INTERNATIONAL CONFERENCE
ON RENEWABLE ENERGY AND
POWER QUALITY
(ICREPQ'10)

WELCOME TO ICREPQ'10

On behalf of the Steering Committee and the Local Organizing Committee we want to give you a very warm welcome to ICREPQ'10 and to Granada.

Our International Programme Committee has selected a high quality 318 papers (among 534 proposals) from which 290 will be presented at the Conference, 40 at oral sessions and 130 at poster sessions (dialogue), along the three days of the ICREPQ'10. All of these papers are included in the final programme. Also four special papers will be presented in plenary sessions.

ICREPQ'~~09~~ covers the whole range of problems and solutions especially concerning with renewable energies and power quality and all the papers have direct relation with these two fields of research and practical work.

We would like to thank all the authors, session chairmen, participants without papers and the International Program Committee members who have made important contributions by reviewing the proposals.

In addition to the technical sessions, a number of social events have been arranged. On Wednesday evening (15th April, 19:00 H) we will hold a Civic Reception with aperitif in "Salón de Cristal. Ajuntament de Valencia" and on Thursday (16th April, 20:30 H) the Conference Banquet at "Sorolla Palace" where we will deliver presents to those companies/institutions that collaborate with the organisation of the Conference and on Friday (17th of April from 15:00 H to 19:00 H) we have arranged a Cultural Excursion in two Tourist Buses along Valencia and finally a visit to the City of Arts and Sciences.

We hope that you will find the conference intellectually stimulating, that you will make many fruitful personal contacts here and that you will thoroughly enjoy your visit to Valencia and the surrounding area.

Best regards,

Prof. Manuel Pérez-Donsión
Chairman of the Steering Committee

Prof. Francisco Cavallé Sesé
Chairman of the Local Committee

ORGANISED BY:

- European Association for the Development of Renewable Energies, Environment and Power Quality (EA4EPQ)
- University of Vigo
- University of Granada


CONFERENCE LANGUAGE

The Conference language is English. All papers and presentations should be made in English.

OBJECTIVES AND TOPICS

The intention of the organisers is to give an opportunity to academics, scientists, engineers, manufacturers and users from all over the world to come together in a pleasant location to discuss recent development in the areas of Renewable Energy and Power Quality.

The International Conference on Renewable Energy and Power Quality (ICREPQ´10) will be structured in:

- **Plenary Sessions**: speech of 45 minutes in one room for all the participants
- **Oral Sessions**: speech of about 15 minutes for each paper (12 minutes for the presentation and 3 minutes for questions) . Simultaneously in two rooms.
- **Posters Sessions**: In 45-minute periods during the coffee breaks.

1. RENEWABLE ENERGY:

Topics include, but are not limited to:

-Wind Energy, Small Hydro Energy, Solar Energy, Photovoltaic Energy, Ocean Energy, Geothermal, Biomass,…

-Classical and special electrical generators: Theory, design, analysis, losses, efficiency, heating and cooling, vibration and noise, modelling and simulation, control strategies, protection systems, maintenance, mechanical behaviour, new methods of testing, parallel operation, stability,...

-Power plants. Distributed generation. Fuel cells. Co-generation. Hybrid Systems. Original solutions,...

- Energy conversion, conservation and energy efficiency.
- Energy saving policy. Energy storage. Batteries,...

-Energy and the environment. Ecological balance. Ecosystem,...

- Application of the renewable energy. Best practice projects.
- Legislation in the area of renewable energies.

-Biomass combustion techniques. The energy use of agricultural and forest residues. Production and energy exploitation of bio-gas. Environment. Social importance…

- Interconnection and transport problems.
- Planning and control of the power system take into account the renewable energy. Stability. Protection…

- Economic analysis of the power system taking into account the renewable energy.
- Regulation/des-regulation of the power market. Influence of the renewable energy.
-Models and simulation of the power systems. Models and estimation of loads. Software tools.
-Application of the telecommunications, internet, artificial intelligence for the renewable energy.
- Security assessment and risk analysis in renewable energy.
- Electric vehicles.
- Power electronics. Control strategies.
- Sensors and actuators.
- Renewable Energies Teaching.

2. POWER QUALITY:

Topics include, but are not limited to:
- Electromagnetic compatibility (EMC).
- Power Quality in Transport and Distribution.
- Economic Studies of the Power Quality.
-Low-frequency conducted disturbances: Voltage deviations, voltage fluctuations/flicker, voltage dips and short interruptions, harmonics and inter-harmonics, transient over-voltages, voltage unbalance (imbalance), temporary power-frequency variations.
-Sources, effects and mitigation methods of the disturbances.
-Measurements of the power quality in networks, industrial installations and Laboratories. Equipment, procedures and measurement methods. Standards.
- Modelling and simulation of the power quality. Software tools.
- Transmission of the disturbances.
- Filtering techniques.
- Power factor compensation. Capacitor switching techniques.
- Optimization techniques.
-Telecommunication, internet and artificial intelligence.
- Permanent monitoring techniques and online diagnosis.
- Intelligent energy delivery systems. Uninterrupted power supplies.
- Expert systems applications.
- Devices, equipment and power systems. Control centres.
- Specific problems and studies cases.
- Power quality influence in deregulated markets.
- High frequency disturbances (radiated).
- Data security and electromagnetic pulses.
- Protection against natural and intentional EMI.

STEERING COMMITTEE

Manuel Pérez-Donsión (Chairman)
Ramón Bargalló-Perpiña
Manuel Burgos Payán
Debora Coll-Mayor
Mario Mañana Canteli
Mariano Sanz-Badía

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Fernando Aznar Dols
José Luis Pérez Mañas
Enrique Alameda Hernández
Antonio Manuel Peña García
María José Mercado Vargas

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Balestrino, Aldo (Italy)
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Boccaletti, Chiara (Italy)
Burgos Payan, M. (Spain)
Brslica, Vit (Czech Republic)
Capolino, G.A. (France)
Catalão, João (Portugal)
Cortez, Liliana (México)
Driesen, Johan (Belgium)
Donsión, M.P. (Spain)
Duran, M. (Spain)
Eguiluz Morán, L.I. (Spain)
Ertan, H.B. (Turkey)
Fernández Cabanas, M. (Spain)
Figueiredo, J.M.G. (Portugal)
Flores, Antonio (Portugal)
Fraile Mora, Jesús (Spain)
Funabashi, Toshihisa (Japan)
Gair, Sinclair (UK)
Gharehpetian, G.B. (Iran)
Ghita, Constantin (Romania)
Göl, Ozdemir (Australia)
Güemes Alonso, J.A. (Spain)
Hermoso Alameda, B. (Spain)
Iwaszkiewicz, J. (Poland)
Jokinen, T. (Finland)
Kádár Péter (Hungary)
Kladas, A. (Greece)
Klima, Jiri (Czech Republic)
Lemos Antunes, C. (Portugal)
Levi, Emil (U.K.)
Llombart Estopiñan, A. (Spain)
Machado e Moura,A. (Portugal)
Mañana-Canteli, M. (Spain)
Martinez, André (France)
Narsimhulu, Sanke (India)
Niememan, Asco (Finland)
Petkovska, L. (Macedonia)
Predescu, Mihai (Romania)
Redondo Gil, C. (Spain)
Ribeiro, Hugo (Portugal)
Robyns Benoit (France)
Roger Folch, J. (Spain)
Rusek, Jan (Poland)
Saadate, S. (France)
Salmerón-Revuelta, P. (Spain)
Sanz Badía, M. (Spain)
Shibli, Murad (Arab Emirats)
Schlemmer, Erwin (Austria)
Stenzel, Jürgen (Germany)
Stumberger, Gorazd (Slovenia)
Tegopoulos, J.A. (Greece)
Traça de Almeida,A. (Portugal)
Tudorache, Tiberiu (Romania)
Valouch, V. (Czech Republic)
Vitale, Gianpaolo (Italy)
Zamora Belver, I. (Spain)

SPONSORSHIP

Sincere thanks are expressed to the organisations listed below who have given valuable support to ICREPQ'10:

- EA4EPQ (European Association for the Development of Renewable Energies, Environment and Power Quality)
- University of Granada
- University of Vigo
- Endesa
- Circutor
- Assyce
- Ministerio de Ciencia e Innovación
- AEDIE (Asociación Española para el Desarrollo de la Ingeniería Eléctrica)

ICREPQ'10 SCHEDULE

Monday March 22nd 2010	
17:00 – 19:00	**Registration** **"ICREPQ'10 Secretariat"**

Tuesday March 23rd 2010							
9:30 – 13:00	**Registration "ICREPQ'10 Secretariat"**						
10:45 – 11:30	**Opening Ceremony** **ROOM A "Endesa"**						
11:30 - 12:15	**PL1**	**The Renewables in the present and future of Energy** Carlos Gascó Travesedo. Head of the Prospective Unit. Iberdrola Renewable Energies. Spain					
	EXTRA TIME FOR DISCUSSION						
12:15 – 13:00	**Posters Session at Room C "Assyce" (Session C1) Coffee Break**	*Poster Session* ***C1***					
		202	203	206	210	211	212
		214	218	219	224	227	231
		242	244	245	250	253	257
		259	261	264	278	280	284
		296	328	334	339	342	349
		350	456	461	559	564	565
		596	611	644	645	680	712
		726	728				
13:00 – 15:00	**Welcome Lunch**						
15:00 – 16:30	**ROOM A "Endesa"**			**ROOM B "Circutor"**			
	Oral Session ***A1***			*Oral Session* ***B1***			
	410	467	506	200	207	252	
	572	690	732	271	433	563	
	EXTRA TIME FOR DISCUSSION						
16:30 – 17:15	**Poster Session at Room C "Assyce" (Session C2) Coffee Break**	*Poster Session* ***C2***					
		223	260	272	273	284	285
		287	288	290	291	293	298
		299	305	309	311	318	323
		325	330	331	340	343	344
		345	347	356	357	360	365
		367	368	375	376	377	378
		380	384	390	397	398	670
		671	696				
17:15 – 18:30	**ROOM A "Endesa"**			**ROOM B "Circutor"**			
	Oral Session ***A2***			*Oral Session* ***B2***			
	255	256	301	276	308	312	
	302	303		315	585		
	EXTRA TIME FOR DISCUSSION						
19:30 – 21:30	**Welcome Civic Reception**						

