Shuaibu, Olorunfemi Ojo, Syed Ali Asad Rizvi</i>	
Investigating the Analytical Model of GaN HEMT Device to Identify the High-Frequency Oscillation in Bridge-Leg Circuits	5717
<i>Subhradip Mukherjee, Mahesh K. Mishra, N Lakshmi Narasamma</i>	
A Federated Intrusion Response Network for Grids.....	5721
<i>Benjamin Blakely, Shaurya Purohit, Kalvin Ogbuefi, Indelisio Prieto, Manimaran Govindarasu</i>	
Active Damping Control of Torque Oscillation in the Drive Train of Variable Speed Wind Turbine	5725
<i>Abubakar Isa, Constantinos Sourkounis</i>	
Exploring 3D Reconstruction with Drone Images: Advances and Challenges in Urban Environments.....	5729
<i>Thiago João Miranda Baldivieso, Taise Grazielle Da Silva Batista, Fabio Suim Chagas, Luiz Carlos Pacheco Rodrigues Velho, Paulo Fernando Ferreira Rosa</i>	
Switch Current-Based Closed-Loop Control for ZCS Bidirectional Current-Fed DC-DC Converters	5733
<i>J T Luterbach, Daniel Bowman, Gregory Kish, Philippe Gray</i>	
Automating Powerline Inspection Data Analysis Using Artificial Intelligence.....	5737
<i>Siyanda Biyela</i>	
Physics Informed Neural Networks Predicting Junction Temperature of Power Devices for PV-Based DC Microgrids.....	5741
<i>Shrivatsal Sharma, Utkarsh Sharma, Subhashish Bhattacharya</i>	
Enhancing Power Distribution System Resilience with Fusion-GNN: A Dynamic Graph Representation Learning Approach	5747
<i>Boming Liu, Chen Zhang, Jin Dong, Prasanna Balaprakash, Yan Liu, Brett Eiffert</i>	
A Survey About Self-Adaptive Anomaly-Detection in Software-Defined Systems	5751
<i>Matthias Weiß, Stefan Thich, Maurice Artelt, Michael Weyrich</i>	

Fault-Tolerant Current and Reactive Power Predictive Control in a Multi-Modular 2-Level Indirect Matrix Converter	5755
<i>Fabian Palacios-Pereira, Sergio Toledo, Edgar Maqueda, David Caballero, Marco Rivera, Jorge Rodas, Raúl Gregor</i>	
MALIntDrone: A Malaria Intervention Drone for Larval Source Management Using Remote Sensing and Multispectral Imagery	5759
<i>Shubhan Bhattacharya</i>	
From Theory to Practice: Validating a High-Voltage Direct Current (HVDC) Experimental Setup for Traveling Wave Analysis	5764
<i>Shipra Tiwari, Pedro A. De Alcantara, Rishin Patra, Vitor G. Jordão, Flavio B. Costa, Trever Hassell, Wayne Weaver, Chee-Wooi Ten, Fernando Ponta, Daniel Fuhrmann</i>	
The Vulnerable Line Identification Based on the Hyperlink-Induced Topic Search Algorithm	5768
<i>Qunying Liu, Fan Zhang, Changhua Zhang, Jinzhe Liu, Bolan Wu, Minkang Yuan</i>	
Degradation-Aware Optimization of Second-Life Battery Energy Storage System	5774
<i>Ali Hassan, Wencong Su</i>	
Isolating Signatures of Cyberattacks Under Stressed Grid Conditions	5778
<i>Sanchita Ghosh, Syed Ahsan Raza Naqvi, Sai Pushpak Nandanoori, Soumya Kundu</i>	
Comparative Assessment of Motion Trajectories for Electric Vehicles Considering Time and Energy	5782
<i>Laurence A. Leon, Paul V. Barsa, David G. Taylor</i>	
Particle Filter Based Pedestrian Tracking Using Point Cloud Toward Obstacle Avoidance Control*	5788
<i>Ryota Narita, Tatsuya Nakano, Kazuma Sekiguchi, Kenichiro Nonaka</i>	
Enhancing Higher Education Through Industry 4.0 Integration: Challenges and Opportunities in a US/Mexico Border Region	5792
<i>Dennis Molina-Quiroz, Patricia M. Domínguez-Osuna, Judith M. Paz-Delgadillo, Carlos Morales-Carbajal, José A. Núñez-López</i>	
Acoustic Signal Based Ball Bearing Fault Diagnosis Using Adaptive Wavelet Denoising	5796
<i>Wonho Jung, Yong-Hwa Park</i>	
Elevation Impact on LED Panel's Irradiance for Light Intensity Modulated Impedance Spectroscopy	5800
<i>Kallol Biswas, Sung-Yeul Park, John Ayers, Iram Sifat, Alexander Agrios</i>	
A Q-Learning Based Adaptive Control of Hybrid Energy Storage System to Mitigate Power Fluctuations in Grid-Connected Microgrids	5804
<i>Mohamadamin Rajabinezhad, Nesa Shams, Junbo Zhao, Shan Zuo</i>	
Multilevel Bridge Tapped Resonant AC-AC Isolated Converter	5808
<i>Srinivas Chappa, Sridharan Padmanabhan, Sunil Kumar Dube, Pritam Das</i>	
Medium Voltage Three-Phase Interleaved Three-Level Bidirectional DC-DC Battery Energy Storage Converter	5812
<i>Yunjun Ling, Changyuan Zhang, Yang Wang</i>	
Noncontact Manipulation of Magnetic Particles by a Hexagonal Array of Electromagnets	5819
<i>Md Nazmul Hasan, Janaka Madhusankha, Lahiru Ekanayake, Arash Komae</i>	

