

2023 12th International Conference on Renewable Energy Research and Applications (ICRERA 2023)

**Oshawa, Ontario, Canada
29 August - 1 September 2023**



**IEEE Catalog Number: CFP2335T-POD
ISBN: 979-8-3503-3794-5**

**Copyright © 2023 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:	CFP2335T-POD
ISBN (Print-On-Demand):	979-8-3503-3794-5
ISBN (Online):	979-8-3503-3793-8
ISSN:	2377-6897

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

CMT ID	Paper Title	Authors	Pages
3	Effective Non-Intrusive Load Monitoring Through IoT Building Data Using Akima Interpolation and Deep Learning LSTM Method	Jura Arkhangelski (University of Paris Est Creteil, Certes Lab.)*; Abdou Tankari Mahamadou (University of Paris Est Creteil, Certes Lab.); Lefebvre Gilles (University of Paris Est Creteil, Certes Lab.)	34-39
8	Fault Detection and Diagnosis Technique for a SRM Drive Based on a Multilevel Converter Using a Machine Learning Approach	Tito Amaral (ESTSetubal/IPS)*; V. Fernao Pires (ESTSetubal/IPS); Daniel Foito (ESTSetubal - IPS); Armando Pires (Polytechnical Institute of Setubal); J. F. Martins (FCT/UNL)	40-45
16	A DC-DC Buck-Boost Converter with High Voltage Gain, Bipolar Output and Continuous Input Current	V. Fernao Pires (ESTSetubal/IPS)*; Armando Cordeiro (ISEL - IPL); Daniel Foito (ESTSetubal - IPS); José Silva (INESC-ID, IST, Universidade de Lisboa)	46-51
29	A DC-DC Converter with Multistage Boost Input and High Voltage Gain for Solar PV Applications	Mohammad Vafadar (Islamic Azad university Nour branch); Hossein Vafadar (Islamic Azad university Jouybar branch); Adel Nasiri (University of South Carolina)*	52-57
30	Design of High-Frequency CC/CV Output Load-Independent WPT System	Jiaxin Yan (chiba university)*; Wenqi Zhu (Chiba University); Akihiro Konishi (Chiba University); Xiuqin Wei (Nil); Kien Nguyen (Chiba University); Hiroo Sekiya (Chiba University)	58-61
32	Field Testing of Residential Bidirectional Electric Vehicle Charger for Power System Applications	Shivam Saxena (University of New Brunswick)*; Hany Farag (York University); Khunsha Nasr (York University); Leigh St. Hilaire (Volta Research)	62-66
34	Modeling of an Integrated System for Desalination and Hydrogen Production Based on Solar Energy	Gonzalo A Almeida Pazmiño (ESPOL Polytechnic University)*; Guillermo Soriano (ESPOL Polytechnic University); Ruben Hidalgo-Leon (ESPOL Polytechnic University)	67-72
35	Investigation of the Effect of Variable Parameters on Comprehensive Maximum Error of Active Electricity Meters by Test Results	Murat Tasci (The Ministry of Industry and Technology); Hıdır Duzkaya (Gazi University)*	73-78
38	Power quality challenges and urban microgrid based grid resiliency - Case of Niamey City electrical grid	Abdou Tankari Mahamadou (University of Paris Est Creteil, Certes Lab.)*; DAOUDA Abdourahimoun (Abdou Moumouni University of Niamey); Arkhangelski Jura (UPEC); Lefebvre Gilles (University of Paris Est Creteil, Certes Lab.); Drame Aboubacar (University of Paris Est Creteil, Certes Lab.); Garba Marou (High School EMIG)	79-86
42	Model Predictive Control of Dual Three-Phase Four-Leg Multilevel Inverter Supplying Photovoltaic Energy to Low-Voltage Unbalanced Grids	Joaquim Monteiro (ISEL – Polytechnic Institute of Lisboa)*; V. Fernao Pires (ESTSetubal/IPS)	87-92