<table>
<tr><th colspan="8">Wednesday 24 March 24th 2010</th></tr>
<tr><td>9:30 – 13:00</td><td colspan="7">Registration“ICREPQ’10 Secretariat”</td></tr>
<tr><td></td><td colspan="7">ROOM A “Endesa”
Plenary Sessions PL2 and PL3</td></tr>
<tr><td>9:30-10:15</td><td>PL2</td><td colspan="6">Copper contribution to renewables and energy efficiency
Fernando Nuño. European Copper Institute (ECI).
Leonardo Energy Community</td></tr>
<tr><td>10:15 – 11:00</td><td>PL3</td><td colspan="6">Energy and Sustainability
Cayetano López Martínez
Head of CIEMAT Energy Division</td></tr>
<tr><td></td><td colspan="7">EXTRA TIME FOR DISCUSSION</td></tr>
<tr><td>11:00 – 11:45</td><td colspan="2" rowspan="10">Poster Session at Room C “Assyce” (Session C3) Coffee Break</td><td colspan="6">Poster Session C3</td></tr>
<tr><td></td><td>202</td><td>354</td><td>389</td><td>401</td><td>404</td><td>406</td></tr>
<tr><td></td><td>412</td><td>414</td><td>416</td><td>419</td><td>423</td><td>425</td></tr>
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<tr><td></td><td>510</td><td>522</td><td>523</td><td>525</td><td>599</td><td>625</td></tr>
<tr><td></td><td>681</td><td>688</td><td></td><td></td><td></td><td></td></tr>
<tr><td>11:45 – 13:00</td><td colspan="3">ROOM A “Endesa”</td><td colspan="3">ROOM B “Circutor”</td></tr>
<tr><td></td><td colspan="3">Oral Session A3</td><td colspan="3">Oral Session B3</td></tr>
<tr><td></td><td>314</td><td>317</td><td>320</td><td>216</td><td>336</td><td>355</td></tr>
<tr><td></td><td>322</td><td>583</td><td></td><td>362</td><td>383</td><td></td></tr>
<tr><td></td><td colspan="6">EXTRA TIME FOR DISCUSSION</td></tr>
<tr><td>13:00 – 15:00</td><td colspan="6">Lunch</td></tr>
<tr><td></td><td colspan="6">Sala B
“CIRCUTOR”</td></tr>
<tr><td>15:00 - 16:30</td><td colspan="6">Análisis y diseño de máquinas eléctricas usando elementos finitos. Una introducción usando software libre con aplicación al caso de la máquina asíncrona trifásica.
Ramón Bargalló Perpiña
Catedrático de EU. Universidad Politécnica de Catalunya</td></tr>
<tr><td>16:30 - 17:00</td><td colspan="6">Café</td></tr>
<tr><td>17:00 - 18:30</td><td colspan="6">Mesa Redonda :
Espacio Europeo de Educación Superior (EEES). Situación actual en diferentes universidades
XXRGIIE (In Spanish)</td></tr>
<tr><td>20:30 - 24:00</td><td colspan="6">Conference Banquet in Hotel AC Palacio de Santa Paula. Gran Vía de Colón, 31
(Optional)</td></tr>
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Thursday 25 March 25th 2010							
9:45 – 13:00	Registration "ICREPQ'10 Secretariat"						
	ROOM A "Endesa"			**ROOM B "Circutor"**			
9:45 – 11:00	*Oral Session **A4***			*Oral Session **B4***			
	473	503	533	400	449	629	
	609	662		640	701		
	EXTRA TIME FOR DISCUSSION						
11:00 – 11:45	**Poster Session at Room C "Assyce" (Session C4) Coffee Break**	*Poster Session **C4***					
		421	500	510	520	529	535
		536	538	541	547	549	551
		560	569	589	591	594	597
		598	601	603	604	607	608
		613	614	615	616	618	619
		620	621	622	626	627	631
		632	633	634	635	637	638
		642	647	669	676	695	734
11:45 – 13:00	**ROOM A "Endesa"**			**ROOM B "Circutor"**			
	*Oral Session **A5***			*Oral Session **B5***			
	415	418	430	294	505	507	
	440	443		511	528		
	EXTRA TIME FOR DISCUSSION						
13:00 – 15:00	**Farewell Lunch**						
15:00 – 16:30	**ROOM A "Endesa"**			**ROOM B "Circutor"**			
	*Oral Session **A6***			*Oral Session **B6***			
	221	338	446	233	270	530	
	447	590	733	546	555	580	
	EXTRA TIME FOR DISCUSSION						
16:30 - 17:15	**Poster Session at Room C "Assyce" (Session C5) Coffee Break**	*Poster Session **C5***					
		246	306	307	333	475	493
		509	543	648	649	651	652
		655	656	659	661	664	665
		666	668	669	673	675	677
		679	682	683	685	686	698
		692	693	699	700	702	703
		704	706	707	708	710	711
		718	721	723	727	729	730
17:15 - 17:30	Introducing the Integrated Knowledge Center of Energy at Budapest University of Technology and Economics						
17:30 - 18:15	**CLOSING SESSION Conclusions and time for the next conference (ICREPQ'11) Awards for the three best posters**						

AUTHORS

Oral Presentations

Each speaker of an oral presentation has an available time of **15 minutes** (12 minutes for the presentation and 3 minutes for questions) and must be in the session room 10 minutes before of the beginning of the session for to test the audiovisual equipment and for to exchange opinions with the Session Chairman. We suggest that the speakers of one oral presentation prepare their material in Power Point 2003.

Poster Presentations

The poster must be put on the pin board that you previously can chose about 15 minutes before of the beginning of the session and it must be take off 15 minutes after of the end of the session. The author(s) must be stay near the poster along the 45 minutes of the session duration for to answer all the questions that the audience or the chairmen could formulate. The maximum available surface for each poster will be **950 mm x 2340 mm** (width x high).

SESSION CHAIRMEN

On behalf of the International Program Committee, Steering Committee and the Organising Committee of the ICREPQ'10 and take into account their eminent position in the world of science we have selected 40 session chairmen. It is an honour for us their collaboration for to chair the sessions of ICREPQ'10 and their contribution would be greatly appreciated. We wish to express our warmest thanks.

Traditionally the Chairmen of each Session are independent in organising the Session. Nevertheless it is of special importance that the different session chairmen prepare some questions about the papers of their session in order to get a more dynamic one. Furthermore we expect of the session chairmen the following:

Plenary sessions

Each plenary session should not exceed **45 minutes** including presentation and discussion, (40 minutes for presentation and 5 minutes for questions).

Oral sessions

Each oral paper presentation should not exceed 15 minutes including presentation and discussion, (12 minutes for presentation and 3 minutes for questions).

Poster sessions

The author(s) of a poster presentation must be stay near the poster during the 45 minutes of the session duration and in order to get a more dynamic session it is important that along this period of time each of the chairmen of the poster sessions formulate questions to the authors and check that all is OK. The chairmen also file up a sheet with puntuactions for each presented poster and

then take into account these evaluations the Organizers will deliver during the Closing Session a present to the three best posters.

TABLE I. Chairmen Session distribution

Tuesday 23rd March, 2010		
11:30-12:15	**PLENARY SESSION PL1**	Carlos Redondo Gil
12:15-13:00	**POSTER SESSION C1**	Alfred McMichael
		Eduard Latosov
		Seul-Ki Kim
		Pere Andrada
		Augusto Fleury
15:00-16:15	**ORAL SESSION A1**	Gevork B. Gharehpetian
	ORAL SESSION B1	Buzdugan Mircea-Ion
16:15-17:00	**POSTER SESSION C2**	Ángel Gómez Moreno
		Santiago Martín Criado
		Joao Carlos Oliveira Matias
		Radek Polanský
		José I. San Martín Díaz
17:00-18:15	**ORAL SESSION A2**	Gianpaolo Vitale
	ORAL SESSION B2	Sergio Redondo Faias
Wenesday 24th March, 2010		
9:30-10:15	**PLENARY SESSION PL2**	Gevork B. Gharehpetian
10:15-11:00	**PLENARY SESSION PL3**	José R. Wilhelmi
11:00-11:45	**POSTER SESSION C3**	Miguel Martínez Melgarejo
		Manuel E. García Melero
		Ivan Glesk
		Jigeng Li
		Aleksander Lisowiec
11:45-13:00	**ORAL SESSION A3**	Gerald Edelstein
	ORAL SESSION B3	Viktor Valouch
Thursday 25th March, 2010		
9:45-11:00	**ORAL SESSION A4**	Enrique Alameda
	ORAL SESSION B4	Dan András
11:00-11:45	**POSTER SESSION C4**	Tariq Masood
		Kádar Péter
		Javier Rivas Conde
		Anna Volkova
		David Raisz
11:45-13:00	**ORAL SESSION A5**	Gorazd Stumberger
11:45-13:00	**ORAL SESSION B5**	Mario Mañana Canteli
15:00-16:15	**ORAL SESSION A6**	Aurelian Craciunescu
15:00-16:15	**ORAL SESSION B6**	Mario J. Durán Martínez
16:15-17:00	**POSTER SESSION C5**	Mostafa Abd El-Geliel
		Babak Abdi Varmiab
		Kamel Fawzi Abu Ghali
		Raul Barrio Perotti
		Clemente Cárdenas

Tuesday March 23rd 2010

10:45-11:30 OPENING CEREMONY **ROOM A "Endesa"**

11:30-12:15 Plenary Session PL1 **ROOM A "Endesa"**

Chairman: Carlos Redondo Gil

The Renewables in the present and future of Energy.
Carlos Gascó Travesedo. Head of the Prospective Unit. Iberdrola Renewable Energies. Spain.

