

# **2018 International Conference on Electrical Sciences and Technologies in Maghreb (CISTEM 2018)**

**Algiers, Algeria  
28-31 October 2018**

**Pages 1-490**



**IEEE Catalog Number: CFP18VVH-POD  
ISBN: 978-1-5386-4989-3**

**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:	CFP18VVH-POD
ISBN (Print-On-Demand):	978-1-5386-4989-3
ISBN (Online):	978-1-5386-4988-6

**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](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

CURRAN ASSOCIATES INC.  
**proceedings**  
.com

## Table of Contents

Modelling and Measurement of Electromagnetic Shielding Effectiveness .....	1
<i>Merizgui Tahar, Hadjadj Abdechafik and Kiouss Mecheri</i>	
Synchrophasor Estimation Based on The Combination of The Modulated Sliding DFT and Taylor's Series Expansion .....	7
<i>Billal Khettaoui and Mohamed Boudour</i>	
Influence of Insulating Barrier on the Electric Field Distribution in a Point-Plane Air Gap using COMSOL Multiphysics .....	13
<i>Mohamed Abdelghani Benziada, Ahmed Boubakeur and Abdelouahab Mekhaldi</i>	
Conduction and FT-IR spectroscopy to Study the Metal/liquid Contact .....	18
<i>Abdeslem Beldjilali, Abdelhamid Ouslimane, Nadia Saidi Amroun and Mohamed Saidi</i>	
A neutral point balancing problem in a three- Level inverter analyzed using a redundant Algorithm .....	22
<i>Mounira Ali, Abdelaziz Talha and El Madjid Berkouk</i>	
Leader-follower formation control using PI controller .....	28
<i>Halima Medjoubi, Hassam Abdelouahab and Touafek Mohamed Yaakoub</i>	
High Impedance Faults Location in the Distribution Networks using Adaptive Neuro-Fuzzy Inference System .....	32
<i>Abdelhakim Bouricha, Tahar Bouthiba, Rebiha Boukhari and Samira Seghir</i>	
Evaluating semi-empirical models for global solar radiation on inclined surfaces in south of Algeria .....	37
<i>Talbi Khaoula and Harrouni Samia</i>	
Graph Matching and Generalized Median Graph for Automatic Annotation of Cortical Sulci .....	43
<i>Hichem Felouat and Saliha Oukid-Khouas</i>	
Fuzzy Logic Control of Multi-Phase Induction Machine Drives Based on Cascaded Hybrid Multi-level Inverters .....	49
<i>Zaidi Elyazid, Marouani Khoudir and Mabrek Abdelhakim</i>	
Fault Arc Resistance Impact on Fault Location in High Voltage Transmission line .....	55
<i>Seghir Samira, Bouthiba Tahar, Boukhari Rebiha and Bouricha Abdelhakim</i>	
Modeling and Analyzing Energetic Hysteresis Classical Model .....	61
<i>Aboura Faouzi and Touhami Omar</i>	
Conception and Analysis of a Photovoltaic Microgrid in the USTO Campus .....	66
<i>Nessim Abderrahim Bourahla, Mustapha Benghanem and Hamid Bouzeboudja</i>	
Implementation of a Numerical Over-current Relay Using LabVIEW and Acquisition Card	72
<i>Yacine Ayachi Amor, Noureddine Ayachi Amor, Hamid Bentarzi and Farid Hamoudi</i>	
Implementation of Modified SVPWM for Three-level Inverter Using STM32F4 .....	77
<i>Yacine Ayachi Amor, Aissa Kheldoun, Brahim Metidji, Farid Hamoudi, Abdeslam Merazka and Youssouf Lazouche</i>	

