

Publikationsbericht 2007

Institut für Elektrische Energiesysteme



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1. Leitung

Prof. Dr.-Ing. Andreas Lindemann (geschäftsführender Leiter)

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Dr.-Ing. Reinhard Döbbelin

2. Hochschullehrer

Prof. Dr.-Ing. Andreas Lindemann

Prof. Dr.-Ing. habil. Frank Palis

Prof. Dr.-Ing. habil. Ulrich Riefenstahl

Prof. Dr.-Ing. Zbigniew Antoni Styczynski

3. Veröffentlichungen

Originalartikel in begutachteten internationalen Zeitschriften

Denai, M. A. ; Palis, Frank; Zeghbib, Abdel-Hafid

Modeling and control of non-linear systems using soft computing techniques

In: Applied soft computing. - Amsterdam [u.a.]: Elsevier Science, Bd. 7.2007, 3, S. 728-738; [Abstract unter URL](#)

Hettkamp, Enrico; Lindemann, Andreas

Influence of the modified pulsed arc process by variable magnetic fields

In: Plasma processes and polymers. - Weinheim: Wiley VCH, Bd. 4.2007, S. 305-308; [Link unter URL](#)

[Supplement: Tenth International Conference on Plasma Surface Engineering (PSE2006)]

[Imp.fact.: 2.846]

Ignatova, Vanya; Bacha, Seddik; Granjon, Pierre; Styczynski, Zbigniew Antoni

Statistical matrix representation of time-varying electrical signals - application to wind generator currents

In: International journal of distributed energy resources. - Kassel: Techn. and Science Publ., Bd. 3.2007, 1, S. 47-62

Krykunov, Oleksandr

Comparison of the DC/DC-converters for fuel cell applications

In: International journal of electrical, computer, and systems engineering. - World Academy of Science, Engineering and Technology (WASET), Bd. 1.2007, 1, S. 71-79; [Abstract unter URL](#)

Lindemann, Andreas; Strauch, Gerhard

Properties of direct aluminum bonded substrates for power semiconductor components

In: Institute of Electrical and Electronics Engineers: IEEE transactions on power electronics. - New York, NY: IEEE, Bd. 22.2007, 2, S. 384-391; [Link unter URL](#)

[Imp.fact.: 0.754]

Smieja, Tomasz; Rudion, Krzysztof; Styczynski, Zbigniew Antoni; Szafran, Janusz

The Double Diploma Project - a new higher education concept in a united Europe

In: International journal of electrical engineering education. - Manchester: Manchester Univ. Press, Bd. 44.2007, 2, S. 184-191; [Link unter URL](#)

[Imp.fact.: 0.047]

Originalartikel in begutachteten nationalen Zeitschriften

Lindemann, Andreas

Potential of SiC in power electronic applications

In: Bodo's power systems. - Laboe: A Media, 10, S. 30-31, 2007

Palis, Frank; Filaterov, V. F. ; Tsepkovskiy, Yuriy; Ukhimets, D. A.

Osobennosti sinteza prognozirujuscich sistem s nejrofazzi setjami dlja upravlenija nelinejnymi dinamiceskimi ob"ektami s peremennymi parametrami

In: Mechatronika, avtomatizacija, upravlenie. - Moskva: Izdat. Novye Technologii, 4, S. 11-18; unter URL:

[Link unter URL](#), 2007

[Prilozenie k zurnalju: "Intellektual'nye technologii v zadacach upravlenija"]

Teichert, Christian; Käbisch, Mathias; Lindemann, Andreas; Styczynski, Zbigniew Antoni

Auxiliary power units in automotive applications

In: Technicna elektrodynamika. - Kyiv: Instytut Elektrodynamiky NAN Ukrayiny, S. 113-116, 2007

[Tematycnyj vypusk: Sylova elektronika ta enerhoefektyvnist', Castyna 3]

Originalartikel in begutachteten zeitschriftenartigen Reihen

Angelov, Angel N. ; Smieja, Tomasz; Styczynski, Zbigniew Antoni; Gast, Christiane; Königbauer, Klaus;

Brich, Peter; Hengstbeck, Gerhard; Plewinski, Nicolai

Service von elektrischen Anlagen unterstützt durch VRML Technologie

In: Kompetenzentwicklung in realen und virtuellen Arbeitssystemen. - Dortmund: GfA-Press, S. 47-50;

Jahresdokumentation / Gesellschaft für Arbeitswissenschaft e.V.; 2007

[Kongress der Gesellschaft für Arbeitswissenschaft; 53 (Magdeburg): 2007.02.28-03.02]

Angelov, Angel N. ; Styczynski, Zbigniew Antoni

Computer-aided 3d virtual training in power education

In: Power Engineering Society: 2007 IEEE Power Engineering Society general meeting, 24 - 28 June 2007, Tampa, Florida, USA. - Piscataway, NJ: IEEE Operations Center, insges. 4 S.

[General Meeting. IEEE Power Engineering Society; (Tampa, Florida): 2007.06.24-28]

Buchholz, Bernd Michael; Styczynski, Zbigniew Antoni

Communication requirements and solutions for secure power system operation

In: Power Engineering Society: 2007 IEEE Power Engineering Society general meeting, 24 - 28 June 2007, Tampa, Florida, USA. - Piscataway, NJ: IEEE Operations Center, insges. 4 S.

[General Meeting. IEEE Power Engineering Society; (Tampa, Florida): 2007.06.24-28]

Hammons, Tom; Styczynski, Zbigniew Antoni

Europe - impact of dispersed generation on power system structure and secure power system operation

In: Power Engineering Society: 2007 IEEE Power Engineering Society general meeting, 24 - 28 June 2007, Tampa, Florida, USA. - Piscataway, NJ: IEEE Operations Center, insges. 5 S.

[General Meeting. IEEE Power Engineering Society; (Tampa, Florida): 2007.06.24-28]

Haubrock, Jens; Heideck, Günter; Styczynski, Zbigniew Antoni

Dynamic investigation on proton exchange membrane fuel cell systems

In: Power Engineering Society: 2007 IEEE Power Engineering Society general meeting, 24 - 28 June 2007, Tampa,

Florida, USA. - Piscataway, NJ: IEEE Operations Center, insges. 6 S.
[General Meeting. IEEE Power Engineering Society; (Tampa, Florida): 2007.06.24-28]

Palis, Frank; Schallschmidt, