High voltage circuit breakers: SF6 vs. Vacuum

458 A. Iturregi, E. Torres, I. Zamora, O. Abarrategui
Department of Electrical Engineering. UPV-EHU. Barakaldo. Spain

Optimization of $Sn0_2$- Si heterostructure elaborated by APCVD for solar energy conversion

459 D. Hocine, Ms. Belkaid, K. Lagha
Faculty of Electrical and Computer Engineering. The University Mouloud Mammeri. Tizi-Ouzou. Algeria

Supply security and the reliability of the Spanish generator system in the next two decades based on the costs of fossil fuels and nuclear option

465 F. Delgado, A. Ortíz, C.J. Renedo, S. Pérez, M. Mañana
Department of Electrical and Energy Engineering. E.T.S.I.I.,Cantabria University, Spain

Eucalyptus globulus waste as fuel in a power plant

466 S. Pérez, C.J. Renedo, A. Ortíz, M. Mañana, C. Tejedor, N. Sanke, F. Delgado
Department of Electrical and Energy Engineering. E.T.S.I.Industrial and Telecomunication, University of Cantabria, Spain

Environmental/economic power dispatch of microgrid using multiobjetive optimization

467 Faisal A. Mohamed[1], Heikki N. Koivo[2]
[1] Department of Electrical Engineering. Omar Al-Mukhtar University. Libya
[2] Department of Automation and Systems Technology. Helsinki University of Technology. Finland

Asynchronized turbogenerators and compensators for improving the electric power quality

468 N.D. Pinchuk, O.V. Antoniuk, M.B. Roytgarts
Branch ELECTROSILA of the JSC Power Machines, St. Petersburgo. Russia

Effects of flow direction and thermal short-circuiting on the performance of coaxial ground heat exchangers

469 Enzo Zanchini, Stefano Lazzari, Antonia Priarone
Dipartimento di Ingegneria Energetica, Nucleare e del Controllo Ambientale, Università di Bologna, Bologna. Italy

Micro grid stabilization using the virtual synchronous machine (VISMA)

472 Ralf Hesse, Dirk Turschner, Hans-Peter Beck
Institute of Electrical Power Engineering. Clausthal-Zellerfeld. Germany

Velocity-controlled piezoelectric switching energy harvesting device

476 Yuan-Ping Liu[1,2], Dejan Vasic[1], François Costa[1,3], Wen-Jong Wu[2], C.K. Lee[2,4,5]
[1] Système et Application dês Technologies de l'Information et de l'Energie, Universud, Ecole Normale Supérieure de Cachan, France
[2] Department of Engineering Science and Ocean Engineering, National Taiwan University, Taipei, Taiwan
[3] IUFM de Créteil, Université Paris 12,St Denis, France
[4] Insitute of Applied Mechanics, National Taiwan University. Taiwan
[5] Industrial Technology Research Institute of Taiwan

Development of switchable transformer research at University of South Australia

477 H.A. Dharmawan, A.M. Ali
School of Electrical and Information Engneering, University of South Australia, Adelaide, South Australia

Predictable impact of lighting control on the energy consumption of a building through computational simulation

H. Bernardo[1,3], S. Leitão[2], L. Neves[1,3], P. Amaral[1,3]

534

[1] Departmento of Electrical Engineering, School of Technology and Management, Potytechnic Institute of Leiria, Portugal
[2] Department of Engineering, University of Trás-os-Montes and Alto Douro. Portugal
[3] Institute for Systems and Computer Engineering at Coimbra, Portugal.

Thursday 16th April 2009

11:45-13:00 Oral Session A3 **ROOM A "Iberdrola"**

Chairman: Lieven Valdevelde

Stand-alone wind power system operating with a specific storage structure

M. Druga[1], C. Nichita[1], G. Barakat[1], E. Ceanga[2]

332

[1] Department of Electrical Engineering. GREAH-Groupe de Recherche en Electrotechnique et Automatique du Havre, University of Le Havre, France
[2] Department of Electrical Energy Conversion Systems, Faculty of Electrical Engineering, "Dunarea de Jos" University of Galati, Romania

DC-bus voltage controllers for a three-phase voltage-source inverter for distributed generation

333

Bart Meersman, Bert Renders, Lieven Degroote, Tine Vandoorn, Lieven Vandevelde
Electrical Energy Laboratory (EELAB). Department of Electrical Energy, Systems and Automation (EESA), Ghent University, Belgium

Uninterruptible energy production in standalone power systems for telecommunications

350

E.F.F. Ribeiro[1], A.J. Marques Cardoso[1], C. Boccaletti[2]
[1] University of Coimbra, FCTUC/IT. Department of Electrical and Computer Engineering. Portugal
[2] Sapienza University of Rome. Department of Electrical Enginering. Italy