Commande Tolérante aux défauts de la Machine Asynchrone en Tenant Compte des Défauts .....	83
<i>Saad Khadar and Abdellah Kouzou</i>	
Nonlinear PD control of a Parallel Delta robot: Experimentals Results .....	90
<i>Chems Eddine Boudjedir, Djamel Boukhetala and Mohamed Bouri</i>	
Composite Insulators in a 400 kV AC Line in Algeria for Improving Electric Field Distribution.....	94
<i>Mohamed Bouhaouche, Abdelouahab Mekhaldi and Madjid Tegar</i>	
Temperature and Pressure Effect of PEM Fuel Cell Behavior for Urban Electric Vehicle Moving in Hottest Region Under Several Road Topologies. ....	99
<i>Nair Nouria, Gasbaoui Brahim and Ghezouani Abdelkader</i>	
PyPS: An Open Source Large Scale Power System Small Signal Analysis Software Package	107
<i>Gacem Yasmina, Hellal Abdelhafid and Ladjici Ahmed Amine</i>	
On the Performance of FPGA Implementation of Block Matching Algorithms for Video Motion Estimation .....	113
<i>Kamel Laidi and Mokhtar Nibouche</i>	
Modeling and Sliding Mode DTC of an EV with Four InWheel Induction Motors Drive ..	118
<i>Abdelkader Ghezouani, Brahim Gasbaoui and Jemal Ghouili</i>	
Feature selection applied to wavelet packet transform for an efficient EEG signal classification .....	127
<i>Mohamed Amine Hadj-Youcef, Assya Bousbia-Salah and Mourad Adnane</i>	
The effect of Sb <sub>2</sub> O <sub>3</sub> content on the microstructure and electrical properties of (Mn <sub>2</sub> O <sub>3</sub> , V <sub>2</sub> O <sub>3</sub> )/ZnO varistor materials .....	133
<i>Kharchouche Faiçal and Belkhiat Saâd</i>	
The effect of BaTiO <sub>3</sub> content on the microstructure and electrical properties of Bi <sub>2</sub> O <sub>3</sub> /ZnO varistor materials.....	138
<i>Kharchouche Faiçal and Belkhiat Saâd</i>	
DPC Method For Grid Connected Photovoltaic System Acts as a Shunt Active Power Filter Implemented with Processor in the Loop.....	144
<i>Brahim Elkhalil Youcefa, Ahmed Massoum, Said Barkat, Saad Bella and Patrice Wira</i>	
Intensification d'extraction de l'huile essentielle d'Artemisia herba alba par champ électrique pulsé .....	151
<i>Kaddour Miloudi, Amar Tilmatine, Youcef Benmimoun, Abderrahmane Hamimed, Ahmed Taibi and Yacine Bellebna</i>	
Behaviour of Cross-linked Polyethylene Used as High Voltage Power Cables Insulation Due to Environmental Constraints .....	156
<i>Hedir Abdallah, Moudoud Mustapha, Rondot Sébastien, Jbara Omar, Slimani Ferhat and Bellabas Ferhat</i>	
Real-Time Hybrid Control of Induction Motor Using Sliding Mode and PI Anti-Windup ..	160
<i>Bilel Aichi, Mohamed Bourahla and Khedidja Kendouci</i>	

Etude expérimentale d'un générateur d'ozone à décharge plane double destiné au traitement des eaux.....	166
<i>Nassour Kamel, Tilmatine Amar, Brahami Mostefa and Nemmich Said</i>	
Assessment of composite insulator's behavior during the aging of its housing material.....	174
<i>Yacine Abderrahmane Bencherif, Adelouahab Mekhaldi, Jaques Lobry and Marjorie Olivier</i>	
Molecular & Macroscopic Characterization of EPDM's Aging Used for Outdoor High Voltage Insulators.....	179
<i>Yacine Abderrahmane Bencherif, Adelouahab Mekhaldi, Jaques Lobry, Marjorie Olivier and Marc Poorteman</i>	
Conducted EMI Prediction in DC/DC Converter Using Frequency Domain Approach ....	184
<i>Benhadda Nassireddine, Chikhi Nawel, Bendaoud Abdelber, Dahak Abdelkader and Belhenini Soufyane</i>	
Robust Backstepping Control With Integral Action of IPM Synchronous Motor.....	190
<i>Salah Nadj, Samira Benaicha, Nassereddine Sabeur and Faradla Mohd Zaihidee</i>	
Optimal PMU placement for small-signal stability assessment using Genetic algorithm....	196
<i>Toufik Tarif, Ahmed Amine Ladjici and Yasmina Chabane</i>	
Improved control strategy for a stand-alone DFIG under unbalanced load conditions.....	202
<i>Fateh Abdoune, Kaddour Abdoune and Djamel Aouzellag</i>	
Speech Enhancement Using Compressed Sensing-based method.....	208
<i>Houria Haneche, Bachir Boudraa and Abdeldjalil Ouahabi</i>	
Automation and Advanced System Control of an Industrial Production Process using Fuzzy Logic.....	214
<i>Hanane Zermane and Rachad Kasmî</i>	
The Non Linear Multivariable Control of an Asynchronous Machine.....	221
<i>Moulay Fatima and Habbatti Assia</i>	
Speed Control of Series-Connected Five-Phase Two PMSM using Sliding Mode Control...	227
<i>Fayçal Mehedi, Lazhari Nezli and Mohand Oulhadj Mahmoudi</i>	
Analysis of reference current identification strategies for shunt active filter under distorted load conditions.....	233
<i>Ali Teta, Mohamed Mounir Rezaoui, Abdellah Kouzou, Abdelkader Azzeddine Laouid and Bensaoucha Saddam</i>	
Automatic Language Identification for Berber and Arabic languages using Prosodic Features.....	239
<i>Khaled Lounnas, Lyes Demri, Hocine Teffahi and Leila Falek</i>	
SOGI-FLL Based Optimal Current Control Scheme for Single-Phase Grid-Connected Photovoltaic VSIs with LCL Filter.....	243
<i>Ahmed Bendib, Abdelhammid Kherbachi, Kamel Kara, Aissa Chouder and Said Barkat</i>	
Applying hybrid "CD-CNN-HMM" model for keywords spotting in continuous speech ....	249
<i>Hinda Dridi and Kais Ouni</i>	