Tuesday March 23rd 2010
12:15-13:00 Poster Session C1 – Coffee Break **ROOM C "Assyce"**

Chairmen: Alfred McMichael, Eduard Latosov, Seul-Ki Kim, Pere Andrada, Augusto Fleury

13:00 – 15:00 Welcome Lunch **"la Vella Restaurant"**

Wednesday 15th April 2009
15:00-16:15 Oral Session A1 **ROOM A "Iberdrola"**

Chairman: Gevork B. Gharehpetian

Nº	We have received till now the following accepted papers for the "INTERNATIONAL CONFERENCE ON RENEWABLE ENERGIES AND POWER QUALITY (ICREPQ'10)" *Title/Authors*
200	***Power Generation Limits in Thermal, Chemical and Electrochemical Systems*** S. Sieniutycz Faculty of Chemical and Process Engineering. Warsaw University of Technology. Warsaw. Poland.
202	***Biogas Energy: Unexplored Source of a Renewable Energy in Jordan*** Abu-Hamatteh Z.S.H.(1), Al-Jufout, Saleh (2), Abbassi, B.(3), Besieso, M.S,(4) (1) Faculty of Engineering Technology, Al-Balqa' Applied University. Amman. Jordan (2) Electrical Engineering Department, Faculty of Engineering. Tafila Technical University. Jordan (3) Department of Water Resources and Environmental Management. Faculty of Agricultural Technology.Al-Balqa' AppliedUniversity. Jordan

	(4) Jordan Oil Shale Energy Company PLC. Jordan
207	**Optimizing World-wide Utilization of Renewable Energy Sources in the Power Sector** Tino Aboumahboub (1), Peter Tzscheutschler (1), Thomas Hamacher (2) (1) Faculty of Electrical Engineering. Institute for Energy Economy and Application Technology. München. Germany (2) Research Group for Energy and System Studies, Max Plank Institute for Plasma Physics. München. Germany
210	***Bioclimatic parameters in the design of contemporary buildings.The proposal for the new Town Hall of Deryneia. Cyprus*** Aimilios Michael (1), Christos Hadjichristos (1), F.Bougiatioti (2), A. Oikonomou (3) (1) Program of Architecture. School of Engineering. University of Cyprus (2) National Technical University of Athens. School of Architecture. Athens. Greece (3) University of Patras. Department of Architecture. Patras. Greece
211	***Bioclimatic approaches of modern residential architecture in Cyprus, 1952-1974*** Aimilios Michael , Marios C. Phocas Department of Architecture. Faculty of Engineering. University of Cyprus
212	***Modelling and analysis of a traction control system for two Independent wheel drives-electric vehicle*** S.M. Wasfy(1), M.M.Eissa (1,2),(SMIEEE), G.M.A.Sowilam(1), M.Abdel Monem(1) (1) Electrical Power & Machines Department. Helwan Universiyty. Egypt (2) Faculty of Engineering, Electrical Engineering Department. King Abdul Aziz University. Saudi Arabia
214	***Sensorless AC Current Control with Backstepping Desing for a PWM AC-DC Converter*** B. Bourahla (1), B. Mazari (1), S.Moureau (2), G. Champenois (2) (1) University of Sciences and Technology of Oran. Algeria (2) LAII- University of Poitiers. France
216	***Proposed New Structure for Fault Current Limiting and Power Quality Improving Functions*** M. Firouzi (1), G.B.Gharehpetian (2) , M. Pishvaie (1) (1) Department of Electrical Engineering, University of Tafresh.Iran (2) Department of Electrical Engineering.Amirkabir University of Technology, Tehran. Iran
218	***Comparative study of various renewable fuels blends to run a diesel power plant*** Eloisa Torres-Jimenez (1), Marta Svoljšak Jerman (2), Andreja Gregorc (2), M. P. Dorado (3), Breda Kegl (4) (1)Department Mechanics and Mining Engineering. E.T.S. University of Jaén. Spain (2) Petrol d.d. Slovenia (3) Department of Chemical Physics and Applied Thermodynamics. University of Córdoba. Spain (4) Faculty of Mechanical Engineering. University of Maribor. Slovenia
219	***A Direct Power Controller for Doubly-Fed Induction Generator*** Alfeu J. Sguarezi Filho and Ernesto Ruppert DSCE-FEEC-UNICAMP. Brasil

221	***Online Gearbox-Load- Monitoring to Increase Gearbox Reliability*** Volver Kreidler Winergy AG Germany
223	***Dynamics parameters estimation of an asynchronous machine plus mechanical shaft set through orbit frequency response analysis*** Filipe Oliveira (1), Gerardo Peláez (2), Manuel P. Donsión (3) (1) Department of Electrical Engineering. School of Technology and Management. Polytechnic Institute of Leiria. Portugal Institute for Systems and Computer Engineering at Coimbra. Portugal (2) Department of Mechanical Engineering. University of Vigo. Spain (3) Department of Electrical Engineering. University of Vigo. Spain
224	***Study of a particular stack performance in a building*** G. La Fianza, F. Fucci, L. Brunetti Department S.A.V.A., Faculty of Agricolture. University of Molise, Campobasso. Italy
227	***Two Axes Sun Tracking System: Comparsion with a Fixed System*** M. Serhan, L.EL-Chaar Department of Electrical Engineering. Petroleum Institute. Abu-Dhabi (UAE)
231	***Process of a Territorial Energy Plan in an Isle*** M. Martínez, A. Pulido, J. Romero, JC.Quintana, J. Cruz Department of Electrical Engineering. E.T.S.I.I. Las Palmas de Gran Canaria University. Spain
233	***Modeling, Controller Design and Simulation of Power System Friendly Power Supply*** A. P.N. Tekwani (1), B. G.N. Khanduja (2) (1) Department of Electrical Engineering. Institute of Technology Nirma University Ahmedabad. Gujarat, India (2) Department of Electrical Engineering, Laljibhai Chaturbhai Institute of Technology, Bhandu, Mehsana. Gujarat. India
242	***Energy and Autohydrolysis By-Products from Industrial Crops*** López, F, Feria, M.J, García, J.C, Zamudio, M.A.M., Pérez, A. Department of Chemical Engineering. Faculty of Experimental Science.University of Huelva. Spain
244	***Neuro-Fuzzy Approach to Forecast Wind Power in Portugal*** H.M.I. Pousinho (1), V.M.F. Mendes (2), J.P.S. Catalão(1) (1) Department of Electromechanical Engineering. University of Beira Interior. Covilhã. Portugal (2) Department of Electrical Engineering and Automation. Instituto Superior de Engenharia de Lisboa. Portugal
245	***EMTP-RV Analysis of Lightning Surges on Wind Turbines*** R.B.Rodrigues (1), V.M.F. Mendes (1), J.P.S. Catalão(2) (1) Department of Electrical Engineering and Automation. Instituto Superior de Engenharia de Lisboa. Portugal (2) Department of Electromechanical Engineering. University of Beira Interior.Covilhã. Portugal
246	***Informing decision on transportation pilot study through stakeholder consultation*** F.S.Gil, J.F.Fernandes,Tomaz Dentinho University of Azores. Portugal

250	**Improved Maximum Power Point Tracking Algorithm for Photovoltaic Systems** L. MacIsaac , A. Knox Department of Electronics and Electrical Engineering. University of Glasgow. United Kingdom
252	***Simulation of Storage Systems for increasing the Power Quality of Renewable Energy Sources*** J. Méndez, A. Falcon , D. Hernández Institute of Intelligent Systems (SIANI) Las Palmas de Gran Canaria University. Spain
253	***Software phase lock loops for pulse width modulated rectifiers*** Petr Simek (1), Jiri Skramlik (1), Josef Tlusty (2), Viktor Valouch (1), Ivo Pecha (3) (1) Department of Power Engineering**.** Faculty of Electrical Engineering. CTU, Prague. Czech Republic (2) Institute of Thermomechanics, Academy of Sciences of the Czech Republic (3) Elektro. Bouzov. Czech Republic
255	***Selection of the Electrical Generator for a Wave Energy Converter*** J.L. Osa Amilibia (1), A. Iturregi Ajo (2) (1) Mechanical Engineering Department. University College of Engineering, University of The Basque Country. Spain (2) Department of Electrical Engineering. University College of Technical Mining and Civil Engineering. University of The Basque Country. Spain
256	***A Study of the Current Disturbance Caused by Wind Induced Vibrations of Photovoltaic Modules*** J. Schmid (1), E. Kancsar (1), M. Drapalik (1) V. Schlosser (1), G. Klinger (2) (1) University of Vienna, Department of Electronic Properties of Materials, Faculty of Physics. Austria (2) University of Vienna, Department of Meteorology and Geophysics. Austria
257	***Optimum Electrical Machine Selection for Spacecraft Electro-Mechanical Battery*** B. Abdi (1), J. Milimonfared (2), J. SH. Moghani (2) (1) Islamic Azad University-Damavand Branch.Tehran.Iran (2) AmirKabir University of Technology. Tehran. Iran
259	***Cogging Torque Reduction in PM Machines used in Electro -Mechanical Battery*** B. Abdi (1,2), J. Milimonfared (1) J. S. Moghani (1,2) (1) Satellite Research Center of Amirkabir University (AUTSAT) (2) Elec. Eng. Dep., Amirkabir University of technology. Tehran. Iran
260	***Cogging Torque Reduction in PM machines Used in Electro-Mechanical Battery*** B. Abdi Islamic Azad University, Tehran. Iran
261	***Modelling and Simulation of a Wind Energy System with Fractional Controllers*** R. Melício (1), V.M.F. Mendes (2) J.P.S. Catalão (1) (1) Department of Electromechanical Engineering. University of Beira Interior. Covilhã.Portugal (2) Department of Electrical Engineering and Automation. Instituto

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264	***Design Requirements for a Dynamic Series Compensator for Voltage Sags Mitigation in Low Voltage Distribution System*** Rosli Omar (1), Nasrudin Abd Rahim (2) (1) Faculty of Electrical Engineering, Technical University Malaysia Melaka. Malaysia (2) Department of Electrical Engineering. Faculty of Engineering, University of Malaya. Kuala Lumpur. Malaysia
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285	***Performance Evaluation of Microgrid Management Function in KERI pilot plant*** Jong-Yul Kim, Jin-Hong Jeon , Seul-Ki Kim New and Renewable Energy Research Center Korea Electrotechnology Research Institute. Changwon. Korea
287	***Energy saving in road tunnels by means of transparent tension structures*** A. Peña García (1), L.M. Gil Martín (2), A. Espín Estrella (1), F.Aznar Dols(1) (1) Department of Civil Engineering. ETSICCP. University of Granada.

