

2018 7th International Conference on Renewable Energy Research and Applications (ICRERA 2018)

**Paris, France
14-17 October 2018**

Pages 1-774



**IEEE Catalog Number: CFP1835T-POD
ISBN: 978-1-5386-5983-0**

**Copyright © 2018 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:	CFP1835T-POD
ISBN (Print-On-Demand):	978-1-5386-5983-0
ISBN (Online):	978-1-5386-5982-3
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
2	Decentralised Energy Market for Implementation into the Intergrid Concept - Part I: Isolated System	Matthew J Davison (University of Newcastle, Australia)*, Jesse Cranney (University of Newcastle, Australia), Terry Summers (University of Newcastle, Australia), Cristopher D. Townsend (Nangyang Technological University)	80-87
5	Implementation of Standalone PV Micro Grid with Multi-level converters for Rural Electrification	Ignace Rasoanarivo (University)*	88-93
7	Theory and simulation of a neuro-fuzzy controller for 20MW steam turbo generator control	Babacar KEBE (Ecole Supérieure Polytechnique de Dakar)*; Lamine Thiaw (Ecole Supérieure Polytechnique de Dakar); Oumar Ba (Ecole Supérieure Polytechnique de Dakar)	94-99
15	Modeling, Simulation and Stability Analysis of a Low-Power Wind Turbine for the Supply of Energy to the Amazon Jungle and Galapagos in Ecuador	Daniel Icaza (Catholic University of Cuenca, Cuenca, Ecuador)*; Santiago Pulla (Catholic University of Cuenca, Cuenca, Ecuador); Ilhami Colak (Nisantasi University); Carlos A Flores-Vázquez (Universidad Católica de Cuenca); Federico Córdova (Catholic University of Cuenca, Cuenca, Ecuador)	100-105
16	Steps towards sustainability: Energy generating seesaw	Atif Saeed (SZABIST)*; Rusel Bhaleshah (SZABIST); Behroz Noorani (SZABIST); Fahad Mairaj (NED University); Muhammad Siddiq (Dadabhoy Institute of Higher Education)	106-110
18	Steps toward sustainability: Energy through flywheels	Atif Saeed (SZABIST)*; Junaid Iqbal (SZABIST); Syed Naqi Hussain Jafri (SZABIST); Syed Minhaj Ali (SZABIST); Ubaid Ahmed (NED University); Muhammad Umair Anwar (NED University); Monahil Fatima (SZABIST)	111-116
19	Optimisation Method for the Clear Sky PV Forecast Using Power Records from Arbitrarily Oriented Panels	Jorge A Thomas (Fraunhofer Society)*	117-123
33	Enhancement of Efficiency through Optimization of flywheel	Atif Saeed (SZABIST)*; Hussain Muslim Mithaiwala (SZABIST); Ammar Iqbal Hussain (SZABIST); Muhammad Fahad Kukda (SZABIST); Muhammad Hamza Shoukat (SZABIST)	124-129
38	Exergoeconomic study of the performance of a generation system in a non-interconnected zone in Colombia using syngas in an internal combustion engine with energy accumulation.	Carlos Díaz González (Universidad Autónoma de Bucaramanga)*; Leonardo Pacheco Sandoval (Universidad Autónoma de Bucaramanga)	130-138
42	Multi-Winding Equalization Technique for Lithium Ion Batteries for Electrical Vehicles	Ali Farzan Moghaddam (Gent University)*; Alex Van den Bossche (University of Gent Belgium)	139-143
43	Generic Distributed Photovoltaic Cost Outlook Methodology: Australian Market Application Example	Abdulrahman S. Alassi (Iberdrola)*; Omar Ellabban (Iberdrola); Santiago Banales (Iberdrola)	144-149
45	Multi-port dc-dc and dc-ac converter for medium and high voltage applications	F. Alsokhiry (King Abdulaziz University), Y. Al-Turki (King Abdulaziz University), Ibrahim Abdelsalam (Arab Academy for Science and Technology and Maritime Transport), Grain P Adam (University of Strathclyde)* K.H. Ahmed (University of Strathclyde)	150-155

46	Active Clamp Resonant SEPIC Converter for Local Voltage Regulation in 48V DC Based Energy Management Systems	Satoshi Ikeda (Panasonic)*; Kazuki Tsuji (Nagasaki Institute of Applied Science); Kazuhiro Kajiwara (Nagasaki Institute of Applied Science); Fujio Kurokawa (Nagasaki Institute of Applied Science)	156-159
47	Optimization of electrode thickness of flexible supercapacitors using activated carbon derived from shochu waste	Takuya Eguchi (Fukuoka Institute of Technology)*; Daisuke Tashima (Fukuoka Institute of Technology); Masumi Fukuma (National Institute of Technology, Matsue College); Seiji Kumagai (Akita University)	160-163
51	An Experimental Verification for Improvement of Output Characteristics by LC Resonance in Vibration Generators with Boost-type Current-improving Passive Rectifier	Masataka Minami (Kobe City College of Technology)*; Tomoki Sakabe (Osaka University); Shin-ichi Motegi (Kobe City College of Technology); Masakazu Michihira (Kobe City College of Technology)	164-167
52	Energy Savings through Ammonia Based Absorption Chiller System: A proposed Strategy	Atif Saeed (SZABIST)*; Muhammad Zubair (SZABIST); Fahad Ahmed Khan (SZABIST); Fahad Mairaj (NED University); Muhammad Siddiq (Dadabhoj Institute of Higher Education); Ashish Shiwani (SZABIST)	168-173
54	Experimental and statistical study of connector resistance factor influence on crimping validation process	Ocoleanu Constantin Florin (University of Craiova, Electrical Engineering Faculty)*; Dolan Alin Iulian (University of Craiova, Electrical Engineering Faculty)	174-178
56	Optimum Frequency Control Method to Counter Prediction Error Effects in Photovoltaic Generators	Shunsuke Horie (Aichi Institute of Technology)*; Yuji Iwane (Aichi Institute of Technology); Koki Kato (Aichi Institute of Technology); Tadahiro Goda (Aichi Institute of Technology); Kazuto Yukita (Aichi Institute of Technology); Toshiro Matusmura (Aichi Institute of Technology); Yasuyuki Goto (Aichi Institute of Technology)	179-183
57	Forecasting Solar Radiation Strength Using Machine Learning Ensemble	Rami Al-Hajj (American University of the Middle East)*; Ali Assi (The International University of Beirut); Mohamad Kasaby (Mansoura University)	184-188
58	Improved Energy Storage Performance of Insulated Graphene/Polymer Nanocomposites.	U.O. Uyor (Tshwane University of Technology)*; Patricia Popoola (Tshwane University of Technology); Olawale Popoola (Tshwane University of Technology)	189-193
60	Direct Power Control Strategy to Enhance the Dynamic Behavior of DFIG During Voltage Sag	Rogério Vani Jacomini (UFSP)*; Alfeu J. Sguarezi Filho (Universidade Federal do ABC - UFABC/CECS)	194-198
61	Biomimetic Shaft Seal for Ocean Current or Tidal Power Generation	Yoshitaka NAKANISHI (Kumamoto University)*; Yuki Yoshioka (Kumamoto University); Takuro Honda (Kumamoto University); Yuta NAKASHIMA (Kumamoto University)	199-204
62	DC arc characteristic according to source voltage and load power level	Yong-Jung Kim (Kongju national university)*; Hyosung Kim (Kongju national university)	205-208
63	Filter Hardware Optimization of Grid-Tied Converter: LCL vs. LLCL Filter	Ki-Bum Park (ABB Switzerland Ltd)*; Ralph Burkart (ABB Switzerland Ltd)	209-214
64	Performance Improvement of Liquid-type Solar Heat Collection System	Youngjin Choi (Kyushu University)*	215-220
66	Selective Harmonic Elimination for Modular Multilevel Converter with Averaging and Circulating Current Control	Shrinath Kannan (Maschinenfabrik Reinhausen GmbH)*; Poongothai C (Indian Institute of Technology Madras); Ilknur Colak (Maschinenfabrik Reinhausen GmbH); Waqas Ali (Maschinenfabrik Reinhausen GmbH)	221-226
67	Control of Bidirectional Quadratic DC-DC Converters for Storage Support of DC Power Grids	Armando Cordeiro (ISEL - IPL)*; V. Fernao Pires (ESTSetubal/IPS); Daniel Foito (ESTSetubal - IPS); J.Fernando Silva (DECC, University of Lisboa)	227-232

68	Reactive Power Sharing Study of an Islanded Microgrid in DIGSILENT PowerFactory	Cassandra, Yi Chyn Wong (University of Southampton); Chee Shen Lim (University of Southampton Malaysia)*; Mihai Rotaru (University of Southampton); Andrew Cruden (University of Southampton); Xin Kong (Agency for Science, Technology, and Research)	233-238
70	Cooperative Control and Power Management for Islanded Residential Microgrids with Local Phase-wise Generation and Storage Units	Syed Ahmed Raza Naqvi (UWO); Jing Jiang (Western Ontario)*	239-244
72	Implementation of a serial AC/DC converter with modular control technology	Ming Tsung Tsai (Southern Taiwan University of Science and Technology)*, Ching-Lung Chu, (Southern Taiwan University of Science and Technology), Wei-Cong Chen (Southern Taiwan University of Science and Technology)	245-250
75	Study on rotor side plate for PHV motor by plastic flow joining	akiyama tetsuya (AKIYAMA MFG. CO., LTD)*; Yoshitaka NAKANISHI (Kumamoto University)	251-255
76	Augmentation of Self-Consumption of Electricity by Using Boilers and Batteries for Residential Buildings	Andres Annuk (Estonian University of Life Sciences)*; Erkki Jõgi (Estonian University of Life Sciences); Heiki Lill (Estonian University of Life Sciences); Janar Kalder (Estonian University of Life Sciences); Mart Hovi (Estonian University of Life Sciences); Heino Pihlap (Estonian University of Life Sciences); Algirdas Jasinskas (Aleksandras Stulginskis University); Mihkel Härn (Eesti Energia AS); Sergei Trashchenkov (Pskov State University); Alo Allik (Estonian University of Life Sciences)	256-260
78	Seasonal air density variations over the East of Scotland and the consequences for offshore wind energy	Alain Ulazia (UPV/EHU)*; Gabriel Ibarra-Berastegi (UPV/EHU); Jon Saenz (UPV/EHU); Sheila Carreno-Madinabeitia (Tecnalia); Santos J. González-Rojí (UPV/EHU); Ander Nafarrate (Master REM)	261-265
80	Enhancement of Heat Transfer in Subcooled Pool Boiling by Nano-textured Surface	EL Ghassem KNEITA (Kumamoto university)*; Takuro Honda (Kumamoto University); Keiji Kasamura (Kumamoto University); Yuta NAKASHIMA (Kumamoto University); Yasushi KOITO (Kumamoto university); Yoshitaka NAKANISHI (Kumamoto University)	266-269
82	An Alternative Approach to The Feasibility of Photovoltaic Power Stations in Light of Falling PV Panel Prices	Alo Allik (Estonian University of Life Sciences)*; Andres Annuk (Estonian University of Life Sciences)	270-274
83	Design of a Global Maximum Power Point Tracking (GMPPT) for PV array based on precise PV shadow model	Luis Garcia-Gutierrez (LAAS-CNRS)*; Corinne Alonso (LAAS), Michael Bressan (Uniandes), Fernando Jimenez (UPC), Salvador De-Las Heras, Corinne Alonso (LAAS-CNRS)	275-280