Hands-Free Communication Improvement in Airplane by a New Dual RNQ Adaptive Algorithm.....	256
<i>Bentahar Abdessamed, Benghanem Yahia and Djendi Mohamed</i>	
Integral Backstepping Control for Double Star Induction Machine (DSIM).....	260
<i>Noureddine Layadi, Samir Zeglache, Ali Djerioui, Azeddine Houari, Mohamed-Fouad Benkhoris and Fouad Berrabah</i>	
Wavelet Functions Performances in Intelligent Direct Adaptive Control of Uncertain Nonlinear Systems.....	266
<i>Kheira Kahili, Omar Bouhali and Nassim Rizoug</i>	
Microscopie en champ proche pour le diagnostic et la caracterisation de matériaux.....	272
<i>Dihya Mezdad, Hakim Kharroubi, Tarik Berbar and Azzedine Nacer</i>	
Global maximum power point tracking of a PV system MPPT control under partial shading.....	277
<i>Brahim Khalil Oubbati, Mohamed Boutoubat, Mohammed Belkheiri and Abdelhamid Rabhi</i>	
Optimal Dynamic Equivalence Based on Multi-Objective Formulation.....	283
<i>Benmiloud Omar and Arif Salem</i>	
Cyclic Reports Modulation Control Strategy for a Five Cells Inverter.....	289
<i>Mohamed Lamine Hamida, Hakim Denoun, Arezki Fekik, Nabil Benyahia and Nacerddine Benamrouche</i>	
Synthesis of swarm based algorithms for the design of LFC in interconnected power Systems.....	294
<i>Yousfi Boutheina, Delassi Abdelmouméne and Arif Salem</i>	
Etude Expérimentale de l'influence des Longueurs de Câble sur les Perturbations Conduites d'un Convertisseur DC/DC de type Buck.....	300
<i>Benazza Baghdadi, Bendaoud Abdelber and Jean Luck Schanen</i>	
A Simultaneous Resolution Method for Coupling Field_Circuit Equations for Steady-State Skin Effect Problems.....	306
<i>Bali Habiba, Hafsaoui Ilhem and Makhlouf Badr</i>	
Neural Networks trained with Sliding Mode Control for DSIM Supplied by Two Voltage Inverters on Three Levels.....	312
<i>Khaled Sahaoui, Aissa Ameer and Katia Kouzi</i>	
Decrease of the resonance phenomenon effect and progress of the piezoelectric sensor correctness.....	318
<i>Zine Ghemari</i>	
Reliability Assessment of Redundant Electrical Power Supply Systems using Fault Tree Analysis, Reliability Block Diagram, and Monte Carlo Simulation Methods.....	323
<i>Rabah Benabid, Djemai Merrouche, Aissa Bourenane and Robertas Alzbutas</i>	
Configuration of Three-phase to Eleven-phase Power Transformer.....	330
<i>Abdelmalik Djebli, Omar Touhami and Rachid Ibtouen</i>	

Modeling of a Superconducting Radial Flux Inductor by a 3D Reluctance Network .....	336
<i>Moussa Kelouaz, Youcef Ouazir, Larbi Hadjout, Smaïl Mezani, Thierry Lubin, Kévin Berger and Jean Lévêque</i>	
Calcul analytique de l'inductance d'une bobine dans un circuit ferromagnétique en présence d'une pastille supraconductrice.....	341
<i>Elbaa Mohamed, Berger Kévin, Douine Bruno, Halit Mohamed, Bentriddi Salah-Eddine and Aïlam El Hadj</i>	
Vector control of doubly-fed induction machine for stand-alone variable speed energy system.....	346
<i>Kaddour Abdoune, Fateh Abdoune and Djamel Aouzellag</i>	
Vibration suppression for flexible satellite during attitude stabilization.....	352
<i>Jalal Eddine Benmansour, Boulanouar Khouane and Rima Roubache</i>	
Magnetic Coupled Electrical Circuits Approach for Stator Fault Diagnosis of Induction Motor.....	356
<i>Farid Hadjou, Bekheira Tabbache, Abbas Debdouche, Noureddine Henini and Mohamed Benbouzid</i>	
Loop-Shaping Control Design Of Boost/Cuk High Voltage Gain For Photovoltaic Applications.....	362
<i>Said Boudjana, Mohamed Tadjine and Djamila Ghribi</i>	
Characteristics of Zinc Oxide Varistor Ceramics sintered at high temperature.....	367
<i>Ahmed Bouchehlal, Farida Hobar and Mohammed Boulesbaa</i>	
Adaptive Super Twisting Control for Attitude Tracking based on Quaternion.....	371
<i>Mouad Kahouadjî</i>	
Diagnosis of rotor and stator faults by Fast Fourier Transform and Discrete Wavelet in Induction machine .....	377
<i>Wissam Dehina, Mohamed Boumehraz and Frédéric Kratz</i>	
Simulation of a Positive dc Corona Discharge in a Needle-Plane Electrode Configuration...	383
<i>Nesrine Ammour and Zehira Ziari</i>	
A neural network architecture for automatic and objective surgical skill assessment.....	387
<i>Malik Benmansour, Wahida Handouzi and Abed Malti</i>	
Optimal Power Flow for Transmission System with Photovoltaic Based DG Using Biogeography-Based Optimization.....	392
<i>Mosbah Mustafa, Rabie Zine, Arif Salem, Mohammedi Ridha Djamel and Bacha Seddik</i>	
Computational Study of Surface Dielectric Barrier Discharge Plasma Actuator for Flow Control using COMSOL Multiphysics .....	398
<i>Roukia Abidat, Fouzi Bouanaka and Saida Rebiai</i>	
Application de la stratégie VOHEPWM à un système onduleur connecté au réseau .....	403
<i>Lamine Makhoulfi, Samira Chouiref, Seddik Hadji, Said Mekhtoub and Omar Touhami</i>	
Primary Arc Modeling in Transmission Line.....	410
<i>Samia Dadda, Tahar Bouthiba and Samira Seghir</i>	