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288	***Distributed Generation with Voltage Control Capability in the Low Voltage Network*** F.Sulla, J. Björnstedt, O. Samuelsson Department of Industrial Electrical Engineering and Automation LTH Lund University
290	***Energy System Diagnosis and Analysis with"Three - Links" Models in Pulp and Paper Mill*** Li Jigeng (1), Liu Huanbin (1), Yin Yongjin (1), Tao Jinsong (1), Kong Lingbo (1), Li Yugang (1), Jia Jingjiang (2) (1) South China University of Technology, State Key Laboratory of Pulp and Paper Engineering. Guangzho. China (2) Gold East Paper(Jiangsu)Co.,Ltd. Jiangsu. China
291	***Control of Hydrodynamic Parameters of Wave Energy Point Absorbers using Linear Generators and VSC-based Power Converters Connected to the Grid*** Agustín García Santana (1), Dan El Montoya Andrade (2), Antonio de la Villa Jaén (3) (1) Department of Electrical Engineering. AG Ingeniería. Spain (2) Department of Electrical Engineering. Venezuela Central University (3) Department of Electrical Engineering. University of Sevilla. Spain
293	***Detection of inter-coil short circuits in coils of salient pole synchronous generator field winding on the basis of analysis of magnetic field in the machine*** Ante Elez (1), Branko Tomčić (2), Miroslav Petrinić (1) (1) Končar – Electric Engineering Institute Inc. Zagreb. Croatia (2) Končar – Generators and Motors, Inc. Croatia
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298	***Analytical approach to the design of a high-force density double-sided linear switched reluctance motor*** J. Garcia Amorós (1), P. Andrada (2) (1) Departament d'Enginyeria Electrònica, Eléctrica i Automàtica E.T.S.E., Universitat Rovira i Virgili. Spain (2) GAECE**.** Grup d'Accionamients Elèctrics amb Commutació Electrònica. Departament d´Enginyeria Elèctrica, EPSEVG. Universidad Politécnica de Cataluña UPC. Spain

299	***Development and Implementation of a Voltage Real-Time Monitor System of Electrical Network with Remote Access*** G. P. Colnago (1), J. L. F. Vieira (1), G. C. D. Sousa (1), E. Trabach(2), J. R. Macedo (3) L. B. B. Macieira (3) (1) Department of Electrical Engineering C.T. Federal University of Espitiro Santo. Vitoria. Brasil (2) FEST. Brasil (3) EDP ESCELSA. Brasil
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302	***Renewable Energy Systems: Industrial and Home Best Practise Case Studies*** Victor Nabais(1), Pedro Dinis Gaspar(2), João Matias(2) (1) Industrial Engineering and Management. Engineering Faculty. University of Beira Interior. Covilhã. Portugal. (2) Electromechanical)Engineering Department. Engineering Faculty University of Beira Interior. Covilhã. Portugal
303	***Photovoltaic Solar cell like Receiver for Electromagnetic Waves in VHF-UHF Bands*** Daniel Iulian Costia, Mihai Octavian Popescu, Claudia Laurenţa Popescu, Aurelian Craciunescu Electrical Engineering Faculty.University Politehnica of Bucarest. România
305	***Conversion Analysis of a Planetary Chain-Set Speed Reducer into a Speed Increaser to Be used in RES*** Codruta Jaliu, Dorin Diaconescu, Radu Săulescu, Oliver Climescu Department of Product Design and Robotics. Transilvania University of Brasov. România
306	***Characterization of Fat Mixtures with Diesel Combustion and Process Combustion Fireplace at Constant Pressure*** José Alonso, J.F. (1), López Sastre, J. A. (2), Romero-Ávila, C.(2) (1) Departamento de Ingeniería Energética y Fluidomecánica (2) Departamento de Química Orgánica. Escuela Técnica Superior de Ingenieros Industriales, University of Valladolid. Spain
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315	***Study Case of Optimization Analysis on Energy-saving in Paper Mill Power-Heat System*** Huanbin Liu (1), Jinsong Tao (1), Jigeng Li (1), Yongjun Yin (1), Yanming Zhou (1), Jingjia Jia (2) (1) State Key Laboratory of Pulp and Paper Engineering, South China University of Technology, Tianhe, Guangzhou. China (2) Gold East Paper (Jiangsu) Co.,Ltd., ZhenJiang, Jiangsu.China
317	***Control of a variable speed and permanent magnet wind turbine: GARBI 150*** C. Cárdenas (1), D. Gómez (1) , J. Bécares (1), A. Morejón (2), L. Gorostiaga (1), E. Moya (1) (1) Fundación CARTIF. Parque Tecnológico de Boecillo. Valladolid.Spain (2) Electria Wind. Valladolid .Spain
318	***Wind Energy-Grid Stabilization Using a Dynamic Filter Compensator*** Mohamed A. El-Sayed Adel M. Sharaf Centre of Energy Studies.University of Trinidad and Tobago
320	***Network losses with photovoltaic and storage*** D.T. Ho (1), J.F.G Cobben (1,2), S. Bhattacharyya (1), W.L. Kling (1) (1) Eindhoven University of Technology. The Netherlands (2) Alliander N.V. The Netherlands
322	***Advanced Doubly Fed Induction Machine Rotor Fault Diagnosis Based on Wavelet Analysis in Closed Loop Operation Under Time–varying condition*** Y. Gritli (1,2), A. Stefani (2), A. C. Rossi (2), F. Filippetti (2) Chatti (1), (1) National Institute of Applied Sciences and Technology – INSAT.

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323	***Optimal maintenance system for offshore wind turbines*** Pérez M., García E., Morant F.,Correcher A. ,Quiles E. Department of Fault Diagnosis, Industrial Automation Institute (AI2) E.T.S.I.I.University of Valencia. Spain
325	***Optimization of Current Total Harmonic Distortion in Series-Connected Rectifiers*** N. Yousefpoor, G.B. Gharehpetian, S.H. Fathi Department of Electrical Engineering. Amirkabir University of Technology. Tehran. Iran
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330	***Maximum power's transfer and conformal transformations in the complex plane*** F. De la Bodega, M.T. Bedialauneta, Z. Aginako Department of Electrical Engineering. Escuela Universitaria de Ingeniería Técnica Industrial de Bilbao. Spain
331	***Fast Tracking the Fundamental component in Synchrophasors applications using the Recursive Corrected Phase Wavelet Transform*** C. D. P. Crovato (1), V. Souza (1), G. S. Wojichowski (1), A. A. Susin (2) (1) Embrasul Industria Eletrônica São Geraldo, Porto Alegre-RS. Brasil (2) Departamento de Engenharia Elétrica (DELET) Universidade Federal do Rio Grande do Sul (UFRGS). Porto Alegre. RS Brasil
333	***A Study of the Antenna Effect of Photovoltaic Modules*** M. Drapalik(1), J. Schmid(1), E. Kancsar(1), V. Schlosser(1), G. Klinger(2) (1) University of Vienna,, Faculty of Physics Department of Electronic Properties of Materials .Austria (2) University of Vienna. Faculty of Geosciences, Geography and Astronomy. Department of Meteorology and Geophysics. Austria
334	***New module integrated multilevel inverter for grid connection of photovoltaic plants*** G. Mehlmann, G. Herold Institute of Electrical Power Systems. University of Erlangen- Nuremberg.Germany
336	***Investigation of line-commutated three-phase converters under voltage unbalance*** Manuel Weiland, Gerhard Herold. Institute of Electrical Power Systems. University of Erlangen- Nuremberg.Germany
338	***Advanced Concept for Participation of Large Wind Farms to Ancillary Services*** Ahmad-Rami Al-Awaad KEMA Consulting GmbH. Bonn.Germany
339	***A new method for idendentification of zones with similar wind patterns using Hierarchical Clustering Techniques*** J. C. Palomares Salas, A. Agüera Pérez, J. J. G. de la Rosa, J. G. Ramiro Research Unit PAIDI-TIC-168. University of Cadiz. Electronic Area. Escuela Politécnica Superior. Spain

340	***Design of Modeling and Online Simulation for Energy Systems in Papermaking Mill*** Yan-Ming Zhou (1,2),Ji-Geng Li(1), Jin-Song Tao (1) Yong-Jun Yin (1), Huan-Bin Liu (1) (1) State Key Laboratory of Pulp and Paper Engineering. South China University of Technology, Guangzhou. China (2) University of Electronic Science and Technology of China Zhongshan Institute.Zhongshan. Guangdong. China
342	***Reduction of Electric and Magnetic Field Emissions caused by Overhead Power Lines*** K. Deželak, G. Štumberger, F. Jakl Universty of Maribor. Faculty of Electrical Engineering and Computer Science. Slovenia
343	***Two axis solar tracker based on solar maps, controlled by a low-power microcontroller*** Francisco Duarte, Pedro Dinis Gaspar,Luís Carrilho Gonçalves Electromechanical Engineering Department – Engineering Faculty University of Beira Interior. Covilhã. Portugal
344	***Electric Vehicle based on Standard Industrial Components*** José Fernández Ramos (1), Foroohar Aghili Khatir (2) (1) Departamento de Electrónica. University of Málaga. Spain (2) Asociación para la promoción de los vehículos eléctricos y no contaminantes de España (AVELE). Málaga. Spain
345	***Modifications of a Spark ignition Engine to Operate with Hydrogen and Methane Blends*** Moreno, F, Muñoz, M., Magén, O., Monné, C., Arroyo, J. Laboratorio de Motores. Department of Mechanical Engineering. University of Zaragoza. Spain
347	***Wind loads acting on an azimuthal photovoltaic platform. Experimental study*** R. Velicu, G. Moldovean, I. Scaleţchi, B.R. Butuc Product Design Centre for Sustainable Development, Transilvania University of Braşov. România
349	***Analysis of the Spanish industry economical losses due to interruption in the electricity supply*** Débora Coll (1), Juan Pardo (2), Manuel P. Donsión (3) (1) Department of Physics. University of Balearic Islands. Palma de Mallorca. Spain (2) Department of Industrial Organization. University of Vigo. Spain (3) Department of Electrical Engineering. University of Vigo. Spain
350	***Genetic Fuzzy Learning of local wind conditions*** Agustín Agüera Pérez, Juan J.González de la Rosa, J.Gabriel Ramiro Leo, J.C.Palomares Salas Research Group PAIDI-TIC 168. University of Cádiz. Spain
354	***Low Bandgap GaInAsSbP Pentanary Thermophotovoltaic cells*** P. J. Carrington (1), A. Krier, K.J. Cheethan, N.B. Cook, M. Yin (1) Physics Department, Lancaster University, Lancaster. United Kingdom
355	***Experimentally evaluated impact of nonlinear loads on the energy transmission losses and distortion of***