45	Ultra-Short-Term Forecasting of Wind Speed using Lightweight Features and Machine Learning Models	Rami A AL-HAJJ (American University of the Middle East)*; Mohamad Fouad (Mansoura University); Ali ASSI (IEEE); Emad Mabrouk (American University of the Middle East)	93-97
47	Analysis of the transient dynamics for reconnecting a multi-inverter GFM system to the power grid	Rutvika Manohar (Mitsubishi Electric)*; Koki Matsumoto (Mitsubishi Electric); Sadayuki Inoue (Mitsubishi Electric); Tomoyuki Kawakami (Mitsubishi Electric)	98-104
50	Enhancing Safety and Security in Renewable Energy Systems within Smart Cities	Mayur Rele (Parachute Health)*; Dipti Patil (University of Cumberlands)	105-114

53	A Proposal of Sinusoidal Voltage Source Fed Optimal Current Control for SPMSM with Active LC Filter by IRM-ILQ Control	Ayumu Okubo (Shibaura Institute of Technology)*; Kazuki Abe (Shibaura Institute of Technology); Yoshiki Sasaki (Shibaura Institute of Technology); Hiroshi Takami (Shibaura Institute of Technology); Fuminori Ishibashi (Shibaura Institute of Technology)	115-120
54	Experimental Verification of SPMSM with Active LC Filter by IRM-ILQ Current Control	Kazuki Abe (Shibaura Institute of Technology)*; Ayumu Okubo (Shibaura Institute of Technology); Yoshiki Sasaki (Shibaura Institute of Technology); Hiroshi Takami (Shibaura Institute of Technology); Fuminori Ishibashi (Shibaura Institute of Technology)	121-127
55	Assessing Electric Vehicle Charging Patterns: A Comprehensive Analysis of Charging Stations Usage	Alessandro Saldarini (Politecnico di Milano); Daniele Martini (Politecnico di Milano)*; Michela Longo (Politecnico di Milano); Federica Foiadelli (Politecnico di Milano); Wahiba Yaici (CanmetENERGY Research Centre / Natural Resources Canada)	128-133
56	Output Current Characteristics of Three-Phase Isolated Secondary-Resonant Single-Active-Bridge DC-DC Converter for Output Voltage Variation	Atsushi Nishio (Nagoya Institute of Technology)*; Kohei Budo (Nagoya Institute of Technology); Takaharu Takeshita (Nagoya Institute of Technology)	134-139
57	Energy Management System of Electric Motorcycles for Power Boost	Momoe Sakai (Nagoya Institute of Technology)*; Takaharu Takeshita (Nagoya Institute of Technology)	140-145
58	Implementation of Digital Twin-Assisted Condition Monitoring and Fault Diagnosis for Wind Turbines	MINH-CHAU DINH (Changwon National University)*; MANH-TUAN NGO (Changwon National University); Changhyun Kim (Changwon National University); Seok-Ju Lee (Changwon National University); IN-KEUN YU (Changwon National University); MINWON PARK (Changwon National University)	146-150
59	High Efficient DC Power Supply System for Electric Vehicle to Green Base Station	Masaki Nakamura (NTT DOCOMO, INC.)*; Yuta Toyama (NTT DOCOMO, INC.)	151-154
60	Experimental Verification of Speed Control of IM Fed by Sinusoidal-VSI with Active LC-LPF via IRM-ILQ Control	Yoshiki Sasaki (Shibaura Institute of Technology)*; Ayumu Okubo (Shibaura Institute of Technology); Kazuki Abe (Shibaura Institute of Technology); Hiroshi Takami (Shibaura Institute of Technology); Fuminori Ishibashi (Shibaura Institute of Technology); Masashi Nakamura (Toshiba Mitsubishi-Electric Industrial Systems Corporation); Toshiaki Oka (Toshiba Mitsubishi-Electric Industrial Systems Corporation)	155-160
61	DC-Link Voltage Control Based on Adaptive IRM-ILQ for Stirling Engine Power Supply Vehicle	Fangcheng Zhang (Shibaura Institute of Technology)*; Chi Kien Do (Hanoi University of Science and Technology); Hiroshi Takami (Shibaura Institute of Technology)	161-165