85	Improving Energy Self-Consumption Rate in Renewable Energy System	Miki Ueshima (NTT FACILITIES,INC.)*; Kazufumi Yuasa (System designer/builder); Tadatoshi BABASAKI (NTT FACILITIES)	281-286
87	Decentralised Energy Market for Implementation into the Intergrid Concept - Part 2: Integrated System	Matthew J Davison (University of Newcastle, Australia)*, Jesse Cranney (University of Newcastle, Australia), Terry Summers (University of Newcastle, Australia), Cristopher D. Townsend (Nanyang Technological University)	287-293
91	Effective Series-Parallel Cell Configuration in Solar Panels for FPM Power Generation Forest	Yuki Mochizuki (Tokyo University of Science)*, Toshiaki Yachi (Tokyo University of Science).	294-300
92	A 3kW Single-Ended Wireless EV Charger with a Newly Developed SiC-VMOSFET	Ryota Maeno (Osaka institute technology)*; Hideki Omori (Osaka Institute of Technology); Hisato Michikoshi (Advanced Power Electronics Research Center National Institute of Advanced Industrial Science and Technology (AIST)); Noriyuki Kimura (Osaka Institute of Technology); Toshimitsu Morizane (Osaka Institute of Technology)	301-306
93	Reduction of Output Power Pulsations for Electric Vehicles by Changing Distances between Transmitter Coils	Azamat Mukhatov (Electrical and Computer Engineering Department, Nazarbayev University); Mehdi Bagheri (Electrical and Computer Engineering Department, Nazarbayev University)*; Payman Dehghanian (George Washington University (USA)); Vicente Carabias (ZHAW Zurich University of Applied Sciences); Gevork B. Gharehpetian (Amirkabir University of Technology (AUT))	307-312
94	The Influence of Electric Vehicle Penetration on Distribution Transformer Ageing Rate and Performance	Bekarys Kuspan (Electrical and Computer Engineering Department, Nazarbayev University); Mehdi Bagheri (Electrical and Computer Engineering Department, Nazarbayev University)*; Oveis Abedinia (Department of Electric Power Engineering Budapest University of Technology and Economics, Budapest, Hungary); Mohammad Salay Naderi (Electrical and Computer Engineering Department, Tehran North Branch, Islamic Azad University); Ehsan Jamshidpour (ICube (UMR7357), ECAM Strasbourg Europe)	313-318
95	A Novel Type of Single-Ended Wireless V2H with Stable Power Transfer Operation against Circuit Constants Variation	Kodai Kuroda (Osaka Institute of Technology)*; Hideki Omori (Osaka Institute of Technology); Masahito Tsuno (Nichicon Co. Ltd.); Noriyuki Kimura (Osaka Institute of Technology); Toshimitsu Morizane (Osaka Institute of Technology)	319-323
96	Microgrid energy management using a two stage rolling horizon technique for controlling an energy storage system.	Mahmoud Elkazaz (University of Nottingham)*; Mark Sumner (University of Nottingham); David Thomas (University of Nottingham)	324-329
98	A New Inductive Power Transfer Electric Vehicle Charger with a Power Magnetic Superimposition Communication by Receiving Phase-Control	Takumi Shimonodan (Osaka Institute of Technology)*; Hideki Omori (Osaka Institute of Technology); Toshimitsu Morizane (Osaka Institute of Technology); Noriyuki Kimura (Osaka Institute of Technology)	330-335

100	Load forecasting method for Commercial facilities by determination of working time and considering weather information	Takahiro Fujiwara (Tokyo University of Science)*; Yuzuru Ueda (Tokyo University of Science)	336-341
101	Minimization of EMF Harmonics and Cogging Torque for a Medium Speed RFPM Wind Turbine Generator	Aysel Akgemci (Middle East Technical University)*; Reza Zeinali (Eindhoven University of Technology); Ozan Keysan (Middle East Technical University)	342-347
102	Grid connection of a converter controlled squirrel-cage induction generator	Dominik A. Gorski (Institute of Control and Industrial Electronics)*; Tomasz Balkowiec (Institute of Control and Industrial Electronics); Włodzimierz Koczara (Institute of Control and Industrial Electronics)	348-353
103	Optimization Design Suite for Expandable Micro-Grid Clusters	Kazuaki Iwamura (Waseda University)*, Yosuke Nakanishi, Hiroshi Takamori, Udom Levwlompaisarl (NECTEC), Noel Estoperez (MSU-IIT), Abraham Lomi (National Institute of Technology Malang)	354-359
104	The impact of embedded generation on distribution grid operation	David Motyka (University of Zilina)*; Martina Latkova (University of Zilina); Peter Bracinik (University of Zilina)	360-364
108	Calculation of Degradation Rates of Poly Crystalline Si and CIGS PV Module using Outdoor Linear Interpolation Method	Yoshiro Izumi (Tokyo University of Science)*; Yuzuru Ueda (Tokyo University of Science)	365-370
110	Robust Integral Backstepping Approach for MPPT in Different Models of Solar Panel	Saloua Marhraoui (mohammadia school of engineering)*; Ahmed Abbou (Electric Engineering Department, The Mohammadia School's of Engineers Mohammed V University Agdal Rabat); Abdellah Ziouh (Mohammed V University in Rabat, Mohammadia school of engineering, Department of Electrical Engineering); Nezha El Hichami (Mohammadia School of Engineers (EMI), Mohammed V University in Rabat, Morocco); Salah Eddine Rhaili (Mohammed V University in Rabat, Mohammadia school of engineering, Department of Electrical Engineering)	371-376
111	Evaluation of power generation performance using only the nameplate value using linear interpolation method	Kanako Kawasaki (Tokyo University of Science)*; Yuzuru Ueda (Tokyo University of Science); Yoshihiro Hishikawa (National Institute of Advanced Industrial Science and Technology)	377-382
112	Effects of Hurricane Maria on Renewable Energy Systems in Puerto Rico	Alexis Kwasinski (University of Pittsburgh)*	383-390
115	Failure detection of solar panels using thermographic images captured by drone	Yuji Higuchi (NTT Facilities)*, Tadatoshi Babasaki (NTT Facilities)	391-396
116	Electric Vehicles Charging Concepts for Lithium Based Batteries	Ali Farzan Moghaddam (Gent University)*; Mohannad Jabbar Mnati (Ghent University); Haitao Sun (Gent University); Alex Van den Bossche (University of Gent Belgium)	397-401
119	Active-Flux-Based Super-Twisting Sliding Mode Observer for Sensorless Vector Control of Synchronous Reluctance Motor Drives	Yongchao Liu (FEMTO-ST (UMR CNRS 6174), UTBM, UBFC)*; Salah Laghrouche (Unknown); Abdoul N'Diaye (Unknown); Maurizio Cirrincione (USP, UTBM)	402-406
120	Proton Exchange Membrane Fuel Cell Remaining Useful Life Prediction based on Artificial Neural Network	Kui CHEN (FCLAB Université de Technologie Belfort-Montbéliard)*; Salah Laghrouche (Unknown); abdeslem djerdir (UTBM)	407-411

123	Reliability comparison of a DC-DC converter placed in Building-Integrated Photovoltaic module frames	Wieland Van De Sande (UHasselt)*; Konstantinos Spiliotis (KULeuven); Juliana Gonçalves (KULeuven); Simon Ravvys (KULeuven); Johan Driesen (KULeuven); Dirk Saelens (KULeuven); Michaël Daenen (UHasselt)	412-417
125	Analytical method for wind turbine power curve uncertainty estimation	Kiril Demerdziev (Ss. Cyril and Methodius University, Faculty of Electrical Engineering and Information Technologies)*; Vladimir Dimcev (Ss. Cyril and Methodius University, Faculty of Electrical Engineering and Information Technologies); Maja Celeska (Ss. Cyril and Methodius University, Faculty of Electrical Engineering and Information Technologies)	418-423
127	Design and Control of a Single Phase DC/Rectified AC/AC Inverter for low THD Applications	Burak Tekgun (Abdullah Gul University); Didem Tekgün (Abdullah Gül University); Irfan Alan (Abdullah Gul University); Mohamed Badawy (San Jose State University)*	424-430
130	Power Flow Control of a Standalone Photovoltaic-Fuel Cell-Battery Hybrid System	Nahla Ezz Eldin Zakzouk (Arab Academy for Science and Technology and Maritime Transport)*; Samah Elsafty (Arab Academy for Science and Technology and Maritime Transport)	431-436
131	Mitigation of Oscillating Power Effect on PV power and Grid Current in Single-phase Single-stage PV Grid-tied Systems	Nahla Ezz Eldin Zakzouk (Arab Academy for Science and Technology and Maritime Transport)*	437-442
133	Implementation of VAWT in Energy Generation Decentralization in Developing Countries Social, Engineering & Open Data case study in South-East Asia	Ahmad Thuraya Kaadan (Nagoya University)*; Mamoru Endo (Nagoya University), Mayu Uruta(Nagoya University), Takami Yasuda(Nagoya University)	443-451
134	Predictive current-limiting thyristor control in the modified thyristor-equipped Vienna rectifier	Tomasz Balkowiec (Institute of Control and Industrial Electronics)*; Dominik A. Gorski (Institute of Control and Industrial Electronics); Włodzimierz Koczara (Institute of Control and Industrial Electronics)	452-457
135	Identification of Partial Shading in Photovoltaic Arrays Using Optimal Sensor Placement Schemes	Jieming Ma (XI'an Jiaotong-liverpool University)*, Ziqiang Bi(XI'an Jiaotong-liverpool University), Ka Lok Man(XI'an Jiaotong-liverpool University), Huan Dai(Suzhou University of Science and Technology), Zhentian Wu(Suzhou University of Science and Technology)	458-462
138	Optimal Scheduling of an Isolated Wind-Diesel-Battery System considering Forecast Error and Frequency Response	Hong Nhung Nguyen (Waseda University)*; Yosuke NAKANISHI (Waseda University)	463-468
141	Black Box Modelling of a Bidirectional Battery Charger for Electric Vehicles	Antreas Naziris (CEI)*; Rafael Asensi (CEI); Javier Uceda (CEI)	469-473
142	Benefits of Demand Side Management strategies for an island supplied by marine renewable energies	Anthony Roy (Université de Nantes - Laboratoire IREENA)*; Francois Auger (Université de Nantes - Laboratoire IREENA); Salvy Bourguet (Université de Nantes - Laboratoire IREENA); Florian Dupriez-Robin (CEA Tech Pays de Loire); Tuan Quoc Tran (French Alternative Energies and Atomic Energy Commission (CEA))	474-481