	voltage waveforms Gorazd Štumberger(1), Miran Rošer(2), Ivan Škratek(2), Viktor Tajnšek(2) (1) University of Maribor. Faculty of Electrical Engineering and Computer Science. Slovenia (2) Elektro Celje d.d. Slovenia
356	***Linke Turbidity Modelling for Braşov Urban Area*** L. Coste, E. Eftimie Department of Product Design and Robotics Transilvania University of Braşov. România.
357	***Radiative Parameters Specific to Braşov Urban Area*** L. Coste, C. Şerban Department of Product Design and Robotics Transilvania University of Braşov. România
360	***Advanced Voltage Positive Feedback for Anti-islanding of aDistribution Generation Inverter*** Seul-Ki Kim, Jin-Hong Jeon, Heung-Kwan Choi Renewable Energy System Research Center. Republic of Korea
362	***Addressing LV network power quality issues through the implementation of a microgrid*** Lava, J (1), Cobben, J. F. G (1,2), Kling, W.L (1), Van Overbeeke, F (3) (1) Department of Electrical Engineering, Eindhoven University of Technology. The Netherlands (2) Alliander N.V. The Netherlands (3) EMforce B.V. The Netherlands
365	***Centralized normalization of harmonic voltages by the third-order passive filter*** L.I.Kovernikova The Siberia Branch of the Russian Academy of Sciences Energy Systems Institute. Russia
367	***Agent-Based Services for Building Markets in Distributed Energy Environments*** I. Lopez Rodriguez,M. Hernández Tejera SIANI Universitary Institute.University of Las Palmas de Gran Canaria. Spain
368	***Investigation of gaseous emissions and ash deposition in a pilot-scale PF combustor co-firing cereal co-product biomass with coal*** Ala Khodier, Nigel Simms, Paul Kilgallon, Nigel Legrave Energy Technology Centre, School of Applied Sciences, Cranfield University. England. United Kigdom
375	***Real Problems in Utility High Voltage Network due to Grid Connected Photovoltaic Power Generation. The experience of Endesa*** Javier de la Cruz (1), Pedro Gómez (2) (1) Endesa Distribución Eléctrica S.L.U.Granada. Spain (2) Grupo de Investigación IDEA, Escuela Politécnica Superior, University of Jaén. Spain
376	***Ni and Ni-Fe perovskite for catalytic abatement of tar*** C. Gervasio, E. Grieco , G. Baldi Department of Science of Materials and Chemical Engineering Politecnico di Torino. Italy

377	***Bundling of Power Quality Indices as Method for Correlating Load Susceptibility and Disturbances Superposition*** P. Janik (1), Z. Waclawek (1), T. Lobos (2) H. Amaris (2) (1) Department of Electrical Engineering. Wroclaw University of Technology. Poland (2) Electric Engineering Department. University Carlos III of Madrid. Spain
378	***Technical and business economic study of photovoltaic systems*** B. Verhelst (1,2), J. Desmet (1,2), C. Debruyne (1,2), H. Van Landeghem (3) L. Vandevelde (2), (1) HOWEST, Department PIH Kortrijk. Belgium (2) Ghent University, Department EESA. Belgium (3) Ghent University, Department Industrial Management. Belgium
380	***Environmental energetic model for the energy industry in Spain*** M.A.Verdejo (1), J.R. Saenz (2), J. Fernández (1) ,M.Duran (3) (1) Electrical Engineering Department. E.P.S.of Linares. University of Jaén. Spain (2) Electrical Engineering Department. E.S.I. University of Cádiz. Spain (3) Electrical Engineering Department. University of Málaga, Spain
383	***Implementation of a New Method for an Improved Voltage Dips Evaluation by the Italian Power Quality Monitoring System in Presence of VT Saturation Effects*** R. Chiumeo(1), M . de Nigris (1), L. Garbero (1), C. Gandolfi (1), L. Tenti (1), E. Carpaneto (2) (1) ERSE - Enea Ricerche Sul Sistema Elettrico. Milano. Italy (2) Politecnico di Torino - Dipartimento di Energia Elettrica. Italy
384	***An innovative transmission mechanism applicable to variable speed wind turbines*** G. S. Hwang (1), J. C. Lin (2), D. M. Tsay (2) J. H. Kuang (2), T.L. Chern(3) (1) Department of Computer Science and Information Engineering Nanhua University. Taiwan (2) Department of Mechanical & Electro-Mechanical Engineering. National Sun Yat-Sen University. Taiwan (3) Department of Electrical Engineering. National Sun Yat-Sen University.Taiwan
389	***Distributed Voltage Control Strategies in a LV Distribution Network*** R. D'hulst , E. Peeters VITO. Mol. Belgium
390	***Performance Evaluation of Microgrid Management System by using a Hareware-In-Loop-Simulation Method*** JinHong Jeon, JongYul Kim, SeulKi Kim New and Renewable Energy Research Center Korea Electrotechnology Research Institute. Korea
394	***Analysis of unstable phenomenon in TCSC by experiment and simulation*** Junya Matsuki , Hiroki Muramatsu University of Fukui. Japan
397	***Voltage Control for a Loop Distribution System with Renewable Energy Sources*** Y. Hanai (1), Y. Hayashi (2), J. Matsuki (1) (1) School of Electrical and Electronics Engineering. University of Fukui. Japan (2) Department of Electrical Engineering and Bioscience. Waseda University. Tokyo. Japan

398	***CUSUM based Fault Detection of Stator Winding Short Circuits in Doubly-Fed Induction Generator based Wind Energy Conversion Systems*** Jawwad Zafar, Johan Gyselinck Department of Electrical Engineering. Université Libre de Bruxelles (ULB) Belgium
400	***Evaluation of Loss Coefficient for Stand Alone Radiator*** G.Pillutla (1), R. Mishra (1), S.M.Barrans (1), J.Barrans (2) (1) University of Huddersfield, Queensgate, Huddersfield. United Kingdom (2) Heights – UK Limited, Halifax.United kingdom
401	***Fuzzy Logic Application of Steady-state Harmonic Distortion Limits for the Time-Varying Harmonics*** J.H. Han, G. Jang School of Electrical Engineering. Korea University. Seoul. Korea
404	***The effect of inrush transients on PV inverters grid impedance measurement based on inter-harmonic injection*** V. Ćuk (1), S. Bhattacharyya (1), J.F.G. Cobben (1), W.L. Kling (1), R.B. Timens (1), F.B.J. Leferink (2) (1) Department of Electrical Engineering, Eindhoven University of Technology. The Netherland (2) Department of Electrical Engineering, University of Twente. The Netherlands
406	***New Issues on Electromagnetic Biocompatibility*** Mircea Ion Buzdugan(1), Horia Bălan(1), Dan Doru Micu, Dorin Mureşan(2) (1) Department of Electrical Engineering, Technical University Cluj-Napoca. România (2) Emmergency County Hospital from Cluj-Napoca. România
410	***Evaluating Switching Overvoltage of a Wind Farm using Monte Carlo Technique & Fully Digital Parallel Simulators*** Jean Belanger, Philippe Venne, Jean- Nicolas Paquin Opal-RT Technologies Inc. Montreal, Quebec. Canada
412	***New input circuits used for parameters determination of circuit breaker voltage and current paths*** A. Lisowiec, A. Nowakowski The Research Centre for IT Systems and Hardware Applications Tele & Radio Research Institute. Warsaw. Poland
414	***Powering for Long Term Monitoring in the Enclosed Areas*** A. Boura, M. Husak Department of Microelectronics, Faculty of Electrical Engineering Czech Technical University of Prague. Czech Republic
415	***Creation a Stability Index for Micro Grids*** I. Vokony, A. Dán Dr. Department of Electric Power Engineering.Group of Power Systems and Environment. Faculty of Engineering, Budapest University of Technology and Economics. Hungary
416	***The effect of Fault Ride-Through requirements on voltage dips and post-fault voltage recovery in a Dutch Distribution Network*** P. Karaliolios (1), E.J. Coster (1,2), J.G. Slootweg (1,3), W.L. Kling (1)

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418	***A Comparative Study on Variable-Speed Operations of a Wind Generation System using Vector Control*** A.J. Mahdi, W.H. Tang, L. Jiang,Q.H. Wu Department of Electrical Engineering and Electronics The University of Liverpool.United Kingdom
419	***Improvement of a MPPT Algorithm for PV Systems and Its Experimental Validation*** A.J. Mahdi, W.H. Tang and Q.H. Wu Department of Electrical Engineering and Electronics The University of Liverpool. United Kingdom
421	***Analysis of incentive systems for photovoltaic power plants in six countries of the European Union*** M. Pasetti (1), P. Iora (1), P. Chiesa (2) C. Invernizzi (1) A. Salogni (1) (1) Department of Mechanical and Industrial Engineering Università degli Studi di Brescia. Italy (2) Department of Energetics.Politecnico di Milano. Italy
423	***E-Diagnostics of the Switchgear Equipment Using IEC 61850*** Zdzisław Kołodziejczyk (1), Andrzej K. Wach (2) (1) Research Centre for IT Systems and Hardware Applications (2) Research Centre for Quality. Tele & Radio Research Institute Warsaw. Poland
425	***Stochastic performances estimate of a universal and flexible power management system for the future European electricity network*** Micaela Caserza Magro, Stefano Savio Department of Electrical Engineering – University of Genova. Italy
426	***Maximum power injection acceptance in a residential area*** C. Debruyne (1,2), J. Desmet (1,2), J. Vanalme (1,2), B. Verhelst (1,2), G. Vanalme (1,2), L. Vandevelde (2) (1) HOWEST, Department PIH Kortrijk. Belgium (2) Ghent University, Department EESA. Belgium
428	***A Dynamic Model of an Absorption Chiller for Air Conditioning*** S. Bittanti (1), A. De Marco (2), M. Giannatempo (3), V. Prandoni (4) (1) Dipartimento di Elettronica e Informazione. Politecnico di Milano. Italy (2) Procerss Engineer (3) Politecnico di Milano. Italy (4) ENEA Ricerca Sistema Elettrico (ERSE), Milano. Italy
429	***2008 Norwegian Quality of Supply Survey. State of Art and Reported Needs*** Kjell Sand Energy System Department. SINTEF Energy Research. Trondheim. Norway Department of Electric Power Engineering. The Norwegian University of Technology and Science
430	***Operational properties of a photovoltaic system with three single phase inverters*** S. Seme, G. Štumberger, J. Voršič University of Maribor. Faculty of Electrical Engineering and Computer Science. Slovenia