Analysis of small signal in North Africa Inter-Area Power System.....	413
<i>Mohammed Tsebia and Hamid Bentarzi</i>	
Unit commitment using dynamic programming for planing optimization and emission reduction .....	418
<i>Azizou Fethi and Boudour Mohamed</i>	
Circulating Currents control for Parallel Grid-Connected Three-Phase Inverters.....	424
<i>Saad Bella, Aissa Chouder, Ali Djerioui, Azeddine Houari, Mohamed Machmoum, Mohamed-Fouad Benkhoris and Kaci Ghedamsi</i>	
Predictive current control of Three Level Neutral Point Clamped Grid Connected Inverter in Photovoltaic Generation Systems .....	429
<i>Nassima Bekhoucha, Nadhir Mesbahi and Sabir Ouchen</i>	
Predictive Direct Torque Control Based on New Formulation and Fuzzy Logic for Permanent Magnet Synchronous Machine .....	435
<i>Islam Benhamida, Aissa Ameer, Katia Kouzi and Hocine Sayaf</i>	
Sum-Rate Maximization for Cognitive Radios in Multi-User MIMO-OFDM Context.....	441
<i>Rym Labdaoui, Khalida Ghanem, Fatiha Youcef Ettoumi and Widad Belaoura</i>	
The effect of facets reflectivity on the static characteristics of (DFB) semiconductor laser .	446
<i>Mohammed Mehdi Bouchene and Rachid Hamdi</i>	
Design of a MRAC-Based Fractional order PI $\lambda D\mu$ Regulator for DCMotor Speed Control .	450
<i>Bouziane Keziz, Samir Ladaci and Abdelbaki Djouambi</i>	
Robust MRAC Supervision of a Multi-source Renewable Energy System Using Fractional-Order Integrals.....	456
<i>Sihem Djebbri, Samir Ladaci, Abderezzak Metatla and Hanane Balaska</i>	
Optimal Reactive Power Flow In The Presence of Wind Power For Active Power Loss Minimization.....	462
<i>Youssouf Amrane, Messaoud Belazzoug, Ali Elmaouhab, Ahmed Amine Ladjici, Mohamed Boudour and Lamari Mohamed</i>	
Restructuration of distribution power system using Genetics Algorithms and Branch exchange method.....	468
<i>Messaoud Belazzoug, Karim Sebaa and Hassan Nouri</i>	
Synchrophasor Estimation Using The Three-point Interpolated DFT Based On Polynomial Approximation.....	474
<i>Billal Khettaoui and Mohamed Boudour</i>	
Implementation of new adaptive Power-Split management strategy in a battery-super capacitor electric vehicle .....	479
<i>Mehdi Sellali, Achour Betka, Said Drid, Abdesslem Djerdir, Sabrina Abdedaim and Mourad Tiar</i>	
A Robust Control Strategy for Three Phase Voltage Source PWM Rectifier Connected to a PMSG Wind Energy Conversion System.....	485
<i>Youcef Saidi, Abdelkader Mezouar, Yahia Miloud and Mohammed Amine Benmahdjoub</i>	