62	Assessing the Socio-Economic Potential of Electric Vehicle Charging Infrastructure: A Machine Learning based Approach for Marrakech-Safi Region, Morocco	BENAYAD B Mohamed (Faculty of Sciences - Casablanca)*; RHINANE Hassan (Faculty of Sciences - Casablanca); Abdelilah ROCHD (Green Energy Park); MAANAN Mehdi (Faculty of Sciences - Casablanca); ELARABI hassan (Faculty of Sciences - Casablanca); HOURAN Nouriddine (Green Energy Park)	166-174
63	Optimization of the geometrical parameters of the photovoltaic cell MWT (Metal Wrap Through) by numerical simulation	nadjet benadla (université Abou bekr belkaid Tlemcen)*; Sarra Benadla (université Abou bekr belkaid Tlemcen)	175-179

64	Low-temperature Waste Heat Recovery using Thermoelectric Power Generation at Small-Scale Filling Stations	Toshihiko Ishiyama (Hachinohe Institute of Technology)*; Fujio Akinaga (TOMOE SHOKAI Co., LTD.)	180-183
65	SiC MOSFET inverter design, considering unplanned events for electric aviation	Simon Kim (Infineon Technologies Korea)*; Diego Raffo (Infineon technologies USA); Perry Rothenbaum (Infineon technologies USA); Paul Ruggier (Neutronics Solutions)	184-189
66	Design proposal with an integrated solution for harmonic regulation in a dryer machine	Simon Kim (Infineon Technologies Korea)*; Lei Han (Infineon technologies USA); David Divins (Infineon technologies USA); Paul Ruggier (Neutronics Solutions)	190-197
67	Performance evaluation of offshore wind turbine support structures - A review	Zafarullah Nizamani (Universiti Tunku Abdul Rahman)*; Ng Chee Cong (Universiti Tunku Abdul Rahman); Khalid Ahmed (Saipem (Malaysia) Sdn Bhd); Mubarak Abdul Wahab (Universiti Teknologi PETRONAS); Muhammad Azeem Khan (Universiti Tunku Abdul Rahman); Nakayama Akihiko (Universiti Tunku Abdul Rahman); Mirza Muneer Ahmed (First National Company for Operation & Maintenance Services L.L.C)	198-202
68	Voltage Control of DFIG-based Wind Turbine Generator in Rural Grid	Satoshi Sakurai (Sophia university)*; Ori Sakamoto (Sophia university)	203-207
69	Verification of inverter loss and torque ripple for Permanent Magnet Synchronous Motor by Modified Trapezoidal Modulation vector control	Ryoki Miura (Osaka Institute of Technology)*	208-212
70	Design criteria for an axial flux wind generator with Halbach array permanent magnets	Giovanni Landi (University of Pisa(UNIPD))*; Antonino Musolino (University of Pisa); Luca Sani (DESTEC-University of Pisa); Claudia Simonelli (University of Pisa)	213-218
71	Prediction of Custom-built Bi-Facial PV Panel Output Including Weather Parameters	Tanvir Mahmud Mahim (Brac University)*; Abu Hamed M.A. Rahim (Brac University); Md. Mosaddequr Rahman (Brac University)	219-224
72	Double Slider-Modular Stator Linear Permanent Generator for Sea Wave Energy Harvesting: Experimental Validation	Valentina Consolo (Università di Pisa)*; Luca Sani (DESTEC-University of Pisa); Marco Raugi (University of Pisa); Antonino Musolino (University of Pisa)	225-230
73	Vector Control of SRM Based on General Rotating Coordinate System Synchronized with Electrical Rotor Angle	Keitaro Kawarazaki (Tokyo University of Science)*; Ryoto Kojima (Tokyo University of Science); Nobukazu Hoshi (Tokyo University of Science)	231-236