145	Characteristics of Failure Schottky Barrier Diode and PN Junction Diode for Bypass Diode using Induced Lightning Serge Test	Toshiyuki Hamada (National Institute of Technology, Ube College)*; Kenta Nakamoto (National Institute of Technology, Ube College); Ikuo Nanno (National Institute of Technology, Ube College); Masayuki Fujii (National Institute of Technology, Oshima College); Shinichiro Oke (National Institute of Technology, Tsuyama College); Norio Ishikura (National Institute of Technology, Yonago College)	482-486
149	A Comparison of Stability Analysis of Constant Power Load With Detailed Model in DC Microgrids	Hesam Mazaheri Tehrani (Universidad Politécnica de Madrid)*; Airán Francés (CEI); Rafael Asensi (CEI); Javier Uceda (CEI)	487-493
150	Influence of the temporal resolution of the water consumption profile on photovoltaic water pumping systems modelling and sizing	Simon Meunier (Group of electrical engineering, Paris)*; Matthias Heinrich (DargaTech SARL); Loic Queval (Group of electrical engineering, Paris); Judith A. Cherni (Centre for Environmental Policy, Imperial College London); Lionel Vido (SATIE, Univ. de Cergy-Pontoise); Arouna Darga (Group of electrical engineering, Paris); Philippe Dessante (Group of electrical engineering, Paris); Bernard Multon (SATIE, ENS Rennes); Claude Marchand (Group of electrical engineering, Paris)	494-499
152	Inertial Support from Offshore Wind Farms Interfaced through MTDC Grids	Sai Gopal Vennelaganti (The Pennsylvania State University)*; Nilanjan Raj Chaudhuri (The Pennsylvania State University)	500-504
154	Modeling disaggregated electric vehicle availability on a low-voltage distribution network	Andrea Ballarin (FAU Erlangen-Nürnberg)*; Reinhard German (FAU Erlangen-Nürnberg)	505-510
155	Impact on energy saving of active phase count control to a DC/DC converter in a DC micro grid	Margot M Gaetani-Liseo (LAAS-CNRS)*; Corinne Alonso (LAAS); Lionel Segquier (LAAS-CNRS); Bruno Jammes (LAAS-CNRS Université Paul Sabatier)	511-516
158	Correlation between dirt on the PV module surface and climatic parameters in the Dakar region, Senegal.	AIDARA Mohamed Cherif (Centre International de Formation et de Recherche en Energie Solaire)*; Mamadou Lamine Ndiaye (Ecole Supérieure Polytechnique/Université Cheikh Anta Diop); Willy Magloire Nkouna (Ecole Supérieure Polytechnique/Université Cheikh Anta Diop)	517-521
159	Energy optimization nanotechnology structures CNTFET GaAs	Mouhammed Salah Benbouza (Université de Batna)*, D.Hocine(UMTO), Y.Zid(Université de Batna)*, A.Benboza(Université de Batna)*,	522-526
163	A Novel Platform for Simulating the Impact of Distributed Generation and Electric Mobility on Distribution Networks	Juan D Hoyos Giraldo (Universidad Nacional de Colombia)*; Anderson Salazar Zuluaga (Universidad Nacional de Colombia); Germán Zapata Madrigal (Universidad Nacional de Colombia); Rodolfo García Sierra (Codensa S.A. ESP)	527-532
164	Simulation Analysis of Really Occurred Accident Caused by Short Circuit Failure of Blocking Diode and Bypass Circuit in the Photovoltaics System	Norio Ishikura (National Institute of Technology, Yonago College)*; Tomoki Okamoto (National Institute of Technology, Yonago College); Ikuo Nanno (National Institute of Technology, Ube College); Toshiyuki Hamada (National Institute of Technology, Ube College); Shinichiro Oke (National Institute of Technology, Tsuyama College); Masayuki Fujii (National Institute of Technology, Oshima College)	533-536

166	Prospects of off grid energy generation through Low head screw turbine in Nepal	Rabin Dhakal (Tribhuvan University, Institute of Engineering, Kantipur Engineering College)*; Raj Kumar Shrestha (Vortex Energy Solution Pvt. Ltd); S. C. Itani (Department of Electronics and Communication); Ganesh Babu Amgain (Vortex Energy Solution Pvt. Ltd); Suresh Bhandari (Alternative Energy Promotion Center); Sirjana Dhakal (Vortex Energy Solution Pvt. Ltd); Niwesh Koirala (Kantipur International college); Subash Gautam (Acme Engineering College); Smita Bhatta (Vortex Energy Solution Pvt. Ltd.)	537-543
167	Current Ripple Reduction for Photovoltaic Powered Single-Phase Buck-Boost Differential Inverter under Nonlinear Loads	NanJun Lu (Energy Research Institute, Interdisciplinary Graduate School, Nanyang Technological University)*; Branislav Hredzak (The University of New South Wales)	544-548
168	Performance Analysis of Regenerative Organic Rankine Cycle System for Solar Micro Combined Heat and Power Generation Applications	Wahiba Yaici (CanmetENERGY/Natural Resources Canada)*; Evgueniy Entchev (CanmetENERGY/Natural Resources Canada); Michela Longo (Politecnico di Milano)	549-554
170	A New Type of Wireless Electric Vehicle Charger with Miniaturized Single-Ended High Power-Factor Converter	Aoi Murakami (Osaka Institute of Technology)*; Hideki Omori (Osaka Institute of Technology); Toshimitsu Morizane (Osaka Institute of Technology); Noriyuki Kimura (Osaka Institute of Technology)	555-560
171	Biomass Free Piston Stirling Engine Generator with PV	ayumu mabe (Shibaura Institute of Technology); Hiroshi Takami (Shibaura Institute of Technology)*; Fuminori Ishibashi (Shibaura Institute of Technology)	561-566
173	Impact of Fault Ride-Through on Wind Turbines Systems Design	Ahmed Al Ameri (University of Le Havre)*; Yacine Amara (University Le Havre); Cristian Nichita (University of Le Havre)	567-575
182	Study on the combustion characteristics and kinetics of biomass and coal char blended fuels	Jingfu WANG (Beijing University of Technology)*; Lei Wen (Beijing University of Technology); Ying Chen (Beijing University of Technology); Hengchao HAN (Beijing University of Technology)	576-581
187	Mitigating Risks by Weighting Intangibles when Investing in Renewables	Francisco R A C Baracho (UFOP)*; Renata Baracho (UFMG); Rogério Bonatti (UFMG); Cláudio Homero (CEMIG)	582-593
189	A robust monitoring technique for fault detection in grid-connected PV plants	Fouzi Harrou (King Abdullah University of Science and Technology (KAUST))*; Bilal Taghezouit (CDER); Ying Sun (King Abdullah University of Science and Technology (KAUST))	594-598
190	Support for solar photovoltaic in France– a shift towards capacity market mechanism	Manjola Banja (Former JRC)*; Martin Jegard (Former JRC)	599-605
191	Consideration on Voltage Fluctuation caused by Active Method of Islanding Detection of Photovoltaic Generation	Kenta Takeshita (sophia university)*; Ori Sakamoto (Sophia university); Masato Maruyama (Sophia university); Tsuyoshi Harimoto (Kyushu Electric Power Co., Inc.)	606-611
192	Grid management technology for the integration of renewable energy sources into the transmission system	Levente RÁCZ (Budapest University of Technology and Economics)*; Dávid Szabó (Budapest University of Technology and Economics); Bálint Németh (Budapest University of Technology and Economics); Gábor Göcsei (Budapest University of Technology and Economics)	612-617