A 2-D Exact Subdomain Technique in Switched Reluctance Machines Taking Into Account of Finite Soft-Magnetic Material Permeability .....	491
<i>Mohammed Ben Yahia, Kamel Boughrara, Lazhar Roubache, Frédéric Dubas, Zakarya Djelloul-Khedda and Rachid Ibtouen</i>	
A Hybrid Algorithm By Combination Of Genetic Algorithm And Local Optimization For Constrained MHD Pump Optimization.....	497
<i>Bouali Khadidja, Kadid Fatimazohra and Abdessemed Rachid</i>	
Efficient Implementation of An Improved Median Filter on TMS320C6416 Digital Signal Processor .....	502
<i>Beddad Boucif and Hachemi Kaddour</i>	
Analytical Modeling of Electromagnetic Noise in Spoke-Type Permanent-Magnet Machines.....	508
<i>Lazhar Roubache, Mohammed Ben Yahia, Kamel Boughrara, Frédéric Dubas and Rachid Ibtouen</i>	
Compraison entre la Technique Vibratoire et la Technique des Courants Statoriques : Application au Diagnostic des Roulement à Billes .....	513
<i>Mohamed Boudiaf Koura, Mohammed-El-Amine Khodja and Ahmed Hamida Boudinar</i>	
Etude des décharges électriques dans les mélanges soufre-azote-cuivre.....	519
<i>Hocine Moulai, Abderrahmane Ziani, Salah Belkhir, Seyf Allah Zaanoune and Wahid Ahmed Belarbi</i>	
An Experimental Assessment of Direct Torque Control and Model Predictive Control Methods for Induction Machine Drive .....	523
<i>Abdelkarim Ammar, Aissa Kheldoun, Brahim Metidji, Billel Talbi, Tarek Ameid and Younes Azzoug</i>	
3D Analytical Computation of the Torque in Axial Flux Permanent Magnets Couplings Based on Charges Model and Images Method .....	529
<i>Mohammed Messadi, Larbi Hadjout, Youcef Ouazir, Noureddine Takorabet, Thierry Lubin and Smail Mezani</i>	
Backstepping Sliding Mode Control of a Dual Rotor Wind Turbine System .....	535
<i>Adil Yahdou, Zinelaabidine Boudjema, Rachid Taleb and Abdelkadir Belhadj Djilali</i>	
Optimal Combined Dynamic Economic and Emission Dispatch Including Wind and Photovoltaic Power Systems.....	540
<i>Sadoudi Slimane, Mohamed Boudour and Nour El Yakine Kouba</i>	
ELECTRICAL EQUIVALENT CIRCUIT AND GLOW DISCHARGE ATMOSPHERIC PRESSUR .....	546
<i>Mankour Mohamed, Sekour M'Hamed and Ahmed Wahid Belarbi</i>	
Real-time implementation of fractional order controller for PV emulator supplied shunt active power filter .....	552
<i>Hamza Afghoul, Fateh Krim, Antar Beddar and Anouar Ounas</i>	
Study of Fuzzy Logic controller based MPPT and the P&O for the Z-source inverter integrated in PV system .....	557
<i>Ibtissam Chaib, El Madjid Berkouk and Jaun Paul Gaubert</i>	

Discharges Current, Emitted Light and Radiated Field in Power Transformer Insulating Oils .....	563
<i>Tarek Adnane, Ilhem Amoura, Ahmed Badji, Abdo Fall and Hocine Moulai</i>	
Improvement of Direct Torque Control Performances Using FCS-MPC and SVM Applied to PMSM: Study and Comparison.....	567
<i>Hesna Aberkane, Djamel Sakri and Djamel Rahem</i>	
Sliding mode control of DC link ZSI.....	573
<i>Behloul Asma, Berkouk El Madjid and Mahmoudi Mohand Oulhadj</i>	
Comparison of PID and Fuzzy Controller for Path Tracking Control of Autonomous Electrical Vehicles.....	579
<i>Youcef Zennir</i>	
Électrodéposition de l'Oxyde de Manganèse sur le Papier de Carbone et Leurs Applications en Énergies Renouvelables .....	585
<i>Nabti Zineb, Bordjiba Tarik, Bezzazi Sara and Saidia Imane</i>	
New 2D-Feature Descriptor Free from Orientation Compensation .....	590
<i>Manel Benaissa and Abdelhak Bennia</i>	
Field oriented Control of doubly fed induction generator integrated in wind energy conversion system using artificial neural networks .....	596
<i>Zoubir Zeghdi, Linda Barazane and Abdelkader Larabi</i>	
Numerical study using FVM of three cavities within XLPE insulation of HV cables .....	603
<i>Salheddin Kahleras, Ahmed Boubakeur and Larbi Boukezzi</i>	
Modeling and Control of a Doubly Fed Induction Generator Base Wind Turbine System .	608
<i>Mohamed Hallak, Mourad Hasni and Mohamed Menaa</i>	
Compressed Sensing based Speech Compression using Dictionary Learning and IRLS algorithm .....	614
<i>Wafa Derouaz and Thouraya Merazi Meksen</i>	
Selection of Variables by the F-Score Algorithm for Radiated Magnetic Field Signals Discrimination of Electrical Discharges .....	619
<i>Mohamed Gueraichi, Hocine Moulai and Azzedine Nacer</i>	
Control and Monitoring of Electrical Embarked Network with Cloud Technology using Raspberry Pi.....	623
<i>Mohammed Amine Benmahdjoub, Abdelkader Mezouar, Larbi Boumediene and Youcef Saidi</i>	
Multi-Stack Fuel Cells and Interleaved DC/DC Converters Interactions for Embedded Applications .....	629
<i>H. Mehida, M.Y. Ayad, R. Saadi, O. Kraa and A. Aboubou</i>	
Performance of UWB Linked Relay Network Systems With Antenna Selection in the Presence of Multiple Access Interference.....	635
<i>Asma Ouardas and Sid Ahmed Elahmar</i>	