74	Fundamental Study of a Novel Compact Hydrogen Generation System Fueled by Sodium Borohydride and Boric Acid	Moeko Kaku (Tokyo University of Science)*; Nobukazu Hoshi (Tokyo University of Science)	237-242
75	Totally Green Vehicle? Correlation the RES and load curves of CSs	Daniele Martini (Politecnico di Milano)*; Michela Longo (Politecnico di Milano); Dario Zaninelli (Politecnico di Milano)	243-247
76	A novel shape of Bowtie Antenna arranged in a linear array for Energy Harvesting in MID-IR band	rocco citrioni (University of Palermo)*	248-253
77	Horizontally Stacked Pristine and Li-doped C12 Carbyne Ring as Hydrogen Storage Materials: a DFT Study	Al Rey C Villagrancia (De La Salle University)*	254-258

78	Dynamic Performance Assessment through Simulated Model of Photovoltaic Water Pumping for Off-Grid Communities	Sohaib Zafar (Punjab Tianjin University of Technology)*; Muhammad Khalid (King Fahd University of Petroleum and Minerals (KFUPM))	259-263
80	Optimizing Renewable Energy Integration for a Sustainable and Resilient Power Sector: Insights from LPDM Analysis	Hafiz Owais Ahmad Khan (LUMS)*; Tayyab Mahmood Chaudhry (Lahore University of Management Sciences); Umer Afaq (Lahore University of Management Sciences); Huzaifa Rauf (Lahore University of Management Sciences); Naveed Arshad (Lahore University of Management Sciences)	264-268
82	Solar Tracking System Utilizing Internet of Things Technologies for Enhanced Power Generation	Noah R Waldron (Spring Arbor University); Sebastian A Smith (Spring Arbor University); Victor U Karthik (Spring Arbor University)*	269-272
83	A Numerical Model for the Transport of Reactants in Proton Exchange Fuel Cells	Gomer Abel Rubio (Escuela Superior Politécnica del Litoral (ESPOL))*; wilton edixon Agila (ESPOL); Leandro González (CAR.UPM-CSIC); Jonathan Avilés (ESPOL)	273-278
84	Load-Independent Class-E Inverter with a Class-D Rectifier	Soraki Aizawa (Chiba institute of technology)*; Xiuqin Wei (Nil); Hiroo Sekiya (Chiba University)	279-282
85	Correction of Current Measurement Scaling and Offset Errors for Permanent Magnet Synchronous Machine Drives	Ying Zuo (Concordia University)*; Xizhe Zhang (Concordia University); Chunyan Lai (Concordia University); Lakshmi Varaha Iyer (Magna International Inc.)	283-288
86	An Optimized Switching Patterns for Reducing a Switching Loss of a Matrix Converter under Any Power Factor Conditions	Junnosuke Haruna (Utsunomiya University)*	289-294
88	Adaptive Fractional Order PID Based ANFIS For Brushless DC Motor Speed Control	Hemakesavulu Oruganti (AITS,Rajampet)*	295-299
89	Smart Feature Selection-based Machine Learning Framework for Calendar Loss Prediction of Li-ion Electric Vehicle Battery	Huzaifa Rauf (Lahore University of Management Sciences)*; MUHAMMAD SHUZUB GULL (Lahore University of Management Sciences); Muhammad Khalid (King Fahd University of Petroleum and Minerals (KFUPM)); Naveed Arshad (Lahore University of Management Sciences)	300-303
92	Forecasting photovoltaic energy for a winter house using a Hybrid Deep Learning Model	youssef JOUANE (CESI LINEACT)*; Mame Cheikh SOW (CESI LINEACT); Oussama OUSSOUS (CESI LINEACT); Nadia VONTOBEL (Vontobel Architekten); Mourad ZGHAL (CESI LINEACT)	304-308