Influence Analysis of Actuator Position and Control Parameters in Self-Sensing Damping System Using Piezoelectric Elements	5823
<i>Yuya Watanabe, Kenta Seki, Paul Steinmann</i>	
Integration of Software-Defined Networking and Line Outage Distribution Factors for Enhancing the Cyber Resilience of Modern Transmission Systems	5827
<i>Anthony Kemmeugne, Amr S. Mohamed, Ahmad Mohammad Saber, Deepa Kundur</i>	
Bipolar Duty Cycle Control for Dual Side LCC Compensated Inductive Power Transfer System for Wide Output Voltage Range	5831
<i>Dharavath Kishan, Andri Chub, Marupuru Vinod</i>	
Modulation-Enabled Single-Stage Current-Fed Dual Active Bridge AC-AC Converter with ZCS Turn-Off of Primary-Side Switches.....	5835
<i>Philippe A. Gray, Ka Wing Kwan</i>	
PSO Model for Transmission Expansion Planning Considering Renewable Generation.....	5839
<i>Miguel Enrique Oncebay Salvatierra, Jefferson Javier Chavez Arias</i>	
Reliable Dual Vector Control with Stator Flux Orientation for Fault Mitigation and Reconfiguration of DFIM in Clean Naval Propulsion.....	5845
<i>Youssef Drimizi, Maria Pietrzak-David, Pascal Maussion</i>	
A Review on Partial Discharge Detection Techniques in High Voltage Rotating Machines	5851
<i>Shady S. Refaat, Mohammad Alshaikh Saleh, Sayed Mohammad Kameli</i>	
High-Frequency Impedance Shaping for Virtual Admittance-Based Grid-Forming STATCOM	5858
<i>Shan He, Federico Cecati, Liang Huang, Frede Blaabjerg, Marco Liserre</i>	
A New Photobioreactor Design with Enhanced Light Utilization and Hydrodynamic Performance	5862
<i>Rayane Hijazi, Jihane Rahbani Mounsef, Hadi Y. Kanaan</i>	
Optimizing Photovoltaic Integration with Grid-Forming Inverter Technology	5870
<i>Calum McConnell, Nicholas Sorak, Sally Sajadian</i>	
Urban-Scale Control of School Bus Fleet Charging and Discharging Strategies Using Single and Multi-Stage Optimization.....	5875
<i>Alaa Selim, Soroush Vahedi, Sunil Subedi, Junbo Zhao</i>	
Real-Time Cyber Attack Detection and Response Using Digital Twins in Protection Relays	5879
<i>Abdulmueen Alrashide, Leinyker Palacios, Md Tauhidur Rahman</i>	
Modeling State of Health in Li-Ion Cells: Aging Analysis and Cycle Performance Validation	5883
<i>Baran Kiliççioğlu, Hamza Makhamreh</i>	
PROACT: Anticipatory Action Modeling and Anomaly Prevention in Industrial Workflows	5889
<i>Naval Kishore Mehta, Arvind, Shyam Sunder Prasad, Sumeet Saurav, Sanjay Singh</i>	
Comparative Analysis of Machine Learning Algorithms for Identifying Partial Shading Conditions on PV Array	5893
<i>Kais Abdulmawjood, Walid G. Morsi</i>	
Special Session: Delay-Dependent Stability Analysis of Coordinated Voltage Control of a PV Park.....	5899
<i>Behnam Daftary Besheli, Federico Cecati, Marco Liserre</i>	

ML-Assisted Sub-Synchronous Oscillation Detection and Localization in Type-4 Wind Farms
Under Weak Grid Conditions 5904
*Omar Abu-Rub, Muhammad F. Umar, Jana A. Sheikh Ali, Yazan Qiblawey, Abdulrahman
Alassi, Maryam Saaedfard, Mohammad B. Shadmand*

Author Index