194	In-situ Measurements of Vanadium Crossover Diffusivities in VRFB during charge-discharge cycles	Kyeongmin Oh (Inha University)*; Geonhui Gwak (Inha University); Hyunchul Ju (Inha University)	618-622
196	Development of heterologous cell co-culture technique for application to bioreactor	Yuta NAKASHIMA (Kumamoto University)*; Takaya Hisamoto (Kumamoto University); Koki Yamasaki (Kumamoto University); Yoshitaka NAKANISHI (Kumamoto University)	623-626
200	Strategic Placement of Capacitor and DG for Voltage Improvement after Large Penetration of Renewable Energy Power Plant: An Indonesian Study	Muhammad Bachtiar Nappu (Hasanuddin University)*; Ardiaty Arief (Hasanuddin University); Muhammad Imran Bachtiar (Hasanuddin University)	627-631
203	Multiple-input Soft-switching Step-up/down Converter for Renewable Energy Systems	Zhuoya Sun (Hanyang University); Sungwoo Bae (Hanyang University)*	632-636
204	The use of Advanced Storage Systems for Voltage, Frequency and CO2 emission control in Ship Power Systems.	Giovani Giulio T. T. Vieira (University of Sao Paulo)*; Mauricio B C Salles (University of Sao Paulo); Renato Machado Monaro (Universidade de São Paulo)	637-642
206	A Study on DC Microgrids Voltages based on Photovoltaic and Fuel Cell Power Generators	Mohd Alam (IIT Delhi)*; Kuldeep Kumar (IIT Delhi); Jagendra Srivastava (IIT Delhi); Viresh Dutta (IIT Delhi)	643-648
207	Fuzzy and P&O Based MPPT Controllers under Different Conditions	Dilovan Haji (Van Yuzuncu Yil University); Naci Genc (Van Yuzuncu Yil University)*	649-654
209	Fault Detection Strategy for Grid-Tie Three-Phase Photovoltaic Inverter	Oluwafemi J Aworo (University of Pittsburgh)*; Alexis Kwasinski (University of Pittsburgh)	655-660
210	Cost Savings Oriented Microgrid Control Strategy Considering Battery Degradation	Ram Shankar Yallamilli (ABB India Limited)*; Leela Krishna Vedula (Indian Institute of Technology Madras); Mahesh K. Mishra (Indian Institute of Technology Madras)	661-666
211	Design support tool for Multi-DER residential microgrids	Giorgio Graditi (ENEA Portici)*; Giovanna Adinolfi (ENEA -Italian National Agency for New Technologies, Energy and Sustainable Economic Development-); Roberto Ciavarella (ENEA); Valeria Palladino (ENEA -Italian National Agency for New Technologies, Energy and Sustainable Economic Development-)	667-672
213	Efficiency Improvement of Isolated Bidirectional Boost Full Bridge DC-DC Converter	Satoshi Ikeda (Panasonic)*; Kazuhiro Kajiwara (Nagasaki Institute of Applied Science); Kazuki Tsuji (Nagasaki Institute of Applied Science); Fujio Kurokawa (Nagasaki Institute of Applied Science)	673-676
216	Optimal Tuning of PI Controller for Boost DC-DC Converters Based on Cuckoo Optimization Algorithm	Ali Mamizadeh (Van Yuzuncu Yil University); Naci Genc (Van Yuzuncu Yil University)*; Ramin Rajabioun (Van Yuzuncu Yil University)	677-680
217	Photovoltaic and Wind Turbine Generation System for Constant Power Supply with IoT-based Monitoring and Control	Jose M Gutierrez-Villalobos (Autonomous University of Queretaro)*; Julio Mora-Vazquez (Autonomous University of Queretaro); Perla Ocampo-Rangel (Autonomous University of Queretaro); Ana L. De Santiago-Rincon (University of Guanajuato)	681-686
218	Analysis of Hydrogen Dry Cell for Alkaline Water Electrolysis	G N Reddy (Lamar University)*; Sadish Srestha (Lamar University); Bishes Acharya (Lamar University); Vijaya Krishna Teja Bangi (Lamar University); Ramesh Guduru (Lamar University)	687-692

220	Channel Modeling of Low Voltage NB-PLC Network using Statistical and Deterministic Channel Modeling Approaches	Bilal Masood (The Superior College, University Campus, Lahore, Pakistan)*; Waseem Nazar (The University of Lahore, Lahore); Rabia Masood (COMSATS University, Lahore, Pakistan)	693-696
221	Hydrogen-Based Energy Storage Systems: A Review	Maad Shatnawi (HCT)*; Nasir Al Qaydi (HTC); Nawf Aljaberi (HTC); Maitha Aljaberi (HTC)	697-700
222	Design and Implementation of a Gate Driver Circuit for Three-Phase Grid Tie Photovoltaic Inverter Application	Mohannad Jabbar Mnati (Ghent University)*; Adnan Ali (Middle Technical University); Shahad Al-yousif (Management & Science University); Dimitar V. Bozalakov (Ghent University); Alex Van den Bossche (University of Gent Belgium)	701-706
223	Some aspects of recycling concrete crush for thermal heat storage	J. Birgitta Martinkauppi (University of Vaasa)*; Tapio Syrjälä (University of Vaasa); Anne Mäkiranta (University of Vaasa); Erkki Hiltunen (University of Vaasa)	707-710
224	Study of Spatial Asynchrony Analysis for Solar Irradiance	Takahiro Takamatsu (Tokai University)*; Takashi Nakajima (Tokai University)	711-714
227	Influence of Demand and Generation Uncertainty on the Operational Efficiency of Smart Grids	Benjamin Matthiss (ZSW)* A. Momenifarhani(ZSW), K. Ohnmeiss (ZSW), M. Felder(ZSW)	715-720
228	Averaged MIMO Converter Modeling for Active Power Distribution Node Enhanced Reconfigurable Grids	Alvaro Cardoza (University of Pittsburgh)*; Alexis Kwasinski (University of Pittsburgh)	721-726
230	Long-term forecasting of wind speed in Brazil using GAS modelling	Soraida Aguilar (PUC-Rio)*; Daiane Rodrigues dos Santos (Universidade Cândido Mendes); Reinaldo Souza (PUC-Rio)	727-731
232	A Synthetic Forecast Engine for Wind Power Prediction	Venera Nurmanova (Electrical and Computer Engineering Department, Nazarbayev University); Mehdi Bagheri (Electrical and Computer Engineering Department, Nazarbayev University)*; Oveis Abedinia (Department of Electric Power Engineering Budapest University of Technology and Economics, Budapest, Hungary); Behrouz Sobhani (Electric Distribution Company of Ardabil); Noradin Ghadimi (Young Researchers and Elite Club, Ardabil Branch, Islamic Azad University); Mohammad Salay Naderi (Electrical and Computer Engineering Department, Tehran North Branch, Islamic Azad University)	732-737
234	MPC Energy Management System For A Grid-Connected Renewable Energy/Battery Hybrid Power Plant	Adriana Aguilera Gonzalez (ESTIA)*; Ionel Vechiu (ESTIA Institute of Technology); Ruben Lopez Rodriguez (ESTIA); Seddik Bacha (Université de Grenoble)	738-743
236	Solar to hydrogen conversion using concentrated multi-junction photovoltaics and distributed micro-converter architecture	Kolja Neuhaus (LAAS-CNRS, UPS)*; Corinne Alonso (LAAS), L. Gladysz, A. Delamarre (University of Tokyo), K. Watanabe (University of Tokyo), M. Sugiyama (University of Tokyo)	744-747
239	Taking Advantage of PV Energy in Copper Electrowinning Requires a Trend Reversal: Increasing Inter-Electrodes Spacing	Eduardo P Wiechmann (Universidad de Concepcion)*; Jorge Henriquez (Universidad de Concepcion); Pablo Aqueveque (Universidad de Concepcion); Anibal Morales (Universidad Catolica de la Santisima Concepcion); Jonhy Diaz (Universidad de Concepcion); Camilo Manriquez (CODELCO)	748-752

245	Voltage Unbalance and Overvoltage Mitigation by Using the Three-phase Damping Control Strategy in Battery Storage Applications	Dimitar V. Bozalakov (Ghent University)*; Mohannad Jabbar Mnati (Ghent University); Joannes I Laveyne (Ghent University); Alex Van den Bossche (University of Gent Belgium); Lieven Vandeveldel (Ghent University)	753-759
250	Field Oriented Vector Control of an Induction Motor fed by Multi-junction Solar Cells	Abdelkader Hadj Dida (Algerian Space Agency - Center For Satellite Development Asal-Cds)*; Mohamed Bourahla (Algerian Space Agency - Center For Satellite Development Asal-Cds)	760-764
252	Development of a GUI-based mathematical model of an alkaline water electrolyzer: for optimizing hydrogen renewable energy systems	G N Reddy (Lamar University)*; Sadish Srestha (Lamar University); Vijaya Krishna Teja Bangi (Lamar University); Ramesh Guduru (Lamar University)	765-769
253	Exergetic Comparison of Two Configurations for An Upgraded Absorption/Compression Heat Pump Integrated Organic Mixtures	Rabeb Toujani (Université de Tunis El Manar, Ecole Nationale d'Ingénieurs de Tunis, Unité de Recherche Energétique et Environnement, 1002, Tunis, Tunisie); Ramazan Bayindir (Gazi University); Ilhami Colak (Nisantasi University); Nahla Bouaziz (ENIT-Université de Tunis El Manar)*	770-774
256	Thermodynamic Optimization of a Novel Solar Power Cogeneration Plant Using a Gas Ejector	Larbi Afif (Université de Tunis El Manar, Ecole Nationale d'Ingénieurs de Tunis, Unité de Recherche Energétique et Environnement, 1002, Tunis, Tunisie); Nahla Bouaziz (ENIT-Université de Tunis El Manar)*; Ilhami Colak (Nisantasi University); Ramazan Bayindir (Gazi University)	775-778
257	Finite Control Set Model Predictive Control Strategies for a Three-Phase Seven-level Cascade H-Bridge DSTATCOM	Leonardo Comparatore (Universidad Nacional de Asunción, Facultad de Ingeniería)*; Alfredo Renault (Universidad Nacional de Asuncion); Julio Pacher (Universidad Nacional de Asunción); Jorge E Rodas (Facultad de Ingenieria UNA); Raul Gregor (Universidad Nacional de Asuncion)	779-784
261	IoT-based system to monitor and control household lighting and appliance power consumption and water demand	Jose M Gutierrez-Villalobos (Autonomous University of Queretaro)*; Meliza Bautista-Villalon (Autonomous University of Queretaro); Edgar Rivas-Araiza (Autonomous University of Queretaro)	785-790
263	A Single-Switch DC/DC Buck-Boost Converter With Extended Output Voltage	V. Fernao Pires (ESTSetubal/IPS)*; Daniel Foito (ESTSetubal - IPS); Armando Cordeiro (ISEL - IPL); José Silva (INESC-ID, IST, Universidade de Lisboa)	791-796
264	Fuzzy Logic Controller for an Electrolytic Capacitor-less IPMSM Drive System	Fatima Alrashdan (Jordan University of Science & Technology); Issam Smadi (Jordan University of Science & Technology)*	797-803
266	Modeling of complex resonances in islanded Microgrids	Abdelhakim Saim (University of Sciences and Technology Houari Boumedién)*; Azeddine Houari (University of Nantes); Josep M. Guerrero (University of Aalborg); Ali Djerioui (University of Nantes); Machmoum Mohamed (Nantes University); Mourad Ait Ahmed (University of Nantes)	804-808