93	A Forecasting Method of Peak-Cut of Power Demand using LSTM at A Clinic	Tomoya Inagata (Nagasaki Institute of Applied Science); Yuji Mizuno (Osaka Electro-Communication University)*; Keita Matsunaga (Nagasaki Institute of Applied Science); Fujio Kurokawa (Nagasaki Institute of Applied Science); Masaharu Tanaka (Nagasaki Institute of Applied Science); Nobumasa Matsui (Nagasaki Institute of Applied Science)	309-314
95	Assessing the Impact of Sociopolitical Factors on the Rollout of Freight Electric Vehicles	Mariacristina Roscia ("University of Bergamo, Italy")*; Ankit Patel (university of Minho CALG)	315-319

96	Spatio-Temporal Short Term Load Forecasting Using Graph Neural Networks	Haris Mansoor (Lahore University of Management Sciences)*; Mahidha Shabbir (Lahore University of Management Sciences); Muhammad Yasir Ali (University of Lahore); Huzaiifa Rauf (Lahore University of Management Sciences); Muhammad Khalid (King Fahd University of Petroleum and Minerals (KFUPM)); Naveed Arshad (Lahore University of Management Sciences)	320-323
106	TEG & FUEL CELL hybrid system with Sliding Mode Control based MPPT	Ruhi Zafer Caglayan (Gazi University); Korhan KAYISLI (Gazi University)*; Abdelhakim Belkaid (Bordj Bou Arreridj University); Ilhami Colak (Nisantasi University); Abdelfatah Nasri (Tahri Mohamed University)	324-330
107	Optimum MPPT technique for reconfiguring the photovoltaic array under partial shading failure.	hicham oufettoul (EMI)*; Saad Motahhir (USMBA); Ibtihal Ait Abdelmoula (Green Energy Park); Ghassane Aniba (Mohammadia School of Engineers (EMI), Mohammed V University in Rabat); Walid Issa (Sheffield Hallam University); Oumaima MAHIR (Laboratory of Signals, Systems, and Components, FST Fez, University Sidi Mohamed Ben Abdellah)	331-338
109	Recent progress and performance analysis on durability evaluation and remaining useful life prediction technology development for the life extension of wind turbines in Korea	Seok-Ju Lee (Changwon National University)*	339-343
110	FPGA-based FDNE Models for the Accurate Real-time Simulation of Power Systems in Aircrafts	Fahimeh Hajizadeh (Polytechnique Montréal)*; Loïc Alavoine (Polytechnique Montréal); Tarek Ould-Bachir (Polytechnique Montréal); Frédéric Sirois (Polytechnique Montréal); Jean-Pierre David (Polytechnique Montreal)	344-348
119	Irregular 64 PDM Controlled Wireless Power Transfer for Precise Power Control	Kenan UNAL (Gazi University)*; Gungor BAL (Istanbul Topkapı University); Selim ONCU (Karabuk University)	349-352
120	MPPT with INFO Algorithm Tuned Nonlinear PI Control for PV Array	Kemal Çelik (Graduate School of Natural and Applied Sciences, Gazi University); İpek Çetinbaş (Eskişehir Osmangazi University); Mehmet Demirtas ("Faculty of Technology, Gazi University")*	353-358
122	Home Energy Management Systems (HEMS) Control Strategies Testing and Validation: Design of a Laboratory Setup for Power Hardware-in-the-loop (PHIL) considering Multi-timescale Co-Simulation at the Smart Grids Test Lab, Morocco	Abdelilah ROCHD (Green Energy Park)*; Mohamed LAAMIM (Green Energy Park); Aboubakr BENAZZOUZ (Green Energy Park); Mohamed KISSAOUI (IESI Lab - ENSET Mohammedia); Abdelhadi RAIHANI (IESI Lab - ENSET Mohammedia); Josep M. Guerrero (Aalborg University)	359-364
123	Qualitative model for an oxygen therapy system based on Renewable Energy	wilton edixon Agila (ESPOL)*; Gomer Abel Rubio (Escuela Superior Politécnica del Litoral (ESPOL)); Livingston Miranda (ESPOL); Raul M. del Toro Matamoros (LERH, CAR-CSIC)	365-371