432	***A biomass powered Ringbom-Stirling engine for developing countries: a low-budget solution for distributed electricity generation*** S. Parmigiani, C. Invernizzi, A. Mazzù, V. Villa, A. Lezzi Department of Mechanical & Industrial Engineering Università degli Studi di Brescia. Italy
433	***Mesoscale modelling for wind resource evaluation purposes. A test case in complex terrain*** A. Soares (1), P. Pinto (1),R. Pilão (2) (1) MEGAJOULE, SA. Portugal (2) Instituto Superior de Engenharia do Porto, ISEP. Portugal
436	***Study and Construction of a small scale hybrid R.E.S Power System of Wind Generator with Photovoltaic*** Iakovos Yiakoumi, Athanasios Safacas Electromechanical Conversion Laboratory, Electrical and Computer Engineering. University of Patras. Greece
437	***Fully Automated MV Cable Monitoring and Measurement System for Multi-Sample Acquisition of Artificial Aging Parameters*** Christian Freitag , Ivana Mladenovic, Christian Weindl Institute for Electrical Power Systems. University of Erlangen-Nuremberg.Germany
438	***Analysis of Event Sequences in Power Distribution Systems*** O.A.Quiroga (1),J. Meléndez (1), S. Herraiz (1), J. Sánchez (2) (1) Institute of Informatics and Applications. Girona University. Spain (2) Endesa Distribución Eléctrica SLU. Spain
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441	***Power Quality Measurement Capabilities of "Smart" Energy Meters*** Tarjei Solvang, Luís Aleixo, Helge Seljeseth SINTEF. Energy Research. Norway
443	***Novel AC Side P&O Maximum Power transfer control for Grid Connected Photovoltaic Systems*** M. Hanif, M. Basu , K. Gaughan Department of Electrical Engineering Systems. Dublin Institute of Technology. Ireland
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447	***Defining of eligible capacity for biomass cogeneration plants in small towns in Estonia*** A.Volkova, A. Hlebnikov, A.Siirde

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453	***Using software agents to improve functionality of the power quality management software system*** Dan Apetrei (1), Ralf Neurohr (2), Mihaela Albu (2), Valentin Rascanu (2), Petru Postolache (2), Nicolae Golovanov (2), Ioan Silvas (1) (1) SC Electrica SA. Bucharest. România (2) P olitehnica University of Bucharest. România
455	***Quasi-Static Electrical Model for Magnetoresistive Current Sensors*** A. Roldán (1), C.Reig (2),J.B. Roldán (1),A. Cano Abellán (2),D. Ramírez (2) (1) Department of Electronics and Computer Technology University of Granada. Spain (2) Department of Electronic Engineering. University of Valencia. Spain
456	***Performance analysis of a PEM fuel cell*** J.I. San Martín (1), I. Zamora (2), J.J. San Martín (1) V. Aperribay (1), P. Eguía (2) Department of Electrical Engineering. University of the Basque Country (1) Escuela Universitaria de Ingeniería Técnica Industrial de Eibar Department of Electrical Engineering.University of The Basque Country. Spain (2) Escuela Técnica Superior de Ingeniería de Bilbao. Department of Electrical Engineering.University of The Basque Country. Spain
458	***Microalgae Zero Energy Farm for Bio fuel Production in Galicia*** Á. López Agüera , M. Vázquez García, V.Gándara Villadóniga, Iago Rodríguez Cabo Sustentable Energetic Applications Group. Department of Particle Physics & Galician Institute of High Energy Physics. University of Santiago of Compostela. Spain
460	***Geothermal application on an artificial lake powered using photovoltaic energy*** Gándara Villadóniga, V., López Agüera A., Vázquez García, M., Rodríguez Cabo, I. Sustentable Energetic Applications Group. Department of Particle Physics & Galician Institute of High Energy Physics. University of Santiago of Compostela. Spain
461	***Optimal reactive power compensation using synchronous generators*** Constantin Ghită, Aurelian Crăciunescu, Valentin Năvrăpescu, Ioan Dragos Deaconu, Aurel – Ionuț Chirilă, Ion-Daniel Ilina Electrical Machines and Drives Department Electrical Engineering Faculty, Universitatea Politehnica Bucuresti. Romania
463	***Quality of Pellets from Olive Grove Residual Biomass*** A. García Maraver(1), A. F. Ramos Ridao(1), D.P. Ruiz(2), M. Zamorano(1) (1) Department of Civil Engineering (2) Department of Applied Physics University of Granada. E.T.S Ingenieros de Caminos. Canales y Puertos. Spain
464	***Improved Energy Management of Capacitive Energy Storage in Metro Railcar by Simulation***

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467	***Scalable and Usable Web Based Supervisory and Control System for Microgrid Management*** Eduardo Álvarez, Antonio M. Campos, Rodrigo García, Saray González, Carlos Díez R&D Department. CTIC Foundation Gijón. Spain
469	***Finite element modelling of a solar collector*** A. Álvarez (1), M.C. Muñiz (2), L.M. Varela (3), O. Cabeza (4) (1) Departamento de Construcciones Navales E.U.Politécnica. Universidad of La Coruña. Spain (2) Departamento de Matemática Aplicada. Facultad de Matemáticas, University of Santiago de Compostela. Spain (3) Departamento Física de la Materia Condensada Facultad de Física, University of Santiago de Compostela. Spain (4) Departamento de Física. Facultad de Ciencias. University of La Coruña. Spain
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474	***Distributed Energy Resources (DER) Systems Integration into MV and LV Networks-Impact on Power Quality of the System*** Elda Vilchez, Juergen Stenzel Technische Universität Darmstadt. Germany
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478	***Energy Efficiency in a Municipal Building. Case Study: "Casa da Cultura de Coimbra"*** L. Costa (1), U. Correia (1), D. Coelho (2,3), C. Machado Ferreira (2,3) (1) Câmara Municipal de Coimbra. Portugal (2) Department of Electrical Engineering, ISEC - College of Engineering of Coimbra. Portugal (3) INESC Coimbra.Portugal
480	***Modelling and Optimization of a Concentrating PV-Mirror System*** I. S. Hermenean, I. Visa, A. Duta, D. V. Diaconescu Department of Product Design for Sustainable Development Transilvania University Brasov. România

483	***Selected Problems of Optimization of a Switched Reluctance Motor for an Electric Vehicle using Analytical Calculations*** Michal Majchrowicz, Wieslaw Jazdzynski Elec. Eng., Automatics, Comp. Sc. and Electronics Dept., AGH University of Science and Technology. Cracow. Poland
484	***Optimal location of a biomass power plant in the province of Granada analyzed by multicriteria evaluation using appropriate Geographic Information System according to the Analytic Hierarchy Process*** M. A. Herrera Seara, F. Aznar Dols, M. Zamorano , E. Alameda Hernández Department of Civil Engineering. School of Civil Engineering University of Granada. Spain
485	***Power Quality Improvements for an Electrical System with an Automobile Shredder*** James R. Johnson (1),Remi Bolduc (2), Jean-Marc Lupin (2), Laurent Chenevard (2) (1) Schneider Electric- Power. Salem. Oregon. USA (2) Schneider Electric-Power. Pringy. France
489	***Contribution for a better understanding of the technological sustainability in electrical energy production through photovoltaic cells*** Rui Pedro Mendes, Luís Carrilho Gonçalves, Pedro Dinis Gaspar Electromechanical Engineering Department – Engineering Faculty University of Beira Interior. Portugal
490	***Electric Vehicle. A cyclical story of death and resurrection*** Portela Núñez J. Mª., Pastor Fernandez A., Huerta Gomez de Merodio M. M., Otero Mateo, Manuel, Viguera Cebrián,J.L.,Díaz Vázquez,J.E. Department of Mechanical Engineering and Industrial Design. Escuela Superior de Ingeniería. Cádiz University. Spain
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496	***Voltage and Current Sensor for State Estimation in Distribution Network with Generation*** C. Gouveia, H. Leite, I. Ferreira Department of Electrical Engineering. FEUP. Porto University. Portugal
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502	***Analysis of the Impact of Distributed Generation in the Location of Faults in Power Distribution Systems*** J. Faig(1), J. Melendez(1), S. Herraiz(1), J. Sánchez(2) (1) Institut d'Informàtica i Aplicacions (IIiA). University of Girona. Spain (2) ENDESA Distribución. Barcelona. Spain
503	***Voltage Disturbances and Inrush Current of DC Power Supplies*** Adam. J. Collin , Saša Ž. Djokić Institute for Energy Systems.The University of Edinburgh. United Kingdom
505	***Power Quality in Grid connected Renewable Energy Systems: Role of Custom Power Devices*** Shafiuzzaman Khan Khadem, Michael Conlon Electric Power Research Group.School of Electrical Engineering Systems, Dublin Institute of Technology. Ireland
506	***Finite element analysis of an eddy currents heater for wind or water kinetic energy conversion into heat*** O. Nebi, V. Fireţeanu EPM_NM Laboratory. Politehnica University of Bucharest. România
507	***Simulation of Integration of Distributed Generation into Power System Control*** Dániel Divényi, Dr. András Dán Power System and Environment Group, Department of Electric Power Engineering. Budapest University of Technology and Economics.Hungary
509	***Development of an Installation to Reduce the Temperature Photovoltaic Modules and Improve Efficiency*** R. Mazon Hernandez, J.R. Garcia Cascales, F. Vera Garcia, A. Sanchez Kaiser, B. Zamora Parra Thermal and Fluid Engineering Department, Technical University of Cartagena. Murcia. Spain
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511	***New solar angles and their corresponding tracking systems efficiency*** M. Vătăsescu, I. Visa, D. Diaconescu, I. Hermenean, N. Creangă, D. Tohoneanu Department of Product Design for Sustainable Development Transilvania University of Brasov. România
520	***Technical feasibility study for a solar energy system at Amsterdam Airport Schiphol (AAS)*** P.N.J.W. Janssen (1,2), J.M.A. Myrzik (1) ,W.L. Kling (1), L. Reinders (2) (1) Department of Electrical Engineering Technical University Eindhoven. The Netherlands (2) Schiphol Group .Amsterdam Airport Schiphol. The Nederlands