A New Sensorless Control of Doubly Fed Induction Motor Based on Extended Complex Kalman Filter.....	641
<i>Arezki Chibah, Mohamed Menaâ, Krim Yazid, Ahmed Boufertella, Hammou Djadi and Mohamed Boudour</i>	
Super-twisting strategy based indirect field oriented control without using the currents sensor : application to IM.....	647
<i>Kari Mohammed Zakaria, Mechernene Abdelkader, Meliani Sidi Mohammed and Guenoune Ibrahim</i>	
Empirical Mode Decomposition for Speech Enhancement.....	653
<i>Asma Bouchair, Abderrahmane Amrouche, Sid-Ahmed Selouani and Hamidia Mahfoud</i>	
High Gain Observer with Updated Gain for Sensorless Induction Motor.....	657
<i>Abderrahmane Kadrine, Zoheir Tir, Mohamed Assaad Hamida, Om Malik, Azeddine Houari and Abdelali El Aroudi</i>	
Longitudinal behaviour of grounding electrodes subjected to lightning currents using SSR based TLM.....	663
<i>Sofiane Chiheb, Omar Kherif, Madjid Tegar and Abdelouahab Mekhaldi</i>	
Impedance nature of long horizontal grounding electrode employing TLM.....	668
<i>Sofiane Chiheb, Omar Kherif, Madjid Tegar and Abdelouahab Mekhaldi</i>	
Non linear control of a Fuel Cell Interleaved Boost Converter using Weighted Mixed Sensitivity H-infini.....	672
<i>M.Y. Hammoudi, O. Kraa, R. Saadi, M.Y. Ayad and S. Bacha</i>	
Magnetic Reluctance Method for Modeling a Low Speed Doubly Salient Permanent Magnet Machine.....	677
<i>Soklani-Sita Alli, Mohammed El Hadi Zaim, Nicolas Bracikowski and Luc Moreau</i>	
Reconfiguration of Control under Unbalanced Grid Voltage Sags for DFIG Wind System Using Power Harmonic Components.....	682
<i>Meriem Ghodbane-Cherif, Sondes Skander-Mustapha and Ilhem Slama-Belkhodja</i>	
A New Combined Observer-State Feedback (COSF) Controller of PWM Buck Converter..	688
<i>Ali Dali, Samir Abdelmalek and Maamar Bettayeb</i>	
Wavelet transform of the leakage current to monitoring the insulator surface under non-uniform desert pollution.....	694
<i>Djamel Maadjoudj, Abdelouahab Mekhaldi and Madjid Tegar</i>	
An Improved Observer-based Integral State Feedback (OISF) Control Strategy of Flyback Converter for Photovoltaic System.....	699
<i>Samir Abdelmalek, Ali Dali and Maamar Bettayeb</i>	
Performance of Non-Parametric CFAR Detectors in Log-Normal and K Radar clutter.....	705
<i>Bentoumi Ahmed, Mezache Amar and Taha Hocine Kerbaâ</i>	
Modeling and Control of Photovoltaic Systems Integrated to Distribution Networks.....	709
<i>Mourad Naidji, Mohamed Boudour and Farid Achouri</i>	