124	Hydrogen production by water electrolysis: review	Hassan Mabrak (University Hassan II)*; Siham ELMAZOUZI (university of hassan II casablanca, Faculty of Sciences Ben M'sik, Casablanca); Driss Takky (Physical Chemistry of Materials Laboratory, Ben M'Sick Faculty of Science, Hassan II University of Casablanca, Casablanca); Youssef Naimi (university of hassan II casablanca, Faculty of Sciences Ben M'sik, Casablanca); ILHAMI COLAK (Nisantasi University)	372-380
125	Nonlinear Programming Optimization Towards Optimal Transition design in Model Free Predictive Control	Ahmad Darabi (Concordia University)*; Chunyan Lai (Concordia University)	381-386
126	Internet of Things (IoT) Monitoring and Control for Smart Heating and Cooling in a Residential Building	Wahiba Yaici (CanmetENERGY Research Centre / Natural Resources Canada)*; Evgueny Entchev (CanmetENERGY Research Centre / Natural Resources Canada); Michela Longo (Politecnico di Milano); Andres Annuk (Estonian University of Life Sciences)	387-392
128	Dispatchable Hybrid Renewable Energy System with Wind, Solar, Battery, and Hydrogen Storage: A Case Study in Ras Ghareb, Egypt	Marwa Hassan (sapienza)*	393-399
130	Penetration Evaluation of Residential EV Chargers Considering Network Parameters and Constraints	Adel Nasiri (University of South Carolina)*; Seyed Amir Hosseini (Isfahan University of Technology); Seyed Hossein Hesamedin Sadeghi (Amirkabir University of Technology)	400-404
131	Liquid Cooling System for a High Power, Medium Frequency, and Medium Voltage Isolated Power Converter	Adel Nasiri (University of South Carolina)*; Hooman Taghavi (University of South Carolina); Ahmad El Shafei (UW-Milwaukee)	405-413
134	Data Augmentation with ECAPA-TDNN Architecture for Automatic Speaker Recognition	Pinyan Li (Macao Polytechnic University)*; Lap Man Hoi (Macao Polytechnic University); Yapeng Wang (Macao Polytechnic University); Sio Kei Im (Macao Polytechnic University)	414-420
135	Practical Strategy for Improving Harmonics and Power Factor Using a Three-Phase Rooftop Photovoltaic Inverter	Mohsen Kaveh (Western University)*; Saeed Habibi (Missouri University of Science and Technology); Firouz Badrkhani Ajaei (University of Western Ontario); Shahrokh Farhangi (University of Tehran)	421-428
136	Enhancing Hierarchical Fault-Tolerant Cooperative Control in Wind Farms: The Application of Model Predictive Control and Control Reallocation	Saeedreza Jadidi (Concordia University); Hamed Badihi (Nanjing University of Aeronautics and Astronautics, College of Automation Engineering); Youmin Zhang (Concordia University)*	429-434
137	Resilient DoS Attack Detector Design for Cyber-Physical Systems	Jin LI (Concordia University); Youmin Zhang (Concordia University)*	435-439
145	A Novel Type of Wireless V2H with Seamless Two-way One-SW Converters and Asymmetric Power-Transfer Coils	Masahito Tsuno (Nichicon Co. Ltd.); Hideki Omori (Nagasaki Institute of Applied Science)*; Fujio Kurokawa (Nagasaki Institute of Applied Science)	440-444
147	Exploring the Performance of QDIBSC for Spherical QD Structure	Kawshik Nath (Chittagong University of Engineering & Technology)*; Bibekananda Nath (Green University of Bangladesh); Md. Samiul Islam (Chittagong University of Engineering & Technology); Prof. Dr. Matin (CUET)	445-450
148	Modified Genetic Algorithm for Cost Minimization in Future Multi-Microgrid Network	Ilhami Colak (Nisantasi University)*; hamed babanezhad (Islamic Azad University)	451-460