267	Joint Optimization of Energy Storage and Wind Power Generation for an Islanded system	Hong Nhung Nguyen (Waseda University)*; Huy Nguyen Duc (Hanoi university of Science and technology); Yosuke Nakanishi (Waseda University)	809-813
275	Experiment of voltage response during mode switching in a unitized regenerative fuel cell with parallel flow field	Xian Ming Yuan (Beijing University of Technology)*	814-818
278	Novel method for the identification of defective anemometers in wind farms	Alain Ulazia (UPV/EHU)*; Gabriel Ibarra (UPV/EHU); Jon Saenz (UPV/EHU); Arkaitz Rabanal (EHU/UPV)	819-823
281	Thermal modeling of lithium-ion batteries with LiFePO ₄ electrodes	Geonhui Gwak (Inha University)*; Hyunchul Ju (Inha University)	824-830
282	Mass Transfer and Power Loss of Proton Exchange Membrane Fuel Cells with Blocked Flow Channels	Hao Chen (Beijing university of technology)*	831-835
285	The Assessment of Wind and Sea Flow Energy Production from Seas by Using Energy Storage Unit	Ahmet Aktaş (Istanbul Geilisim University)*; Arif Şenol Şener (Nişantaşı University); Yağmur Kırçiçek (Karabük University)	836-840
290	Reliability Evaluation in Smart Grids via Modified Monte Carlo Simulation Method	Mohammed Wadi (İstanbul Sabahattin Zaim Üniversitesi)*; Mustafa BAYSAL (Yıldız Technical University); Abdulfetah Shobole (İstanbul Sabahattin Zaim University); Mehmet Rıda TUR (Mardin Artuklu University)	841-845
293	Applicability of Direct Reuse and Recycled Rare Earth Magnets in Electro-mobility	Pranshu Upadhayay (Valeo & Grenoble INP)*; Muhammad Awais (University of Birmingham); Afef-Kedous Lebouc (Univ. Grenoble Alpes, CNRS, Grenoble INP, G2Elab); Lauric Garbuio (Univ. Grenoble Alpes, CNRS, Grenoble INP, G2Elab); Malik Degri (University of Birmingham); Allan Walton (University of Birmingham); Jean-Claude Mipo (Valeo); Jean-Marc Dubus (Valeo)	846-852
294	Energy Consumption Optimization through Dynamic Simulations for an Intelligent Energy Management of a BIPV Building	Ilias Papas (LAAS-CNRS)*, Bruno Estivals (LAAS-CNRS), Christelle Ecrepont (LAAS-CNRS), Corinne Alonso (LAAS-CNRS)	853-857
295	Reliability Analysis Of Wind Turbines Using Petri Nets	Nacef TAZI (University of Technology of Troyes)*; Eric CHATELET (University of Technology of Troyes); Youcef BOUZIDI (University of Technology of Troyes); Abdel Ghani AISSAOUI (University of Bechar)	858-864
296	Application of Particle Swarm Optimization in the Design of Halbach Permanent Magnet Synchronous Generators for Megawatt Level Wind Turbines	Salem M Alshibani (PAAET)*	865-868

297	Short-term forecasting for solar irradiation based on the multi-layer neural network with the Levenberg-Marquardt algorithm and meteorological data: application to the Gandon site in Senegal	Willy Magloire Nkouna (Ecole Supérieure Polytechnique/Université Cheikh Anta Diop)*; Mouhamadou Falilou Ndiaye (Ecole Supérieure Polytechnique/Université Cheikh Anta Diop); Mamadou Lamine Ndiaye (Ecole Supérieure Polytechnique/Université Cheikh Anta Diop); Oumar CISSE (Ecole Supérieure Polytechnique/Université Cheikh Anta Diop); Mamadou BOP (Ecole Supérieure Polytechnique/Université Cheikh Anta Diop); Alexandre Sioutas (Ecole d'Ingenieurs/Université d'Angers)	869-874
298	A Novel Interleaved Ipsilateral Coupling High Step-Up DC-DC Converter for Renewable Energy Applications	Sung-Pei Yang (Kun Shan University)*; Meng-Jia Hong (Kun Shan University)	875-879
299	Virtual Oscillator Controller Optimisation Using Low-Bandwidth Communication	Cameron Wong (The University of Newcastle)*, Terrence J. Summers (The University of Newcastle), Robert E. Betz (The University of Newcastle), Jesse A. Cranney (The University of Newcastle)	880-884
300	Bidirectional Buck Three-Phase AC/DC Converter Using SiC MOSFETs	Shinichi Nishimi (Nagoya Institute of Technology)*; Takaharu Takeshita (Nagoya Institute of Technology)	885-890
301	A Wideband Fault Location Scheme for Active Distribution Systems	Fathy Aboshady (University of Nottingham)*; Mark Sumner (University of Nottingham); David Thomas (University of Nottingham)	891-896
302	Wind turbine and Batteries with Variable speed diesel generator for Micro-grid Applications	Lawan I Mai Moussa Gaptia (University Le Havre)*; Jacques Raharijaona (University of Le Havre); Mamadou B Camara (University Le Havre); brayima DAKYO (Université Le Havre)	897-901
305	Application of Solid-state Transformer for HVDC Transmission from Offshore Windfarm	Noriyuki Kimura (Osaka Institute of Technology)*; Toshimitsu Morizane (Osaka Institute of Technology); Isao Iyoda (Osaka Electro-Communication University); Kazushige Nakao (Fukui University of Technology); Tomoki Yokoyama (Tokyo Denki University)	902-907
311	Novel Control Method for An SRM Driven by Asymmetric Flying Capacitor Multilevel H-bridge Inverter	Noriyoshi Yamada (Tokyo University of Science)*; Nobukazu Hoshi (Tokyo University of Science)	908-913
312	Generalized Small-Signal Modelling of Dual Active Bridge DC/DC Converter	Osama Hebala (Robert Gordon University)*, Ahmed A. Aboushady (Glasgow Caledonian University), Khaled H. Ahmed (University of Strathclyde), Sam Burgess (Robert Gordon University), Radhakrishna Prabhu (Robert Gordon University)	914-919
313	A High Efficiency, Decoupled On-board Battery Charger with Magnetic Control	Adel Nasiri (University of Wisconsin Milwaukee)*; Yuqi Wei (University of Wisconsin-Milwaukee); Necmi Altin (UW-Milwaukee)	920-925
314	Development of a Power and Voltage Control Scheme for Multi-Port Solid State Transformers	Adel Nasiri (University of Wisconsin Milwaukee)*; Mehdy Khayamy (UW-Milwaukee); Necmi Altin (UW-Milwaukee)	926-932

319	New Coupled Model for Prediction of the Temperature Distribution in a PV Cell with a Hot Spot Induced by Partial Shading	Takayuki Yamamoto (National Institute of Technology, Ube College); Daisuke Wagi (National Institute of Technology, Ube College); Ikuro Nanno (National Institute of Technology, Ube College)*	933-937
320	Basic Study for Model Construction of The Water Recovery System in Polymer Electrolyte Fuel Cells	Sota Fujinuma (Tokyo university of science)*; Saori Ashida (Tokyo University of Science); Nobukazu Hoshi (Tokyo University of Science)	938-943
321	Smart Grid Integration of Renewable Energy Systems	Ahsan Shahid (University of Illinois at Chicago)*	944-948
322	Influence of Mutual Inductance Measurement for High Efficiency Wireless Power Transmission	Assyfa B. Ariffin (Tokai University); Mamiko Inamori (Tokai University)*	949-953
323	A Study on Transient Behavior of Off-gas Impurity Concentration from Metal Hydride	Saori Ashida (Tokyo University of Science)*; Noboru Katayama (Tokyo University of Science); Kiyoshi Dowaki (Tokyo University of Science); Mitsuo Kameyama (Japan Blue Energy Co., Ltd.)	954-959
324	Utilizing spare inverter capacity for distribution grid voltage support: an adaptive control scheme	Christopher J Rose (University of Nottingham)*; Mark Sumner (University of Nottingham); David Thomas (University of Nottingham)	960-967
329	A Constant Grid Interface Current Controller for DC Microgrid	Muhammad Alshareef (Aston University)*; Zhengyu Lin (Aston University)	968-972
330	Effect of Boric Acid Doped PEDOT:PSS Layer on the Photovoltaic Parameters of P3HT:PCBM Based PV Cell	Onder Eyecioglu (Nisantasi University)*; Ozlem Yagci (Yildiz Technical University); Murat Beken (Nisantasi University); Orhan Icelli (Yildiz Technical University)	973-975
335	Mission Profile Impact on Capacitor Reliability in PV Single-Stage Inverters	João M. Lenz (Federal University of Santa Maria)*; José Renes Pinheiro (Federal University of Santa Maria)	976-981
336	Improved Matlab Simulink two-diode model of PV module and Method of fast large-scale PV system simulation	Tai Le (French Alternative Energies and Atomic Energy Commission (CEA))* Franck Al Shakarchi, Tuan Tran Quoc	982-985
337	Energy Management in Electric Vehicle based on Frequency sharing approach, using Fuel cells, Lithium batteries and Supercapacitors	Ismail Oukkacha (GREAH Laboratory, University of Le Havre)*; Mamadou B Camara (University Le Havre); Brayima Dakyo (University Of Le Havre, France)	986-992
338	Modeling of the parabolic trough solar field with molten salt for the region of Tozeur in Tunisia	asma messadi (ENIM)*; Youssef Timoumi (ENIM)	993-997
339	MPPT Based Switched Reluctance Generator Control for a Grid Interactive Wind Energy System	Shefali Jagwani (BMS College of Engineering Bangalore)*; Gyanendra Kumar Sah (BMS College of Engineering, VTU); L Venkatesha (BMS College of Engineering)	998-1003
340	A Model for Flexibility Analysis of RESS with Electric Energy Storage and Reserve	Peyman Mazidi (Loyola Andalusia University)*; Nicholas Gregory Baltas (Loyola Universidad Andalusia); Moshtaba Eliassi (Loyola University Andalusia); Pedro Rodriguez (Loyola University Andalusia)	1004-1009
346	Support Vector Machine and Neural Network Applications in Transient Stability	Nicholas Gregory Baltas (Loyola Universidad Andalusia)*; Peyman Mazidi (Loyola Andalusia University); Francisco Fernandez (Loyola Universidad Andalusia); Pedro Rodriguez (Loyola University Andalusia)	1010-1015
347	Particle swarm optimization of a non-linear kalman filter for sensorless control of Induction motors	Marouane Rayyam (Dept. of Electrical Engineering, ENSET Mohammed V University in Rabat, Rabat)*; Malika Zazi (Dept. of Electrical Engineering, ENSET Mohammed V University in Rabat, Rabat)*	1016-1020
351	Software-Defined Networking for Improving Security in Smart Grid Systems	Sedef Gündüz (Gazi University)*; Seref Sagioglu (Gazi University)	1021-1026