522	***Results of an experimental study of a solar cooling system in Jaén using single effect lithium bromide absorption chiller*** A. Gómez Moreno (1), P.J. Casanova Peláez (2), F.A. Díaz Garrido (1), J.M. Palomar Carnicero (1) R. López García (1), F. Cruz Peragón (1) (1) Department of Mechanics and Mining Engineering. E.P.S. of Jaén University. Spain (2) Department of Electronic Engineering. E.P.S. of Jaén University.Spain
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525	***Simulation of a solar cooling system.*** A. Gómez Moreno, J.M. Palomar Carnicero, F. Cruz Peragón Department of Mechanics and Mining Engineering. E.P.S. of Jaén. Spain
528	***Polymer Based Piezoelectric Energy Microgenerator*** V. Janicek, M. Husak Department od Microelectronics, FEE CTU, Prague. Czech Republic
529	***Influence of electrical phenomena on the drive train of wind power plants*** D. Turschner (1), R. Hesse (2), B. Musasa (1) (1) Institute of Electrical Power Engineering - Clausthal University of Technology. Germany (2) IEHW Ingenieurbüro Elektrotechnik Wernigerode. Germany
530	***Feasibility study of establishing a PV power plant to generate electricity in Saudi Arabia from technical, geographical and economical viewpoints*** E. Al-Ammar (1,2), A. Al-Aotabi (3) (1) Sustainable Energy Technology Innovation Program (SETIP) (2) Department of Electrical Engineering. King Saud University Riyadh Saudi Arabia (3) Saudi Electricity Company Riyadh. Saudi Arabia
533	***Simulation of Photovoltaic Generators and Comparison of two common Maximun Power Point Trackers*** Abdallah Zegaoui (1,2), Pierre Petit (1,3), Jean Paul Sawicki (1,3), Jean Pierre Charles (1), Michel Aillerie (1), M. Della Krachai (4) A.O.Belarbi (4) (1) LMOPS.University Paul Verlaine of Metz and Supélec. France. (2) University Hassiba Ben Bouali. Algeria (3) LMOPS, University Paul Verlaine of Metz and Supélec, IUT of Thionville Yutz. France (4) University of Technological Sciences of Oran. Algeria
535	***Off-grid PV system to supply a rural scholl on DC network*** Freitas, A. A. (1), Daher, S. (1), Antunes, F.(1), Ximenes, S (1), Cruz, C (1) Sá Jr, E.(2), Silva, F. S. (3) (1) Electric Engineering Department. Universidade Federal do Ceará Fortaleza/CE. Brasil (2) IFCE – Instituto Federal de Educação, Ciência e Tecnologia do Ceará. Brasil (3) IFPI – Instituto Federal de Educação, Ciência e Tecnologia do Piauí. Brasil

536	***A Computational Tool for Simulation an Design of Multilevel Inverters*** A. Samuel Jó de Mesquita, B. Fernando Luiz Marcelo Antunes , C. Sérgio Daher, C. Marins, Oliveira Jr, D. Federal University of Ceará. Electrical Engineering Department. Brasil
538	***Comparison of different solutions for blocking diode applications in a photovoltaic panel under varying ambient conditions*** H.C. Neitzert (1), A. Astone (1,2) (1) Department of Electrical Engineering. DIIIE, Salerno University. Italy (2) Telefon Italia Mobile (TIM). Trieste. Italy
541	***Gasification of Cake of Coconut Macaúba, of Firewood of Eucalyptus and Coal Plant Fruit for Dehydratation*** Santos Filho, Jaime dos (1); Silva, Jadir Nogueira da (2); Souza, Durval de Almeida (1,3) ; Grisi, Edson Fraga (3); Costa, Carlos André da (2) (1) Instituto Federal da Bahia. Brasil (2) Universidade Federal de Viçosa. (3) University of Zaragoza. Department Engineering Electric. Spain
543	***Integrated use of Renewable Energy for Sustainable Development to contribute to two Rural Communities of Chiapas*** Neín Farrera (1,3), Pascual López (1), Joel Moreira (2), Joel Pantoja (2), P. J. Sebastián (4) (1) DES de Ingeniería, Universidad de Ciencias y Artes de Chiapas. México (2) Universidad Politécnica de Chiapas. México (3) Universidad del Valle de México. Chiapas. México (4) Universidad Nacional Autónoma de México. México
546	***Integration of PV systems into low voltage networks using standard load profiles*** M. Eisenreich (1), G. Balzer (1), J. Backes (2), B. Maurer (2) (1) Technische Universität Darmstadt. Institute of Electrical Power Systems. Darmstadt .Germany (2) EnBW Regional AG. Stuttgart. Germany
547	***Towards Low-Cost Manufacturing of Organic Solar Cells: Multi Criteria Assessment of Fabrication Technologies*** Nieves Espinosa, Rafael García Valverde, M. Socorro García Cascales, Antonio Urbina Departamento de Electrónica, Tecnología de Computadores y Proyectos. Universidad Politécnica de Cartagena. Murcia. Spain
549	***Data Driven Model for a Fuel Cell stack development in a complex Multi-source Hybrid Renewable Energy System*** G. Napoli, M. Ferraro, G. Brunaccini, G. Dispenza, V. Antonucci CNR-ITAE, Consiglio Nazionale delle Ricerche - Istituto di Tecnologie Avanzate per l'Energia "Nicola Giordano". Messina. Italy
551	**Interconnection of a Photovoltaic Generator (PVG) to a Main Supply: A Practical Study** Maamar Taleb University of Bahrain. Department of Electrical and Electronics Engineering. Bahrain
555	***Investigation of Power Quality in Health Care Facility*** Rusdy Hartungi, Liben Jiang School of Built and Natural Environment. University of Central Lancashire. United Kingdom

559	***Short-Term Hydro Scheduling considering Risk Aversion in a MINLP Approach*** J.P.S. Catalão (1), H.M.I. Pousinho (1),V.M.F. Mendes (2) (1) Department of Electromechanical Engineering University of Beira Interior. Covilhã. Portugal (2) Department of Electrical Engineering and Automation. Instituto Superior de Engenharia de Lisboa. Portugal
560	***Early Detection of Voltage Instability in Distribution System utilizing Phasor Measurement Units*** A. Noha H. El-Amary, B. S. El Safty Department of Electrical and Computer Control Engineering. College of Engineering. Arab Academy for Science and Maritime Transport (AASTMT). Egypt
563	***Renewable energy plants: environmental compatibility and external costs assessment at global, regional and local scale*** E. Brizio (1), G. Genon (2), F. Becchis(3) ,D. Russolillo(3) (1) Environmental Protection Agency of Piedmont. Cuneo. Italy (2) Department DITAG, Politecnico di Torino. Italy (3) Fondazione per l'Ambiente "T. Fenoglio". Politecnico di Torino and Università del Piemonte Orientale. Italy
564	***Propagation of voltage sags in industrial power networks*** A. Ortiz (2), L.M. Muñiz (1), M. Mañana (2), F. Ortiz (2), F. Delgado (2), A. Arroyo (2) (1) Automatización y Tecnologías Industriales y Medioambientales S.L. Cartes .Spain (2) Department of Electrical and Energy Engineering. E.T.S.I.I. Cantabria University. Spain
565	***Comparative Study of Two Cogeneration Systems based on Energy Recovery of Fumes from a Casting Process*** M. Fernandez (1), Carlos J Renedo (1), J. García (2), S. Pérez (1), I. Fernández (1), M. Mañana (1) (1) Department of Electrical and Energy Engineering of the University of Cantabria. Spain (2) NISSAN MOTOR IBERICA, S.A. Cantabria. Spain
569	***Effects of Time Delays on the Behavior of a Centralized Control System for Providing System Ancillary Services in an Active Distribution Network*** R. Angelino(1), A. Bracale(2), G. Carpinelli(1), M. Mangoni(1), D. Proto(1) (1) Department of Electrical Engineering. University of Napoli Federico III. Italy (2) Department for Technologies. University Parthenope of Napoli. Italy
570	***Dynamic Behaviour of an Hybrid Wind – Fuel Cell Generation System: Active and Reactive Power Control*** J.J. Ugartemendia (1), X. Ostolaza (2), , I. Zubia (1), A. Olano (1) (1) Department of Electrical Engineering of the University of The Basque Country. Spain (2) Department of Systems Engineering & Control of The University of the Basque Country. Spain

572	***Power Limitation at High Wind Speeds for a Variable Speed Fixed Pitch Wind Turbine Using Closed-Loop Scalar Control*** N.Rosmin , S.J.Watson , M.Tompson Centre of Renewable Energy System Technology (CREST) Department of Electronics and Electrical Engineering. Loughborough University. United Kingdom
575	***The role of the dc-bus in voltage sags experienced by three-phase adjustable-speed drives*** Mañana, M, Muñiz, L.M, Ortiz, A, Aranda R, Arroyo A, Delgado F. Department of Electrical Engineering. E.T.S.I.I.T. University of Cantabria. Spain
580	***Energy Efficiency in Data Processing Centers*** Carlos Redondo Gil Castille and León Technological Center for Supercomputing (FCSC) Edificio CRAI-TIC. León. Spain Electrical Engineering & Systems Engineering and Automatic Control Department. Faculty of Industrial and Computer Engineering. University of León. Spain
583	***Power Quality aspects of Smart Grids*** Math Bollen (1,2), Jin Zhong (3), Francisc Zavoda (4), Jan Meyer (5), Alex McEachern (6), Felipe Córcoles López (1) STRI AB.Sweden (2) Luleå University of Technology . Skellefteå, Sweden (3) University of Hong Kong (4) IREQ. Québec.Canada (5) Technische Universität Dresden. Germany (6) Power Stands Labs. San Francisco. USA (7) Politechnical University of Catalonia. Spain
585	***Testing the Influence of the Quality of the Supply Voltage on the Performance of a Numerical Relay*** Ruth P.S. Leão (1) , Ana L.Colaço (2), Nelber X. Melo (1), Janaína A. Almada (1), Robson A. Azevedo (1), Raimundo F.Sampaio (1), Giovanni C. Barbosa (1),Giordane Silveira (2) (1) Department of Electrical Engineering – DEE. Federal University of Ceará. Brazil (2) Energy Company of Ceará. COELCE. Brazil
589	***Integration of Renewable Generation into the Portuguese Power System: The Impact of Different Hydrological Regimes*** Sérgio Faias (1), Jorge Sousa (1), Rui Castro (2) (1) Instituto Superior de Engenharia de Lisboa, DEEA/ISEL. Portugal (2) Instituto Superior Técnico / Technical University of Lisbon, IST/TUL Portugal
590	***Decentralised Energy Management System to Virtual Power Plants*** J.A. Barbosa, R.P.S. Leão, C.F.P. Lima ,M.C. O. Rego Department of Electrical Engineering. Federal University of Ceará. Brazil
591	***Three Phase Grid Connected Photovoltaic System with Active and Reactive Power Control Using "Instantaneous Reactive Power Theory"*** G. Adamidis,G. Tsengenes, K. Kelesidis Department of Electrical Engineering and Computer Engineering. Democritus University of Thrace.Greece
594	***A study on the improvement of portable fuel cell fan***