Modeling and simulation of a supervision and management system of hybrid energy systems for the pantanal region

503

Daniela Luiza Catelan Carneiro, João Onofre Pereira Pinto, Ruben Barros Godoy, Alexandra Maria A.C. Pinto
Department of Electrical Engineering. DEL. Federal University of Mato Grosso de Sul. BATLAB- Laboratory of Artificial Intelligence, Digital Systems and Power Electronics. Brasil

Fuel consumption minimization of a cogeneration system multi machines associated with a photovoltaic

508

Mélissa Dondas[1], Firas Alkhalil[1], Philippe Degobert[1], Frédéric Colas[1], Benoit Robyns[2]
[1] Laboratoire d'Electrotechnique et d'Electronique de Puissance de Lille (L2EP). Ecole National Supérieure des Arts et Metiers (ENSAM) Lille.
[2] Ecole des Hautes Etudes d'Ingénieurs (HEI), L2EP Lille, France

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

Thursday 16th April 2009

11:45-13:00 Oral Session B3 **ROOM B "Circutor"**

Chairman: Miguel Martínez Melgarejo

A case study of sharing the harmonic voltage distortion responsibility between the utility and the consumer

327 F.H. Costa, I.N. Santos, S.F.P. Silva, J.C. de Oliveira
Group of Power Quality. Faculty of Electrical Engineering, Federal University of Uberlandia. Brazil

A control strategy for combined series-parallel active filter system under non-periodic conditions

343 M. Ucar, S. Ozdemir, E. Ozdemir
Electrical Education Department, Technical Education Faculty, Kocaeli University, Turkey

A case study of transient and dynamic performance of saturated core reactor static Var compensator

353 J.A.F. Barbosa Jr[1], J.C. Oliveira[1], A.B. Vasconcellos[2], J.M. Pacheco[2]
[1] Faculty of Electrical Enginering. UFU, Federal University of Uberlândia. Brazil
[2] Department of Electrical Engineering, Federal University of Mato Grosso. Brazil

Design issues of redundant protection and supervision system for the special purpose power converters

356 Dmitri Vinnikov, Indrek Roasto, Valery Vodovozov
Department of Electrical Drives and Power Electronics Tallinn University of Technology. Tallinn. Estonia

Efficiency optimization of the high-power isolated DC/DC converters through THD and losses reduction in isolation transformers

Dmitri Vinnikov[1], Victor Bolgov[2]
359 [1] Tallinn University of Technology, Department of Electrical Drives and Power Electronics. Tallinn. Estonia
[2] Tallinn University of Technology, Department of Fundamentals of Electrical Engineering and Electrical Machines. Tallinn. Estonia

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

Thursday 16th April 2009	
15:00-16:30 Mesa Redonda MR1	**ROOM UPV "Sala de Juntas"**

Mesa Redonda MR1

Espacio Europeo de Educación Superior (EEES)

XIXRGIIE (In Spanish)

- **Moderador:** D. Javier Rodríguez Zunzarren. Decano del Colegio de Ingenieros Industriales de Valencia.
- D. Miguel Andrés Martinez Iranzo. Director de la Escuela Técnica Superior de Ingenieros Industriales.
- D. Carlos Redondo Gil. Catedrático de Universidad de la Universidad de León.
- D. Miguel Angel Fernández Prada. Vicerrector de Estudios y Convergencia Europea.
- D. Enrique Ballester Sarrias. Director de la Escuela Técnica Superior de Ingeniería del Diseño.

16:30-17:00	**Café**

Thursday 16th April 2009	
17:00-18:30 Mesa Redonda MR2	**ROOM UPV "Sala de Juntas"**

Mesa Redonda :

La investigación en Europa. Caso de España

XIXRGIIE (In Spanish)

- **Moderador:** D. Antonio Cejalvo. Director de la Agencia Valenciana de la Energía.
- D. Pedro Fito Mauopey. Director del Instituto universitario de Ingeniería de Alimentos para el Desarrollo
- D. Francisco José Mora Más. Vicerrector de Planificación e Innovación.
- D. José Francisco Duato Marín. Catedrático de Universidad.
- D. José Ganau. Colegio Oficial de Ingenieros Industriales de la Comunidad Valenciana.