Adaptive Neural-network Output Feedback Control Design for Uncertain CSTR system With Input saturation.....	715
<i>Nssira Zerari, Mohamed Chemamchema and Najib Essounbouli</i>	
Impact of the Used Chaotic Map on the EMI Reduction Level.....	721
<i>Rabaa Gamoudi, Dhia Chariag and Lassaad Sbita</i>	
An adaptive DC-link voltage control for Doubly Fed Induction Generator Wind Turbine System.....	726
<i>Ibrahima Ngom, Sondes Skander-Mustapha, Ilhem Slama Belkhodja, Alioune Badara Mboup and Lamine Thiaw</i>	
Experimental and numerical modeling of corona discharge generated in an electrostatic precipitator .....	732
<i>Ahmed Kasdi</i>	
Multilevel Fast Multipole Acceleration for Fast ISAR Imaging based on Compressive Sensing .....	737
<i>Assia El Mahdaoui, Abdeldjalil Ouahabi and Mohamed Said Moulay</i>	
Reliability Modeling and Evaluation of Reparable Electrical Power Supply Systems using Reliability Block Diagram.....	742
<i>Kemikem Dallal, Boudour Mohamed and Benabid Rabah</i>	
Antenne micro-ruban directive en utilisant une lentille à base de metamatériau .....	748
<i>Hakim Kharroubi, Dihya Mezdad, Tarik. B Berbar and Azzedine Nacer</i>	
Indirect Sliding Mode Power Control for Power Converter based Three-phase Load Emulator .....	752
<i>Marwa Ben Said Romadhane, Manel Jebali Ben Ghorbal, Sondes Skander-Mustapha and Ilhem Slama-Belkhodja</i>	
Practical Implemetation of Energy Management Algorithm on a Microgrid System .....	758
<i>Mustapha Habib, Ahmed Amine Ladjici and Elmar Bollin</i>	
Comparaison technico-économique entre deux nouveaux procédés de chargement triboélectrique des produits granulaires isolants et leur application dans la séparation électrostatique des DEEE .....	764
<i>Djamel Eddine Fekir, Mohamed Miloudi and Abdelber Bendaoud</i>	
Sensorless Control of Direct Drive PMSG Wind-Power Generator .....	770
<i>Hocine Lila, Mena Mohamed and Yazid Krim</i>	
Etude comparative des signatures électriques liées à la propagation de streamers dans les liquides diélectriques.....	776
<i>Yassamine Hadji, Bachir Lehouidj, Sihem Sahra, Azzedine Nacer and Hocine Moulai</i>	
Quadrotor Design Procedure and PID Control for Outdoor Free Flight .....	781
<i>Ismat Meslouli</i>	
Gap Estimation of Disbanding Failure Appears in Hybrid Laminate Material by Means of an Eddy Current Evaluation .....	787
<i>Ala Eddine Lakhdari, Ahmed Cheriet, Belkacem Lamamra, Belkacem Bellouti, Samir Bensaid and Islam Nacereddine El Ghoul</i>	

Diagnosis of Power Transformer Oil Using PSO-SVM and KNN Classifiers.....	792
<i>Youcef Benmahamed, Madjid Tegar and Ahmed Boubakeur</i>	
Stator Current Demodulation Using Hilbert Transform for Inverter-Fed Induction Motor at Low Load Conditions.....	796
<i>Khelfi Hamid, Hamdani Samir, Nacereddine Kamel and Chibani Youcef</i>	
Optimal adaptive under frequency load shedding using Neuro-Evolution Algorithm .....	801
<i>Saboune Souheil, Ladjici Ahmed Amin and Tiguetcha Ahmed</i>	
Modeling and Resonance Analysis of Parallel Grid-Connected Inverters with LCL Filters .	805
<i>Manef Bourogaoui, Azeddine Houari, Houda Ben Attia Sethom and Mohamed Machmoum</i>	
Design of Real-time PID tracking controller using Arduino Mega 2560for a permanent magnet DC motor under real disturbances.....	811
<i>Adel Zarifi, Hamou Ait Abbas and Abdellatif Seghiour</i>	
Game Theory and Hybrid Genetic Algorithm for Energy Management and Real Time Pricing in Smart Grid.....	816
<i>Maddouri Mohamed, Amen Debbiche, Elkhorchani Habib and Grayaa Khaled</i>	
A Balancing Method for Three-Phase SEIG Feeding a Single-Phase Load by using Switched Capacitors .....	822
<i>Tarek Zine-Eddine Benhacine, Nesba Ali, Said Mekhtoub and Rachid Ibtouen</i>	
A COMPARATIVE STUDY BETWEEN LINEAR FILTER AND DISCRETE WAVELET TRANSFORM FOR DENOISING HEART SOUNDS SIGNAL.....	828
<i>Mokeddem Fatima and Debbel Sidi Mohemmed</i>	
Reliable, efficient and fault tolerant power converter for grid-connected PV system.....	833
<i>Afef Bennani-Ben Abdelghani, Jihen Sakly, Hafedh Ben Abdelghani and Ilhem Slama-Belkhodja</i>	
Quadrotor UAV dynamics modeling based on subspace identification system.....	839
<i>Abanou Hacene and Mansour Moufid</i>	
A Single-phase Asymmetrical Multi-Level Inverter with a Low THD.....	845
<i>Mohamed Lamari, Mohamed Boudour, Bouziane Boussahoua and Youssouf Amrane</i>	
Wind Farm Integration Intermittency Impact On Power System Transient Stability.....	849
<i>Amine Benseddik and Nour El Yakine Kouba</i>	
Hybrid PV-Wind based water pumping system optimum sizing : a PSO-LLP-LPSP optimization and cost analysis.....	855
<i>Abdesslem Nekkache, Belkacem Bouzidi, Kaabeche Hamid and Yahia Bakelli</i>	
Autonomous Vehicle Path Tracking Using Nonlinear Steering Control and Input-Output State Feedback Linearization.....	861
<i>S. Bacha, M.Y. Ayad, R. Saadi, O. Kraa, A. Aboubou and M.Y. Hammoudi</i>	
An Improved Synchronverter based HVDC System Considering Damper Windings Effect .	867
<i>Abdenour Tebib and Mohamed Boudour</i>	