352	Protection Coordination Practices for Industrial Ring Distribution Network, Case Study of Organized Industrial Zone	Abdulfetah Shobole (İstanbul Sabahattin Zaim Üniversitesi); Mustafa Baysal (Yildiz Technical University); Mohammed Wadi (İstanbul Sabahattin Zaim Üniversitesi)*; Mehmet Rıda Tur (Mardin Artuklu University)	1027-1031
355	Monitoring system of the main electric power generation plants using telecommunications networks in Ecuador	Daniel Icaza (Catholic University of Cuenca, Cuenca, Ecuador)*; Santiago Pulla (Catholic University of Cuenca, Cuenca, Ecuador); Sergio Mestas (Universidad Católica de Santa Maria)	1032-1037
360	A New strategy based Neural Networks MPPT controller for Five-phase PMSG based Variable-Speed Wind Turbine	Salah Eddine Rhaili (Mohammed V University in Rabat, Mohammadia school of engineering, Department Abbou (Electric Engineering Department, The Mohammadia School's of Engineers Mohammed V University Agdal Rabat); Saloua Marhraoui (Mohammadia school of engineering); Nezha El Hichami (Mohammadia School of Engineers (EMI), Mohammed V University in Rabat, Morocco)	1038-1043
363	A Novel System-Level Model for the Fuel Cell in a Strategic Context	Gomer Abel Rubio (ESPOL)*	1044-1048
364	Control of isolated DC/DC resonant converters for energy sharing between battery and supercapacitors	Mouncif Arazi (GREAH, University of Le Havre)*; Alireza Payman (University of Le Havre); Mamadou B Camara (University of Le Havre); Brayima Dakyo (University of Le Havre, France)	1049-1054
365	Synchrophasor Measurements for Control of Grid Interactive Energy Storage System Design alternatives for monitoring system	Roozbeh Torkzadeh (Loyola. Tech)*; Roozbeh Torkzadeh (Loyola University Andalusia); Moshtaba Eliassi (Loyola University Andalusia); Peyman Mazidi (Loyola Andalusia University); Pedro Rodriguez (Loyola University Andalusia)	1055-1060
368	Adaptive Neuro-Fuzzy Inference System application for the identification of a photovoltaic system and the forecasting of its maximum power point	alphousseyni ndiaye (université alioune diop de bambey)*; El hadji Mbaye EMN Ndiaye (UADB); Abdou Tankari Mahamadou (University of Paris Est Creteil, Certes Lab.); Lefebvre Gilles (University of Paris Est Creteil, Certes Lab.)	1061-1067
370	Event-Based Under-Frequency Inertia Emulation Scheme for Severe Conditions	Moshtaba Eliassi (Loyola University Andalusia)*; Pedro A. Betancourt Paulino (Loyola University Andalusia); Roozbeh Torkzadeh (Loyola University Andalusia); Pedro Rodriguez (Loyola University Andalusia)	1068-1073
372	Renewable Energy System for Small Water Desalination Plant	Maria D. Bellar (State University of Rio de Janeiro - UERJ)*; Rodrigo Vieira (Chemtech – A Siemens Business); José Paulo Cunha (State University of Rio de Janeiro - UERJ); Tiago Oliveira (State University of Rio de Janeiro - UERJ); Aluisio Bento (State University of Rio de Janeiro - UERJ)	1074-1079
375	A Capacitance Design Guideline of Snubber Capacitors for Soft Switching in Bi-directional Inductive Power Transfer System Considering Battery Charging Cycle	Ryosuke Ota (Tokyo University of Science)*; Dannisworo Sudarmo Nugroho (Tokyo University of Science); Nobukazu Hoshi (Tokyo University of Science)	1080-1085

378	Smart AC Storage based on Microbial Electrosynthesis Stack	Mahdi Shahparasti (Universitat Politecnica de Catalunya)*; Joan Rocabert (Universitat Politècnica de Catalunya (UPC) · BarcelonaTech); Raúl Santiago Muñoz Aguilar (Universitat Politècnica de Catalunya (UPC) · BarcelonaTech); Alvaro Luna (Universitat Politecnica de Catalunya); Pedro Rodriguez Cortes (Loyola University Andalucia)	1086-1091
379	Control Strategies Design for a Small-Scale Wind Turbine with a Doubly Fed Induction Generator	Mohamed Omran Ashglaf (University of Le Havre)*; Cristian Nichita (University of Le Havre); Brayima Dakyo ("UNIVERSITY OF LE HAVRE, FRANCE")	1092-1097
384	Improved performance of a PV solar panel with adaptive neuro fuzzy inference system ANFIS based MPPT	Amara Kari Karima (Engineering Advanced Technology Laboratory (LATAGE), Mouloud Mammeri University, Tizi-Ouzou, Algeria)*; Arezki FEKIK (Electrical Engineering Advanced Technology Laboratory (LATAGE),); Ali Malek (Centre de Développement des Energies Renouvelables, BP. 62 Route de l'Observatoire, Bouzareah 16340 Alger, Algeria.); El Bey Bourenane (Faculté des sciences Mirande France); Dalila Hocine (Electrical Engineering Advanced Technology Laboratory (LATAGE),); Toufik Bakir (Le2i Laboratory CNRS UMR 6306, University of Burgundy, Aile des Sciences de l'Ingénieur, 9 Avenue Alain Savary, BP 47870, 21078 Dijon, France .); HAMIDA Mohamed Lamine (UMMTO)	1098-1101
385	Optimized PIA Controller for Photovoltaic System Using Hybrid Particle Swarm Optimization and Cuttlefish Algorithms	Mariam Sameh (Future University in Egypt (FUE)); Mohamad A Badr (Future University in Egypt)*	1102-1108
387	From Solar Microgrid Simulation to Field Deployment: Accuracy and Uncertainties	Fabien Chidanand Robert (Amrita Vishwa Vidyapeetham)*; Sundararaman Gopalan (Amrita Vishwavidyapeetham)	1109-1114
388	Water and energy management based on fuzzy logic and linear programming for a photovoltaic/wind/battery pumping system in rural environment	Oumar CISSE (Ecole Supérieure Polytechnique/Université Cheikh Anta Diop)*; Mouhamadou Falilou Ndiaye (Ecole Supérieure Polytechnique/Université Cheikh Anta Diop); Willy Magloire Nkounga (Ecole Supérieure Polytechnique/Université Cheikh Anta Diop); Pape A. NDIAYE (Ecole Supérieure Polytechnique/Université Cheikh Anta Diop); Alexandre Sioutas (Ecole d'Ingenieurs/Université d'Angers)	1115-1120
389	Direct Power Control of a three-phase PWM-Rectifier based on Petri nets for the selection of Switching States	Arezki FEKIK (Electrical Engineering Advanced Technology Laboratory (LATAGE),)*; Hakim Denoun (University Mouloud Mammeri of Tizi Ouzou); Ahmad Taher Azar (Faculty of Computers and Information, Benha University, Egypt; Nanoelectronics Integrated Systems Center (NISC), Nile University, Cairo, Egypt.); Hamida Mohamed Lamine (UMMTO); Mahdi Atig (Electrical Engineering Advanced Technology Laboratory (LATAGE),); Malek Ghanes (Ecole Centrale de Nantes); Nacereddine Benamrouche (Université de Tizi Ouzou Alger); Jean-Pierre Barbot (Ecole Nationale Supérieure de l'Electronique et de ses Applications)	1121-1125

391	RSM Based Modelling for Mineral and Organic Acid Pretreatment of Coconut Pith using High Pressure Batch Reactor (HPBR)	Marttin Paulraj Gundupalli (Indian Institute of Technology Hyderabad)*; Nishanth Senthilkumar (National Institute of Technology Thiruchirappalli); Debraj Bhattacharyya (IIT Hyderabad)	1126-1134
392	Reduction of Transmission Power Error and Current for Dual Active Bridge DC-DC Converter in Energy Storage Systems	Jun-ichi Itoh (Nagaoka University of Tec.); Kengo Kawauchi (Nagaoka University of Technology)*; Hiroki Watanabe (Nagaoka University of Technology); Keisuke Kusaka (Nagaoka University of Technology)	1135-1140
393	Wind power harnessing of an integrated HESG-based wind conversion system model	Amina Mseddi (Cergy Pontoise University)*; Sandrine Le Ballois (Cergy Pontoise University); Helmi Aloui (National School of Electronics and Telecommunications of Sfax); Lionel Vido (SATIE, Univ. de Cergy-Pontoise)	1141-1146
394	T-type NPC Inverter with Active Power Decoupling Method using Discontinuous Current Mode for Micro-Inverter	Akiyoshi Omomo (Nagaoka University of Technology)*; Jun-ichi Itoh (Nagaoka University of Tec.); Keisuke Kusaka (Nagaoka University of Technology)	1147-1152
395	Performance-Improved Maximum Power Point Tracking Control for PV System	Kazuhiro Kajiwara (Nagasaki Institute of Applied Science); Hyuga Tomura (Nagasaki Institute of Applied Science)*; Nobumasa Matsui (Nagasaki Institute of Applied Science); Fujio Kurokawa (Nagasaki Institute of Applied Science)	1153-1156
398	Interconnection and Damping Assignment Passivity Based Control for Power Sharing in Islanded Micro-Grids	Nidhal Khefifi (University of Nantes)*; Azeddine Houari (University of Nantes); Machmoum Mohamed (Nantes University); Malek Ghanes (Ecole centrale de Nantes)	1157-1161
399	Mismatch Loss Analysis of PV Array Configurations Under Partial Shading Conditions	Balaji Veerasamy (Jimma Institute of Technology)*; Takaharu Takeshita (Nagoya Institute of Technology); Aberra Jote (JIT, Jimma University); Tefera Mekonnen (JIT, Jimma University)	1162-1167
400	Experimental Discussion on Duty Ratio Obtaining Higher Efficiency for Cascaded Three-stage Boost Converter for Fuel Cells	Ko Takahashi (Tokyo University of Science)*; Sota Fujinuma (Tokyo university of science); Nobukazu Hoshi (Tokyo University of Science)	1168-1173
401	Verification of Load Frequency Control Using H_{∞} Control	Kensyu Niimi (Aichi Institute of Technology)*; Kazuto Yukita (Aichi Institute of Technology); Toshiro Matsumura (Aichi Institute of Technology); Yasuyuki Goto (Aichi Institute of Technology)	1174-1178
402	Kernel Density Estimation for Stochastic Modeling of PV Power Output	Sergei Trashchenkov (Pskov State University)*; Sergio Pires Pimentel (Federal University of Goias); Victor Astapov (Tallinn University of Technology); Andres Annuk (Estonian University of Life Sciences); Enes Goncalves Marra (Federal University of Goias)	1179-1183
404	Wavelet Based Transmission Line Protection Scheme Using Centroid Difference and Support Vector Regression	Amit Kumar Gangwar (Indian Institute of Technology, JODHPUR)*; Prof. Abdul Gafoor (IIT Jodhpur)	1184-1189
408	Design of control unit in PMSG based small-scale wind turbine for power factor correction	Ibrahim Bilge Karpuzoğlu (Istanbul Technical University); Abdullah Polat (Istanbul Technical University); Lale T Ergene (Istanbul Technical University)*	1190-1195