20:30 -24:00	**Conference Banquet at "Sorolla Palace"** (Optional)

Friday 17th April 2009

9:30-10:45 Oral Session A4 **ROOM A "Iberdrola"**

Chairman: Ghita Constantin

357 ***The impact of transportation costs on the profitability of heat and power generation with wood products***
J. Parrilla[1], W. Fichtner[2]
[1] Chair of Energy Economics. Brandenburg Technical University of Cottbus. Germany
[2] Chair of Energy Economics. Institute for Industrial Production. Karlsruhe. Germany

368 ***Simulation of the aerodynamic behaviour of a micro wind turbine***
J.M.M. Monteiro[1], J.C. Páscoa[1], F.M.R.P. Brójo[2]
[1] Department of Electromechanical Engineering. University Of Beira Interior. Portugal
[2] Department of Aerospace Sciences and Technology. Unversity of Beira Interior. Portugal

376 ***Concept for optimization and simulation of renewable energy parks with desalination***
D. Buschert, B. Bitzer
South Westphalia University of Applied Sciences, Campus Soest, Germany

399 ***A voltage-source inverter for microgrid applications with an inner current control loop and an outer voltage control loop***
Tine Vandoorn, Bert Renders, Frederik De Belie, Bart Meersman, Lieven Vandevelde
Electrical Energy Laboratory (EELAB), Department of Electrical Energy, Systems and Automation (EESA). Ghent University, Belgium

403 ***European strategic energy technology plan***
C. Redondo Gil, L.A. Esquibel, A.M. Alonso Sánchez
Electrical Engineering & Systems Engineering and Automatic Control Department. Faculty of Industrial and Computer Engineering, University of Leon, Spain

Friday 17th April 2009

9:30-10:45 Oral Session B4 **ROOM B "Circutor"**

Chairman: José A. Güemes Alonso

385 ***Design procedures for small synchronous generators with interior permanent magnet rotors***
Johann Peter Bacher
Institute of Drive Technology and Electrical Machines.E.A.M, University of Technology Graz, Austria

391 ***Impact of compact fluorescent lamps on energy transmission losses and power quality***
Gorazd Štumberger[1], Klemen Deželak[1], Sebastijan Seme[1]. Mirán Rošer[2], Viktor Tajnšek[2]
[1] University of Maribor. Faculty of Electrical Engineering and Computer Science. Slovenia
[2] Elektro Celje d.d., Celje, Slovenia

A practical approach to the cogeneration system for rural appliances

444 Jan Iwaszkiewicz[1], Jacek Perz[1], C. Jaroslaw Mikielewicz[2]
[1] The Electrotechnical Institute, Gdanks Branch, Poland
[2] The Szewalski Institute of Fluid-flow Machinery. Poland

Performance and measurement of power quality due to harmonics from street lighting networks

462 E. R. Manzano[1], M. Carlorosi[2], M. Tapia Garzón[3]
[1] Dpto Luminotecnia, Luz y Visión, FACET, Universidad Nacional de Tucumán, Argentina
[2] Dpto Ingeniería Eléctrica, FACET, Universidad Nacional de Tucumán, Argentina
[3] Electro Civil S.A. San Miguel de Tucumán, Argentina

Analysis of methodologies for the economical evaluation of power quality

530 D. Coll-Mayor[1], J. Pardo[2], M. Pérez Donsión[3]
[1] Department of Physics, University of Balearic Islands, Palma de Mallorca
[2] Department of Industrial Organization, ETSII, Vigo University. Spain
[3] Department of Electrical Engineering, ETSII, Vigo University.Spain

Friday 17th April 2009
10:45-11:30 Poster Session C4 – Coffee Break ROOM C "ABB"

Chairmen: Hector Beltrán San Segundo, Dirk Turschner, Gorazd Stumberger, Buzdugan Mircea-Ion, Stanieslaw Kulas

FPGA Implementation of a multiphase space vector modulation for asymmetrical dual three-phase AC machines

225 J. Prieto[1], F. Barrero[1], S. Toral[1], M.R.Arahal[1], M.J. Durán[2]
[1] Electronic & System and Automation Engineering Departments. E.S.I. University of Sevilla. Spain
[2] Elecrical Engineering Department. E.S.I. University of Málaga. Spain

Restrained search predictive control of dual three-phase induction motor drives

256 M.J Durán[1], M.R.Arahal[2], F.J. Barrero[2], S.L.Toral[2], R. Gregor[2]
[1] Department of Electrical Engineering. University of Málaga. Spain
[2] Department of Electronic and Automatic Engineering.University of Sevilla. Spain

Simulation of power quality disturbances effects on an induction motor with ATP/EMTP. Comparison with laboratory measurements

446 José Gonçalves[1], José Baptista[1], Luís Neves[2,3], Filipe Tadeu Oliveira[2,3]
[1] University of Trás-os Montes e Alto Douro. Portugal
[2] School of Technology and Management. Polytechnic Institute of Leiria, Portugal
[3] INESC Coimbra, Portugal

Design and operation of a local cogeneration plant supplying a multi-family house (9,5 kW electrical/ 35 kW thermic power) - a field report