149	An Energy-Autonomous and Maintenance-Free Wireless Sensor Platform with LoRa Connectivity	Roberto La Rosa (STM); Lokman Boulebnane (University of Palermo); Daniele Croce (University of Palermo); Patrizia A Livreri (University of Palermo)*; Ilenia Tinnirello (University of Palermo)	461-464
150	Data Science Applications in Renewable Energy: Leveraging Big Data for Sustainable Solutions	Ramakrishna nuvvula s s (vit vellore)*	465-471
151	Integrating Renewable Energy and Computer Science: Innovations and Challenges in a Sustainable Future	Ramakrishna nuvvula s s (vit vellore)*	472-479
152	A review on demand side management system and its computer control methods	Ramakrishna nuvvula s s (vit vellore)*	480-486
154	MODELING, ANALYSIS OF PI AND PR BASED CONTROL STRATEGY FOR SINGLE PHASE QZSI	Ramazan Bayindir (Gazi University)*; Seyfettin Vadi (Gazi University)	487-491
156	Energy Management of an Autonomous Hybrid Wind-Photovoltaic Microgrid with Battery Storage	Ware Eley (UQTR); Doumbia Mamadou Lamine (UQTR); Tahar Tafticht (Université du Québec en Abitibi-Témiscamingue (Québec, Canada)); Simon Pierre II BETOKA ONYAMA (University of Quebec at Trois-Rivieres)*; Hamid Hamza (UQTR)	492-498
157	Investigations on An Advanced Six-Phase Neutral Point Less Multi-Level Inverter	Sahil Jaglan (Concordia University)*; Daniel Legrand Mon Nzongo (Concordia University); Chunyan Lai (Concordia University)	499-504
158	Integration of Electric Vehicles, Renewable Energy Sources, and IoT for Sustainable Transportation and Energy Management: A Comprehensive Review and Future Prospects	Ramakrishna nuvvula s s (vit vellore)*	505-511
164	Key element to create Energy Communities Renewable (CER)	Mariacristina Roscia ("University of Bergamo, Italy")*; Cristian LAZAROIU (University of Bucharest)	512-516
165	Technical Feasibility of Offshore Wind Power Plant for Gökçeada Region in Türkiye	Erdal Bekiroglu (Bolu Abant Izzet Baysal University)*; Muhammed Duran Yazar (Bolu Abant Izzet Baysal University); Burak Akyol (Bolu Abant Izzet Baysal University)	517-523
166	Using LXP for Green Deal: A New Approach	Betül ERSÖZ (Gazi University)*; Halil Ibrahim BULBUL (Gazi University); Seref SAGIROGLU (Gazi University)	524-529
183	Design and Magnetic Analysis of a Grounding Transformer Compatible with Wind Power Systems	Erdal Bekiroglu (Bolu Abant Izzet Baysal University)*; Elif Demiral (Astor AŞ); Muhammed Duran Yazar (Bolu Abant Izzet Baysal University)	530-534
184	Performance Evaluation of Overcurrent and Directional Overcurrent Relays under Harmonic and Imbalance Conditions: A Case Study of a 132/20 kV Substation	Mohsen Kaveh (Western University)*; Ebadollah Kamyab (Khorasan Regional Electric Company (KREC)); Danial Moghadas-angizan (Khorasan Regional Electric Company (KREC)); Mohammad Ali Safdari (Khorasan Regional Electric Company (KREC))	535-541
186	Design of Sliding Mode Controller for Load Frequency Control Using Particle Swarm and Grey Wolf Algorithms	Umit Cetinkaya (Gazi University)*; Sevki DEMIRBAS (Gazi University); SAMET AYIK (Gazi University); Ramazan Bayindir (Gazi University)	542-547
188	Investigation of the circulating current based on the power sharing with the droop control method in the parallel-connected inverters	Sedef Degirmenci (Gazi University); Nihat Ozturk (Gazi University)*	548-555

