

EPE Newsletter January 2005

Newsletter contents:

1. LAST CALL: EPE 2005: 11-14 September in Dresden, Germany – Call for papers –

<http://www.epe2005.com>

Thanks to very flexible system, synopses may still be uploaded.

Sponsoring and Exhibition information are available from the Internet site.

2. Contents of Vol. 15 of EPE Journal

3. Future issues of EPE Journal:

To receive a copy of the issues: become a member of the EPE Association: epe-association@vub.ac.be

4. Our very best wishes for 2005! We will see you in Dresden!

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Topics

Power Electronics has become the enabling technology for the majority of power processing engineering and for the future management of electrical energy. No future development of sustainable energy systems will be possible without the use of advanced and optimised Power Electronics and Adjustable Speed Drives. It is used in all areas where electrical power conversion and control is needed. Special attention will be devoted this time to sustainable energy systems, clean surface transport, to the emergence of hydrogen as energy vector as well as to the most recent development in components technologies and converters' topologies.

The list of topics hereunder holds only the headlines. A detailed list of subtopics is available at:

<http://www.epe2005.com>

A. DEVICES, PACKAGING AND SYSTEM INTEGRATION

Topic 1: Active devices

Topic 2: Passive components, system integration & packaging

B. POWER CONVERTERS TOPOLOGIES AND DESIGN

Topic 3: Soft switching converters and control

Topic 4: Hard switching converters and control

C. MEASUREMENT AND CONTROL

Topic 5: Modulation strategies and specific control methods for static converters

Topic 6: Application of control methods to electrical systems

Topic 7: Measurements and sensors (except speed and position sensors)

D. ELECTRICAL MACHINES AND DRIVE SYSTEMS

Topic 8: Motion control and robotics, communication in drive systems

Topic 9: Electrical Machines

Topic 10: Adjustable speed drives

Topic 11: High performance drives

E. APPLICATIONS OF POWER ELECTRONICS

Topic 12: Power supplies

Topic 13: Power electronics and drives in aerospace, space and surface transport

Topic 14: Power electronics in electrical energy generating systems

Topic 15: Power electronics in transmission and distribution of electrical energy

Topic 16: Operating quality of systems

Topic 17: Energy efficient power electronics systems and drives in the industry and physics research

F. EDUCATION

Topic 18: Education

Presentation of Papers

Contributions to EPE 2005 must be presented either as a lecture presentation or as a dialogue presentation. A manuscript must be submitted in English in both cases for inclusion in the Conference Proceedings (CD-ROM). Papers for lecture sessions will be strictly limited and selected on the basis of wide audience appeal, ease of understanding and potential stimulation of broad ranging discussion. Dialogue presentation will take place in the afternoon. No lecture session will be organized during the dialogue sessions.

Content of Synopses

The synopses should consist of:

- a 2 to 3 pages **summary**, including an **abstract** with no more than 50 words; topic number and indication of the preference for dialogue or lecture presentation must be clearly mentioned;
- key diagrams;
- a references list.

The synopses will be submitted using the host of the conference on internet. A link to the site is available from <http://www.epe2005.com> a link from <http://www.epe-association.org> is available as well. Detailed information and guidelines can be downloaded from the site to help you preparing the needed material for submitting a synopsis. The site will be open for upload from 1 September 2004 onwards. One paper copy indicating the paper identification code, to be received with the confirmation of upload, will be sent to the scientific secretariat for control.

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Authors of papers provisionally selected for presentation will receive a notification and can download the instructions for preparing the dialogue papers and/or the lecture papers from the internet site. Final selection will be based on the full paper. The paper will only be included in the Conference Proceedings after receipt of one full registration fee per paper in due terms. Student registration fee is only valid for student participants, not for authors. One single author may not present more than two (2) papers. In that case, the fee to present the two papers will be 150% of the registration fee. A selection of outstanding conference papers will be published afterwards in the EPE Journal.

Working Language

The working language of the conference is English, which will be used for all printed material, presentations and discussion.

Exhibition

There will be an exhibition integrated in the conference. If you would like to know more details please refer to <http://www.epe2005.com> or contact us via e-mail: dmeissner@intercom-dresden.de or epe-association@vub.ac.be

Secretariat

EPE secretariat

Brigitte Sneyers
EPE Association
c/o VUB - TW-E TEC
Pleinlaan 2
B-1050 Brussels, Belgium
Tel.: +32 2 629 28 19
Fax: +32 2 629 36 20
e-mail: epe-association@vub.ac.be

Local secretariat

INTERCOM Konferenzservice
TU Dresden GmbH
Diana Meißner
Zellescher Weg 3,
D- 01069 Dresden
Tel: +49- 351- 463 362 92
Fax: + 49- 351- 463 370 4
Email: dmeissner@intercom-dresden.de