411	RESCoin to improve Prosumer Side Management into Smart City	Mariacristina Roscia ("University of Bergamo, Italy"); George Cristian Lazaroiu (University Politehnica of Bucharest)	1196-1201
414	Multilevel Single Phase Isolated Inverter with Reduced Number of Switches	Cristian Verdugo (Universitat Politècnica de Catalunya)*; Jose Ignacio Candela (Universitat Politècnica de Catalunya); Mohamed Elsharty (Universitat Politècnica de Catalunya); Pedro Rodriguez (Loyola University Andalusia)	1202-1208
415	Stability Analysis of a Grid-Connected VSC Controlled by SPC	Leonardo V. Marin (Polytechnic University of Catalonia)*; Andres Tarraso (Polytechnic University of Catalonia); Jose Ignacio Candela (Universitat Politècnica de Catalunya); Pedro Rodriguez (Loyola University Andalusia)	1209-1214
418	A New Load Prediction Method and Management of Distributed Power System in Island Mode of a Large Hospital	Yuji Mizuno (Nagasaki Institute of Applied Science)*; Teppei Baba (Nagasaki Institute of Applied Science); Yoshito Tanaka (Nagasaki Institute of Applied Science); Masaharu Tanaka (Nagasaki University); Fujio Kurokawa (Nagasaki University); Ilhami Colak (Nisantasi University); Nobumasa Matsui (Nagasaki Institute of Applied Science)	1215-1220
419	Qualitative Model of Control in the Pressure Stabilization of PEM Fuel Cell	Wilton Edixon Agila (ESPOL)*, Gomer Rubio, L. Miranda, L. Vazquez	1221-1226
421	Solar PV Energy System Based on Series Interleaved Three-Level Boost Converter and Five-Level MLC ² Inverter	Maria D. Bellar (State University of Rio de Janeiro - UERJ)*; Rodrigo Florencio (Department of Underwater Acoustics, Research Institute of Brazilian Navy (IEAPM)); Aluisio Bento (State University of Rio de Janeiro - UERJ)	1227-1232
422	Application of Model Predictive Control in Modular Multilevel Converter for MTPA Operation and reduced Switching Losses	Mohit Sharma (San Jose State University); Mohamed Badawy (San Jose State University)*	1233-1239
425	Modeling, Simulation and Construction of a Wind Turbine With Chain Multiplication System, Destined to Rural Areas of the Canton Cuenca - Ecuador	Daniel Icaza (Catholic University of Cuenca, Cuenca, Ecuador)*; Santiago Pulla (Catholic University of Cuenca, Cuenca, Ecuador); Fernando Icaza (De la Salle, Cuenca, Ecuador)	1240-1246
428	Impacts of supercapacitors on battery lifetime in hybrid energy storage system on DC microgrid in building integrated photovoltaic	Margot M Gaetani-Liseo (LAAS-CNRS)*; Corinne Alonso (LAAS); Bruno Jammes (LAAS-CNRS Université Paul Sabatier)	1247-1252
429	Load Frequency Control of Two Area Interconnected Power System Using Fuzzy Logic Control and PID Controller	Mehmet Rida TUR (Mardin Artuklu University)*; Mohammed Wadi (Istanbul Sabahattin Zaim University); Abdulfetah Shobole (Istanbul Sabahattin Zaim University); Selim Ay (Yildiz Teknik University)	1253-1258
430	Methodology for Analyzing of a Grid Weakness and Resiliency Factors – case of Niger National Grid	Garba Marou (CERTES Laboratory, University of Paris-Est Creteil)*; Abdou Tankari Mahamadou (University of Paris Est Creteil, Certes Lab.); Lefebvre Gilles (University of Paris Est Creteil, Certes Lab.)	1259-1265
432	Optimal sizing and location of the power plant in multi-villages microgrid	Nouhou Bako Zeinabou (University of Maradi)*; Abdou Tankari Mahamadou (University of Paris Est Creteil, Certes Lab.); Lefebvre Gilles (University of Paris Est Creteil, Certes Lab.); Amadou Seidou Maiga (University of Gaston Berger)	1266-1275

433	Grid synchronization and injection control of HRES power generation	Jura Arkhangelski (University of Paris Est Creteil, Certes Lab.)*; Pedro Roncero (University of Castilla-La Mancha); Abdou Tankari Mahamadou (University of Paris Est Creteil, Certes Lab.); Lefebvre Gilles (University of Paris Est Creteil, Certes Lab.); Molina-Martínez Emilio J. (University of Castilla-La Mancha)	1276-1281
434	A Novel Ensemble Approach for Solving the Transient Stability Classification Problem	Nicholas Gregory Baltas (Loyola Universidad Andalucia)*; Carlos Perales (Universidad Loyola Andalucía); Peyman Mazidi (Loyola Andalucía University); Francisco Fernandez (Loyola Universidad Andalucia); Pedro Rodriguez (Loyola University Andalusia)	1282-1286
435	Assessment of CO2 Emissions on Platform Supply Vessels for Distinct Battery Dispatch	Cesar O Peralta (University of Sao Paulo); Rodrigo J Vale (University of São Paulo); Giovanni Giulio T. T. Vieira (University of Sao Paulo); Mauricio B C Salles (University of Sao Paulo)*; Bruno Carmo (University of Sao Paulo)	1287-1291
437	Smart and resilient City and IoT towards Urban Sustainability of Africa	Mariacristina Roscia ("University of Bergamo, Italy")*; George Cristian Lazaroiu (University Politehnica of Bucharest)	1292-1298
439	Study of Photovoltaic Cells Implantation in a Long-Endurance Airplane Drone.	Vincent VB Boitier (LAAS CNRS)*; Salvétat Laurent (Lycée d'Artagnan Nogaro); Martinez Viviana (ISAE SUPAERO); Michael Bressan (UniAndes); Corinne Alonso (LAAS); boitier boitier (boitier)	1299-1303
444	Optimization Design of Low-pass Filter in Sensorless Static Model Control for Wide Input Wind Power System	Fujio Kurokawa (Nagasaki Institute of Applied Science); Masashi Taguchi (Nagasaki University)*; Jizhe Wang (Nagasaki University); Hidenori Maruta (Nagasaki University); Nobumasa Matsui (Nagasaki Institute of Applied Science)	1304-1309
445	Predictive Boundary Conduction Mode PFC Converter with Optimized Variable On-time Control for Driving LED Lighting	Jizhe Wang (Nagasaki University)*; Haruhi Eto (Nagasaki University); Fujio Kurokawa (Nagasaki Institute of Applied Science)	1310-1314
447	A Decentralized Adaptive Scheme for Protection Coordination of Microgrids Based on Team Working of Agents	Adel Nasiri (University of Wisconsin Milwaukee)*; Hesamedin Sadeghi (Amirkabir University of Technology); Seyed Amir Hosseini (Amirkabir University of Technology)	1315-1320
448	Stability of Digital Hysteresis Current Mode Buck Converter for DC Distribution System	Kazuhiro Kajiwara (Nagasaki Institute of Applied Science); Kosuke Yamasaki (Nagasaki Institute of Applied Science)*; Nobumasa Matsui (Nagasaki Institute of Applied Science); Fujio Kurokawa (Nagasaki Institute of Applied Science)	1321-1324
449	Experimental Verification of DC Bus Voltage Stability for Household Distributed Power System with Micro EV Battery	Shinichiro Hattori (Isahaya Electronics Corporation)*; Haruhi Eto (Nagasaki University); Jizhe Wang (Nagasaki University); Fujio Kurokawa (Nagasaki Institute of Applied Science)	1325-1329
451	Characterization and electric behavior modeling of Lithium-battery using temporal approach for parameters computing	Kosseila Bellache (University of Le Havre)*; Mamadou B Camara (University Le Havre); Brayima Dakyo (Universit Le Havre)	1330-1335
452	Peer to Peer Business Model Approach for Renewable Energy Cooperatives	Gurkan Soykan (Bahcesehir University)*; Burak Denktas (Bahcesehir University); Samed Pekdemir (Bahcesehir University)	1336-1339