190	Design Methodology for a Medium Voltage Single Stage LLC Resonant Solar PV Inverter	Adel Nasiri (University of South Carolina)*; Parthkumar Bhuvella (University of South Carolina); Hooman Taghavi (University of South Carolina)	556-562
191	A Novel Sliding Mode Control Based on Super Twisting Reaching Law for PMSM Speed Controller with Fixed-Time Disturbance Observer	Ferhat Bodur (Gazi Universty); Orhan KAPLAN (Gazi University)*	563-568
193	Fixed-Time Sliding Mode Control for DC-DC Converters with both Matched and Mismatched Disturbances Based on Disturbance Observer	Ferhat Bodur (Gazi Universty); Orhan KAPLAN (Gazi University)*	569-575
194	Experimental evaluation of piezoelectric Vehicle Speed Sensor for smart highways: A Progress Report	Luay Y Taha (Penn State Altoona)*; Ivan Underwood (Penn State Altoona); Kara Bailen (Penn State Altoona); Francis Dellapenna (Penn State Altoona); Hussein Abdeltawab (Wake Forest University); Sohail Anwar (Penn State Altoona)	576-580
198	Preliminary Studies on Dynamic Reduction of the Turkish Transmission Network	Merden YEŞİL (EPRA); Erdal Irmak (Gazi University)*	581-590
199	The Negative Social Impacts of Renewable Energy: A Key Consideration for a Successful Energy Transition	Hafize Nurgul Durmus Senyapar (Gazi University)*; Ramazan Bayindir (Gazi University)	591-596
200	Digital Twin Approach for Current Protection Relays: Utilizing Real-Time Data for Optimal Protection	Mustafa Ersan (Contectus Global Technology Co.); Tevfik Kutay Çelebioğlu (TOBB University of Economics and Technology); Erdal Irmak (Gazi University)*	597-606
201	Fault Tolerant Electric Machine Concept for Aircraft Propulsion with PM Rotor and DC Current Stator Dual-Stage Excitation	Donovin D Lewis (University of Kentucky)*; Oluwaseun Badewa (University of Kentucky); Ali Mohammadi (University of Kentucky); Matin Vatani (University of Kentucky); Dan M. Ionel (University of Kentucky)	607-611
202	Coreless Axial Flux Halbach Array Permanent Magnet Generator Concept for Direct-Drive Wind Turbine	Matin Vatani (University of Kentucky); Ali Mohammadi (University of Kentucky); Donovin D Lewis (University of Kentucky)*; John F. Eastham (University of Bath); Dan M. Ionel (University of Kentucky)	612-617
203	Assessment of Land and Renewable Energy Resource Potential for Regional Power System Integration with ML Spatio-temporal Clustering	Rosemary E. Alden (University of Kentucky)*; Claire Halloran (University of Oxford); Donovin D Lewis (University of Kentucky); Dan M. Ionel (University of Kentucky); Malcolm McCulloch (University of Oxford)	618-624
204	Input Voltage Unevenness Analysis in Series-Parallel DC-DC Converter	Yudai Furukawa (Nagasaki Institute of Applied Science)*; Kazuhiro Kajiwara (Nagasaki Institute of Applied Science); Daiki Shibahara (Nagasaki Institute of Applied Science); Nobumasa Matsui (Nagasaki Institute of Applied Science); Sho Tezuka (Isahaya Electronics Corporation); Yuji Ohta (Isahaya Electronics Corporation); Fujio Kurokawa (Nagasaki Institute of Applied Science)	625-628
205	The Role of Communication and Social Marketing in The Implementation of Renewable Energy Policies and Strategies	Hafize Nurgul Durmus Senyapar (Gazi University); Ramazan Bayindir (Gazi University)*	629-635

207	Experimental Validation of a Global MPPT Based on Bald Eagle Search Technique	Waleed Al Abri (Sultan Qaboos University)*	636-650
-----	---	--	---------