478 Thomas Schuster
Department of Elecrical Drives and Machines, Graz, University of Technology, Austria

Capacitor switching techniques

480 S.J. Kulas
Faculty of Electrical Engineering, Warsaw University of Technology, Poland

Germany's new code for generation plants connected to medium-voltage networks and its repercussion on inverter control

482 Antonio Notholt
Institut für Solare Energieversorgungstechnik. División Engineering and Power Electronics. Kassel, Germany

On the evaluation of power quality indices in distribution systems with dispersed generation

483 A. Bracale[1], G. Carpinelli[2], A. Di Fazio[3], D. Potro[2]
[1] Department for Technologies, University of Naples Parthenope, Italy
[2] Department of Electrical Engineering, University of Naples Federico II, Italy
[3] Department of Industrial Engineering, University of Cassino, Italy

Improved method for detection and classification of transients and waveform distortions using sine fitting algorithms

485 T. Radil[1], P.M. Ramos[1,2], A.C. Serra[1,2]
[1] Instituto de Telecomunicações, Lisbon, Portugal
[2] Department of Electrical and Computer Engineering, Instituto Superior Técnico, Technical University of Lisbon, Portugal

Energy saving policy in water distribution networks

M. Giugni[1], N. Fontana[2], D. Portolano[3]
[1] Department of Hydraulic, Geotechnical and Environmental Engineering, University
487 of Naples Federico II. Italy
[2] Department of Engineering, University of Sannio, Bnevento, Italy
[3] Centre of Environmental Research C.I.R.AM.University of Naples Federico II, Naples. Italy

Benefits of distributed energy storage working in parallel to distributed energy resources

488 A. Goikoetxea[1], J.A. Barrena[1], M.A. Rodríguez[2], G. Abad[1]
[1] Faculty of Engineering, University of Mondragón, Spain
[2] Ingeteam Transmission & Distribution S.A. Proteccion y Control de Redes Eléctricas. Basauri. Spain

Integral management system for the energy efficiency improvement in commercial facilities: application to the Polytechnic University of Valencia

490 G. Escrivá, M. Alcázar, C. Alvarez
Instituto de Ingeniería Energética. Universidad Politécnica de Valencia, Spain

Stabilisation of the electricity production of a wind park using a biomass gasification plant

491 A. Pérez Navarro, D. Alfonso, C. Alvarez, F. Ibañez, J. Safont, C. Sánchez, I. Segura
Instituto de Ingeniería Energética. Univesidad Politécnica de Valencia, Spain

GIS based advanced biomass integral optimization model for energy applications

492 D. Alfonso, C. Perpiñá, A. Pérez Navarro, E. Peñalvo
Instituto de Ingeniería Energética (IIE). Universidad Politécnica de Valencia. Spain

Tools for assessing the robustness variation of power system against voltage dips

493 P. Caramia[2], C. di Perna[1], P. Varilone[1], P. Verde[1],
[1] Dipartimento di Ingegneria Industriale. University of Cassino, Italy
[2] Dipartimenti per le Tecnologie. University of Napoli Parthenope, Italy

Friday 17th April 2009	
11:30-12:15 Plenary Session PL4	**ROOM A "Iberdrola"**

Chairman: Mihai Predescu

Future Perspectives for Nuclear Energy
Antonio González Jiménez. Mining Engineer. Director of Studies and Technical Support of the Forum of the Spanish Nuclear Industry

Friday 17th April 2009	
12:15-13:00 Closing Session	**ROOM A "Iberdrola"**

CLOSING SESSION

- Juan Juliá Igual. Rector of Polytechnical University of Valencia (UPV)
- Alfredo Quijano. Manager of the Institute of Electrical Technology (ITE)
- Manuel Pérez Donsión. Chairman of the ICREPQ Steering Committee
- Francisco Cavallé Sesé. Chairman of the ICREPQ Local Organizing Committe

Conclusions and time for the next conference (ICREPQ'10)
Awards for the three best posters

13:00 – 15:00	**Farewell Lunch at "la Vella Restaurant"**

15:00 – 18:00	**CULTURAL EXCURSION FOR ALL THE PARTICIPANTS** **Excursion in two Tourist Buses for to see the most interesting places of Valencia and finally a visit to the City of Arts and Sciences**

AFTER THE ICREPQ'09 CONFERENCE

In order to contribute to your paper diffusion around the world, after the ICREPQ'08 conference all the presented papers will be included in ".pdf" format on the website of the ICREPQ conferences: http://www.icrepq.com and also in the "Renewable Energy & Power Quality Electronic Journal" where some one interested can download free of charge some paper.

On the other hand, sometimes technical journals and magazines are interested in some of the papers and in this case we deliver the authors addresses in order to facilitate a more direct and fruitful contact.

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