Most recent and additional information:
EPE Association: <http://www.epe-association.org>
The conference : <http://www.epe2005.com>

Also Hotel reservation and a survey of tourism possibilities are offered using the EPE 2005 homepage:
<http://www.epe2005.com>

2. Contents of Vol. 15 of EPE Journal

Vol 15 no 1 : a series of peer reviewed papers

A space phasor based current hysteresis controller using adjacent inverter voltage vectors with smooth transition to six step operation for a three phase voltage source inverter, M. R. Baiju, K. K. Mohapatra, R. S. Kanchan, P. N. Tekwani and K. Gopakumar, CEDT, Indian Institute of Science, Bangalore, India

Non-equilibrium state capacitor-voltage stabilization in a hybrid asymmetric nine-level inverter: non-linear model-predictive control, M. Veenstra, A. Rufer, EPFL-LEI, Switzerland

Compact ASD Topologies for single-phase integrated motor drives with sinusoidal input current, Chr. Klumpner, University of Nottingham, F. Blaabjerg, Aalborg University, P. Thøgersen, Danfoss Drives A/S

Comparative study of starting methods for a single-phase permanent magnet synchronous motor, M. Popescu, T. J. E. Miller, C. Cossar, M. McGilp, SPEED laboratory, University of Glasgow; G. Strappazzon, N. Trivillin, R. Santarossa, ACC Compressors, Pordenone, Comina, Italy

A Sampled-Data Reduced Order Dynamic Model For A Self-Sustained Series-Parallel Resonant Converter, M. Z. Youssef, P. K. Jain, Queen's University, Kingston, Canada; H. Pinheiro, Santa Maria University, Brazil

The use of power sums to solve the harmonic elimination equations for multilevel converters, John N. Chiasson, Leon M. Tolbert, Zhong Du and Keith J. McKenzie, ECE Dept., The University of Tennessee, USA

Vol 15 no 2: a series of peer reviewed papers

Enhanced locomotive drive system behaviour applying a cooperative system control for a single voltage source inverter dual induction motor structure, Rosendo Peña-Eguiluz, Instituto Nacional de Investigaciones Nucleares, Mexico; Maria Pietrzak-David, Bernard de Fornel, LEEI-ENSEEIH-T-INPT, Toulouse, France

Design and dynamic performance of modified series-parallel resonant converter, H. M. Suryawanshi, S. S. Tanavade, M. R. Ramteke, Dept. of Electrical Engineering, Visvesvaraya National Institute of Technology, India

A simple direct torque fuzzy control of motor induction using space vector modulation, A. El Afia, M. Khafallah, A. Chériti, B. Elmoussaoui, A. Saad, UFR Génie Electrique, Ecole Nationale Supérieure d'Electricité et de Mécanique, Casablanca, Morocco

Bond graph stability analysis of a railway traction system, G. Gandanegara, X. Roboam, B. Sareni, LEEI, UMR, INPT-ENSEEIH-T, Toulouse, G. Dauphin-Tanguy, Ecole Centrale de Lille, France

Current converter with two-loop maximum power tracking control solar arrays, Chihchiang Hua and Jongrong Lin, National Yunlin University of Science and Technology, Taiwan

Self-sensing active magnetic bearings using a new PWM amplifier equipped with a bias voltage source, Toshiya Yoshida, Yoshiyuki Kuroba, Katsumi Ohniwa, Osamu Miyashita, Tokyo Denki University, Japan

Vol 15 no 3: a series of peer reviewed papers

A new robust experimentally validated phase locked loop for power electronic control, M. C. Benhabib and S. Saadate, Groupe de Recherches en Electrotechnique et Electronique de Nancy (GREEN) CNRS-UMR 7037, Université Henri Poincaré, Nancy 1, France

Optimisation of low voltage power MOSFET components for high current applications, Andreas Lindemann, Chair for Power Electronics, Otto-von-Guericke-Universität Magdebourg, Germany

Robust speed control of a low damped electromechanical system: application to a four mass experimental test bench, Serge Poullain, Patrick Latteux, Jean-Luc Thomas, AREVA T&D, Power Electronics Activities, France; Jocelyn Sabatier, Alain Oustaloup, LAP, ENSEIRB, Université Bordeaux 1, France

An integrated single-stage quasi-resonant power factor correction converter with active clamp circuit, Jun-Young Lee and Gun-Woo Moon, Samsung SDI Co. LTD

A four-level inverter scheme with reduced common mode voltage for an induction motor drive, R. S. Kanchan, P. N. Tekwani, M. R. Baiju, K. Gopakumar, CEDT, Indian Institute of Science, Bangalore, India

A simple stator flux oriented induction motor control, Francesco Cupertino, Giuseppe L. Cascella, Luigi Salvatore, Nadia Salvatore, Politecnico di Bari – DEE, Italy

Vol 15 no 4: a series of peer reviewed papers

Programme being defined.

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