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596	***Contribution to the evaluation of the illuminated solar cells parameters*** K. Bouzidi (1), M. Chegaar (1), M. Aillerie (2), J. P. Charles (2) (1) L.O.C, Physics Department, Ferhat Abbas University.Sétif, Algeria (2) LMOPS, Université Paul Verlaine Metz & Supelec. France
597	***Optimal Design of Trigeneration and District Energy in the Presence of Energy Storage*** S. Bruno, S. Lamonaca, M. La Scala, U. Stecchi Dipartimento di Elettrotecnica ed Elettronica. Politecnico di Bari. Italy
598	***Design of a Microcontroller Based Automated Pyranometer*** M. Laghrouche A.Attaf, R. Ziani, S, Ameur Mouloud Mammeri Universit./Department of Electronics. Tizi-Ouzou. Algeria
599	***Photovoltaic system behaviour with different loads*** Campayo Martín, J.J. (1), Ramos Hernanz, J.A. (1), Zamora Belver, I. (1) Larrañaga Lesaka, J. (2), Zulueta Guerrero, E. (3), Motrico Gogeaskoetxea, J. (1) (1)Department of Electrical Engineering. University of The Basque Country. Spain (2) Department of Management and Production Engineering University of The Basque Country. Spain (3) Department of Systems Engineering and Automatic. University of The Basque Country. Spain
601	***Energy storage systems for wind power application*** Raúl Sarrias (1) , Luis M. Fernández (1), Carlos A. García(1), Francisco Jurado (2**)** (1) Department of Electrical Engineering. University of Cadiz.EPS Algeciras. Spain (2) Department of Electrical Engineering. University of Jaen. EPS Linares. Spain
603	***A review of linear advanced current control techniques for grid connected PV inverters*** Javier Monreal, Ignacio Benítez, Laura Moreno , Andrés Lluna, Inma Díaz Department of Capital Goods and Automation. Instituto Tecnológico de la Energía (ITE). Valencia. Spain
604	***Biomass for energy production characteristics, amount an distribution in Latvia*** Janis Kalnacs (1), Andis Lazdinsh (2) (1) State Research Institute “Institute of Physical Energetics”, Riga. Latvia (2) Latvian State Forestry Research Institute "Silava" Riga. Latvia
607	***A New Solution for Maintenance Scheduling of Distributed Generations based on Monte-Carlo Simulation and Game Theory*** M. Manbachi (1), A.H. Parsaeifard (1), M.R. Haghifam (2) (1) Department of Electrical Engineering. Islamic Azad University. Tehran.Iran (2) Department of Electrical Engineering.Tarbiat Modares Universitry Tehran. Iran

608	***Optimization Analysis of Multiple Steam Turbines and Condensers in Paper Mill Power Plant*** Jinsong Tao (1), Huanbin Liu (1), Jigeng Li (1), Yongjun Yin (1), Yanming Zhou (1) Jingjia Jia (2) (1) State Key Laboratory of Pulp and Paper Engineering, South China University of Technology, Tianhe. Guangzhou.China (2) Gold East Paper Jiangsu Dagang. ZhenJiang.China
609	***Optimization of Direct Power Control of Three-Phase Active Rectifiers by using Multiple Switching Tables*** J.G. Norniella, J.M. Cano, G.A. Orcajo, C.H. Rojas, J.F. Pedrayes, M.F. Cabanas, M.G. Melero University of Oviedo. Department of Electric Engineering. Gijón. Spain
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613	***Virtual Power System: Novel approach for Distributed Generation and Consumption Coordination*** E. Cagno (1), F. Castelli Dezza (2), M. Delfanti (3), M. Merlo (3), A.Trianni(1) (1) Department of Management, Economics and Industrial Engineering. Politecnico di Milano. Italy (2) Department of Mechanical Engineering.Politecnico di Milano. Italy (3) Energy Department. Politecnico di Milano. Italy
614	***Integrating Wind Energy into Weak Power Grid Using Fuzzy Controlled TSC Compensator*** Mohamed A. El-Sayed Utilities Engineering. University of Trinidad and Tobago
615	***Use of Energy Storage for Leveling Wind Generation – a Parametric Approach Concerning the Capacity of the Storage*** Bálint Hartmann András Dán Department of Electric Power Engineering. Budapest University of Technology and Economics. Hungary
616	***Optimal Placement and Sizing of DG for Loss Recuction, Voltage Profile Improvement and Voltage Sag Mitigation*** S. M. Farashbashi-Astaneh (1,2), A. Dastfan (1) (1) Department of Electrical and Robotic Engineering Shahrood University of Technology. Iran (2) Khorasan Regional Electric Company. Mashad. Iran
618	***Hybrid Power Systems Planning with Geographical Information System Models*** P.J. Zorzano Santamaría, A. Falces de Andrés, L.A. Fernández Jiménez, E. García Garrido, E. Zorzano Alba, M. Mendoza Villena, P. Lara Santillán Department of Electrical Engineering. E.T.S.I.I., La Rioja University. Spain
619	***Modelling of Photovoltaic Module.*** Ramos Hernanz, J.A.(1), Campayo Martín, J.J. (1) Zamora Belver, I.(1), Larrañaga Lesaka, J.(2), Zulueta Guerrero, E.(3), Puelles Pérez, E.(1) (1) Department of Electrical Engineering (2) Department of Management and Production Engineering (3) Department of Systems Engineering and Automatic E.U.I., Vitoria-Gasteiz. University of The Basque Country. Spain

620	***Identification of Photovoltaic Array Model Parameters. Modelling and Experimental Verification*** I. Houssamo (1), M. Sechilariu (1), F. Locment (1) G. Friedrich (2) (1) University of Technology of Compiegne. Avenues Team Research. France (2) LEC, EA 1006. Compiegne Cedex .France
621	***Design of a PFC rectifier with fast start up response and low input current distortion*** Ahmadreza Amirahmadi(1), Ali Dastfan(1), Seyed Mohamad Reza Rafiei(2) (1) Department of Electrical &Robotics Engineering, Shahrood University of Technology. Iran (2) Department of Electrical Engineering, Politecnico di Torino. Turin, Italy
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625	***Grid manager design using Battery Energy Storage Systems in weak power systems with high penetration of wind energy*** A. Goikoetxea (1), J. A. Barrena (1), M. A. Rodríguez (2), G. Abad (1) (1) Faculty of Engineering, University of Mondragon. Spain (2) Ingeteam Transmission & Distribution, S**.**A**.**, Protección y control de redes eléctricas. Basauri.Bizkaia.Spain
626	***Optimization of Single-phase PWM Rectifier Performance by Using the Genetic Algorith*** F.Jafari, A.Dastfan Department of Electrical Engineering. Shahrood University of Technology. Iran
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629	***An Improved Electronic Circuit for Tracing the I-V Characteristics of Photovoltaic Modules and Strings*** Vicente Leite(1), Faustino Chenlo(2) (1) Polytechnic Institute of Bragança, School of Technology and Management. Bragança. Portugal (2) CIEMAT, Research Centre for Energy, Environment and Technology Madrid. Spain
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633	***Analysis of the thermal heating of poly-Si and a-Si photovoltaic cell by means of***

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638	***Self-Powered Passive Adaptive Control of Pitch Angle and Betz-Shaped Wind Tunnel*** S.C. Li School of Engineering. University of Warwick. United Kigdom
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644	***Rewiew of Local and Remote Techniques for Islanding Detection in Distributed Generators*** D. Velasco (1), C.L.Trujillo (1,2), G. Garcerá (1), E. Figueres (1), O. Carranza (3) (1) Department of Electronic Engineering. Universidad Politécnica de Valencia. Spain (2) Department of Electronic Engineering.Universidad Distrital Francisco José de Caldas.Bogotá. Colombia (3) Escuela Superior de Cómputo. Instituto Politécnica Nacional. Mexico
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647	***Metrological Confirmation of Total Harmonic Distortion of Voltage Meters Used in Brazilian Electrical Power System***

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648	***Study of Current Distribution Over a Power Cable Presenting Non-Uniform Geometry Using the Partial Differential Equations Approach*** Ghazi Bousaleh (2), Fahd Hassoun (1),Rafic Hage Chehade (2) (1) France Telecom R&D. France (2) Lebanese University. IUT Saida. Lebanon
649	***Integrated Design and Optimization of a Direct Drive Axial Flux Permanent Magnet Generator for a Tidal Turbine*** O. Keysan (1), A.S.McDonald, M.Mueller (1) (1) School of Engineering. Institute for Energy Systems. University of Edinburg.United Kigdom
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652	***Ambient RF Energy Harvesting*** D. Bouchouicha (1), F. Dupont (1), M. Latrach (3), L. Ventura (2) (1) STMicroelectronics. Tours.France (2) Laboratoire de Microélectronique de Puissance-Université de Tours. France. (3) Groupe RF& Hyperfréquence- École Supérieure d'électronique de l'ouest (ESEO) Angers. France
655	***STATCOM Model against SVC Control Model Perfomance Analyses Technique by MATLAB*** Tariq Masood (1), R.K Aggarwal (1), S.A. Qureshi (2), R.A.J. Khan (3) (1) Department of Electronics and Electrical Engineering.University of Bath United Kingdom (2) Department of Electrical Engineering. University of Engineering and Technology. Lahore. Pakistan (3) Department of Electrical Engineering. Rachna College of Engineering and Technology. Gujranwala. Pakistan
656	***STATCOM Control Reconfiguration Technique for Steady State and Dynamic Performance Optimizatio during Network Fault Conditions*** Tariq Masood (1), R.K Aggarwal (1), S.A. Qureshi (2), R.A.J. Khan (3) (1) Department of Electronics and Electrical Engineering.University of Bath United Kingdom (2) Department of Electrical Engineering. University of Engineering and Technology. Lahore. Pakistan (3) Department of Electrical Engineering. Rachna College of Engineering and Technology. Gujranwala. Pakistan
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