453	Impedance Source Interlinking Converter for Microbial Electrosynthesis Energy Storage Applications	Mahdi Shahparasti (Universitat Politècnica de Catalunya)*; Joan Rocabert (Universitat Politècnica de Catalunya (UPC) · BarcelonaTech); Raúl Santiago Muñoz Aguilar (Universitat Politècnica de Catalunya (UPC) · BarcelonaTech); Alvaro Luna (Universitat Politècnica de Catalunya); Pedro Rodriguez (Loyola University Andalusia)	1340-1345
454	Effect of the Complexing Agents on the Properties of Electrodeposited CZTS Thin Films	Sara Azmi (Laboratory of Physical chemistry and bioorganic chemistry faculty of sciences and technics Mohammedia Morocco)*; Mohamed Nohair (Laboratory of Physical chemistry and bioorganic chemistry faculty of sciences and technics Mohammedia Morocco); Mohssin el Marakchi (Laboratory of Physical chemistry and bioorganic chemistry faculty of sciences and technics Mohammedia Morocco); Manuele Dabala (University of Padova); El Mati Khoumri (Laboratory of Physical chemistry and bioorganic chemistry faculty of sciences and technics Mohammedia Morocco)	1346-1351
457	Simplicity and Performance of Direct Current Control DCC Compared with other Identification Algorithms for Shunt Active Power Filter	Ahmed Bouhouta (Research Laboratory of Electrical Engineering & Automatic, LREA, University of Médéa); Samir Moulahoum (University of Médéa)*; Nadir Kabache ("Research Laboratory LREA, University of Médéa"); Ilhami Colak (Nisantasi University)	1352-1357
460	Multi-staged PID Controller Tuned by Invasive Weed Optimization Algorithm for LFC Issues	Nimai Charan Patel (Government College of Engineering, Keonjhar, Odisha); Manoj Kumar Debnath (Siksha 'O' Anusandhan University); Binod Kumar Sahu (Siksha 'O' Anusandhan University, Bhubaneswar, Odisha.); Dr.S.S Dash (SRM University)*; Ramazan Bayindir (Gazi University)	1358-1362
461	ANN-PSO Optimization of PV Systems Under Different Weather Conditions	Adedayo M Farayola (University of Johannesburg)*; Yanxia Sun (University of Johannesburg); Ahmed Ali (University of Johannesburg)	1363-1368
464	A Fuzzy Controller for Stabilization of Asynchronous Machine	Abdelkader Harrouz (University of Draïa); Kadouri Nourdine (LEESI laboratory); Korhan Kayisli (Nisantasi University)*; Halil Ibrahim BULBUL (Gazi University); Ilhami Colak (Nisantasi University)	1369-1373
466	Social Acceptance of Microgrids Dedicated to Electric Vehicle Charging Stations	Manuela Sechilariu (UTC/AVENUES)*; Fabrice Locment (UTC/AVENUES); Nathalie Darene (UTC/COSTECH)	1374-1379
467	Comparative Study between CSP and CPV as Two Energy Systems	Abdelkader Harrouz (University of Draïa); Ilyas Daouali (Draïa University); Korhan Kayisli (Nisantasi University)*; Halil Ibrahim Bulbul (Gazi University); Ilhami Colak (Nisantasi University)	1380-1383
470	Digital Control DC-DC Converter with Novel DPWM Signal Generator for Renewable Energy System	Yudai Furukawa (Fukuoka University)*; Hirokazu Nakamura (Nagasaki University); Haruhi Eto (Nagasaki University); Tadashi Suetsugu (Fukuoka University); Fujio Kurokawa (Nagasaki Institute of Applied Science)	1384-1388
471	The ANFIS as a Prediction Method of Efficiency of PV Cells	Murat BEKEN (Beykent Üniversitesi)*; Onder Eyecioglu (Nisantasi University); Korhan Kayisli (Nisantasi University); Ozlem Yagcı (Yildiz Technical University); Orhan Icelli (Yildiz Technical University)	1389-1391

472	Real Time Operation of Smart Homes with PV and Battery Systems under Variable Electricity Rate Schedules and Transactive Power Flow	Huangjie Gong (University of Kentucky)*; Oluwaseun Akeyo (University of Kentucky); Vandana Rallabandi (University of Kentucky); Dan M Ionel (University of Kentucky)	1392-1395
473	Power Utility Tests for Multi-MW High Energy Batteries	Oluwaseun Akeyo (University of Kentucky)*; Huangjie Gong (University of Kentucky); Nicholas Jewell (LG&E KU, Louisville, KY); Vandana Rallabandi (University of Kentucky); Dan M Ionel (University of Kentucky)	1396-1399
474	Design of an Intelligent Peak Power Converter for Solar Plants with Lead–acid Battery	Abdelhakim Belkaid (Bordj Bou Arreridj University)*; Ilhami Colak (Nisantasi University); Korhan Kayisli (Nisantasi University); Ramazan Bayindir (Gazi University)	1400-1406
476	Integration Challenges and Solutions for Renewable Energy Sources, Electric Vehicles and Demand-Side Initiatives in Smart Grids	Mehmet Yesilbudak (Nevsehir Haci Bektas Veli University)*; Ayse Colak (Cankaya University)	1407-1412
478	Simulation Studies for a Multi-MW Hybrid Wind-Solar PV System for Desalination Plants	Vandana Rallabandi (University of Kentucky)*; Nasser Alawhali (University of Kentucky); Oluwaseun Akeyo (University of Kentucky); Dan M Ionel (University of Kentucky)	1413-1416
479	Fundamental Experiment of 3-phase Electric Coupling Wireless Power Transfer	Fumiya Hattori (Nagoya University)*; Jun Imaoka (Nagoya University); Masayoshi Yamamoto (Nagoya University); Mitsuru Masuda (Furukawa Electric Co., Ltd.)	1417-1422
481	Virtual Impedance Impact on Inverter Control Topologies	Walid Issa (Sheffield Hallam University); Ahmad Elkhateb (Queens University Belfast)*	1423-1428
482	Improvement of the water level assessment of wind pumping system	Oifa Gam (ENIM)*; Riadh Abdelati (Department of Electrical Engineering, Unit ESIER, National School of Engineers of Monastir, University of Monastir, Tunisia); Abdou Tankari Mahamadou (University of Paris Est Creteil, Certes Lab.), Mohamed Faouzi Mimouni (National School of Engineers of Monastir, University of Monastir, Tunisia)	1429-1434
485	Model-Based development of solar-to-hydrogen conversion system with dynamic operating point control of multiple DC-DC converters	Yu Yonezawa (Fujitsu laboratories ltd.)*; Atsushi Manabe (FUJITSU Advanced Technologies Ltd.); Hiroshi Nakao (Fujitsu laboratories ltd. / Nagasaki University); Hideki Takauchi (Fujitsu laboratories ltd.); Yoshiyasu Nakashima (Fujitsu laboratories Ltd.); Hiroji Ebe (Fujitsu Laboratories Ltd., (Presently Japan Science and Technology Agency)); Daiji Yamashita (The University of Tokyo); Masakazu Sugiyama (The University of Tokyo); Yasuyuki Ota (University of Miyazaki); Kensuke Nishioka (University of Miyazaki)	1435-1440

487	Designing national R&D planning framework in Korean government: Focusing on Smart Grid	Sanggook Kim (Korea Institute of Science and Technology Information)*; Woondong Yeo (Korea Institute of Science and Technology Information); Dongkyu Won (Korea Institute of Science and Technology Information); Hyuk Hahn (Korea Institute of Science and Technology Information); Bangrae Lee (Korea Institute of Science and Technology Information); Jungsun Lim (Korea Institute of Science and Technology Information); Kwanghoon Kim (Korea Institute of Science and Technology Information)	1441-1444
492	Investigation on thermo-physical properties of molten salt enhanced with nanoparticle and copper foam	Xin Xiao (University of Leeds)*; Dongsheng Wen (University of Leeds)	1445-1449
493	Synergistic Approach for Combining SVM Algorithms for Wind Speed Prediction	Arif Wani (University of Kashmir)*; Heena Farooq (University of Kashmir)	1450-1455
494	A New Position Specific Scoring Vector Based Approach for Wind Speed Prediction	Arif Wani (University of Kashmir)*; Heena Farooq (University of Kashmir)	1456-1459
498	Control of a Wind Energy Conversion System using the Energetic Macroscopic Representation	Alireza Payman (Lehavre Univ)*; abdoulaye koita (Universit Le Havre); Brayima Dakyo (Universit Le Havre); daniel hissel (Université Bourgogne Franche-Comté)	1460-1465
500	Active distribution grids and EV charging stations: a centralized approach for their integration	S. Cochi (University of Rome Sapienza), Maria Carmen Falvo (University of Rome Sapienza)*, M. Manganelli (University of Rome Sapienza), G. Caneponi (Enel Group), F. Cazzato (Enel Group), M. Di Clerico(Enel Group)	1466-1471
503	Very Short-Term Estimation of Global Horizontal Irradiance Using Data Mining Methods	Medine Colak (Gazi University)*; Mehmet Yesilbudak (Nevsehir Haci Bektas Veli University); Ramazan Bayindir (Gazi University)	1472-1476
513	Multiobjective optimization of Grid – Photovoltaic – Electric Vehicle Hybrid system in Smart Building with Vehicle-to-Grid (V2G) concept	Harun Turker (Turker Ar-Ge Smart Grid Ltd sirketi, Bozok University Teknopark, Yozgat)*; Ilhami Colak (Nisantasi University)	1477-1482
514	Optimal Peak Shaving with Vehicle-to-Grid Capability of Electric Vehicles in Smart Grids	Harun Turker (Turker Ar-Ge Smart Grid Ltd sirketi, Bozok University Teknopark, Yozgat)*; Ilhami Colak (Nisantasi University)	1483-1488
516	Algorithmic Approach for Slot Filling Factors Determination in Electrical Machines	Rosario Miceli (University of Palermo); Massimo Caruso (University of Palermo); Antonino Oscar Di Tommaso (University of Palermo); Claudio Nevoloso (University of Palermo)*	1489-1494
517	High Performance FOC for Induction Motors with Low Cost ATSAM3X8E Microcontroller	Vincenzo Castiglia (University of Palermo); Antonino Oscar Di Tommaso (University of Palermo)*; Rosario Miceli (University of Palermo); Claudio Nevoloso (University of Palermo)	1495-1500
520	A Constrained Optimal Model Predictive Control for Mono Inverter Dual Parallel PMSM Drives	Rosario Miceli (University of Palermo)*; Luigi Pio Di Noia (University of Naples Federico II); Renato Rizzo (University of Naples Federico II)	1501-1507

521	Improving High Frequency Transformers Behavior for DC-DC Converter Used in Electric Vehicles	Rosario Miceli (University of Palermo)*; Luigi Pio Di Noia (University of Naples Federico II); Renato Rizzo (University of Naples Federico II); edit Luigi Piegari (Politecnico di Milano)	1508-1513
522	Stabilization of a DC-Link of Microgrids feeding a Inverter-BLDC motor drive using a PI-Fuzzy	Ramazan Bayindir (Gazi University)*; Mohammed Kh. Al-Nussairi (University of Misan)	1514-1519