Optimal Design of Synchronverter Virtual Capacitor to Achieve Capacitive Output Impedance .....	872
<i>Abdenour Tebib and Mohamed Boudour</i>	
Self-Organizing Map and feature selection for of IM broken rotor bars faults detection and diagnosis .....	876
<i>Smail Haroun, Amirouche Nait Seghir and Said Touati</i>	
A Deep Learning Based on Sparse Auto-Encoder with MCSA for Broken Rotor Bar Fault Detection and Diagnosis.....	882
<i>Seghiour Abdellatif, Chouder Aissa, Ait Abbas Hamou, Salmi Chawki and Ben Saadia Oussama</i>	
DC-Motor Control Using Arduino-Uno Board for Wire-Feed System.....	888
<i>Saad Chaouch, Mourad Hasni, Amar Boutaghane, Badreddine Babes, Mohamed Mezaache, Salah Slimane and Mahieddine Djenaihi</i>	
Dynamic Equivalence approach for large-scale wind farms .....	894
<i>Rabah Gueddouche and Mohamed Boudour</i>	
Constrained Fault tolerant control design for Takagi Sugeno Systems .....	900
<i>Sabrina Aouaouda, Lotfi Moussaoui and Omar Bouhali</i>	
Comparative study of different PV inverter topologies and proposal of a new boost inverter topology.....	906
<i>Yehya Amari, Mourad Hasni and Mohamed Menaa</i>	
A New Sensorless Control Of Doubly Fed Induction Motor Using A High Frequency Carrier Signal Injection Based On Non Linear Third Order Angle Tracking Observer .....	912
<i>Arezki Chibah, Mohamed Menaa, Krim Yazid, Ahmed Boufertella, Djadi Hammou and Mohamed Boudour</i>	
Optimized PID for Direct Power Control with an improved LCL filter design using GWO for Three-Phase Inverters.....	918
<i>Mohamed Amine Djema, Mohamed Boudour, Kodjo Agbossou, Alben Cardenas and Mamadou Lamine Doumbia</i>	
Optimal Capacitor Placement and Sizing in Radial Distribution Feeders using evolutionary Algorithm: a case study of the Algerian-Djanet distribution system.....	924
<i>Youssouf Amrane, Rabah Gueddouche, Ali Elmaouhab and Mohamed Boudour</i>	
A New Approach for Adaptive Frequency in series resonant inverter for Induction hardening.....	930
<i>Chabane Hammouma, Houcine Zeroug and Abdelkader Attab</i>	
3D Analytical Model to Compute the Electromagnetic Torque of Axial Flux Magnetic Coupler with A Rectangular-Shaped Magnet .....	936
<i>Zeroul Aziz, Hadjout Larbi, Ouazir Youcef, Bensaidane Hakim, Benbekai Amine and Chaouch Othmane</i>	
Improved Direct Power Control Applied to Parallel Active Filtering Based on Fuzzy Logic Controller.....	940
<i>Sabir Ouchen, Heinrich Steinhart, Frede Blaabjerg, Mohamed Benbouzid, Achour Betka and Nassima Bekhoucha</i>	

LCL Filter Design Optimization for LV Modular Multilevel Converters in Hybrid ac/dc Microgrids Application .....	945
<i>Amel Lachichi</i>	
Sliding mode-indirect vector control of double star induction motor using SVM technique.	950
<i>Housseem Eddine Khelif, Mouna Ben Hamed, Mehdi Dhaoui and Lassaad Sbita</i>	
PIL Test for Voltage Source Inverter control used in Off-grid PV system.....	956
<i>Fekkak Bouazza, Menaa Mohamed, Bousahoua Bouziane and Loukriz Abdelhamid</i>	
3MA Non-destructive analysis on hardened material by finite element simulation and experiment.....	962
<i>Yasmine Gabi, Olivier Martins, Bernd Wolter and Christian Conrad</i>	
Understanding Interarea Oscillations in Power Systems Integrating Wind Power .....	966
<i>Ikram Nacef, Khadija Ben Kilani and Mohamed Elleuch</i>	
Diagnosis and compensation of line Current Measurements for Grid Side Converter in PV Application .....	972
<i>Fatma Ben Youssef, Ahlem Ben Youssef and Lassaad Sbita</i>	
Multi-objective System Reliability Optimization in a Power Plant .....	978
<i>Billal Nazim Chebouba</i>	
Reliability Analysis of Electrical Power System Analyse de la Fiabilité des Réseaux de Production- Transport d'Energie Electrique .....	982
<i>Bouziane Bousshoua</i>	
Design Of an integration Frame HAZOP-SIL for safety Optimization of a Fired Heater ...	987
<i>Riad Bendib</i>	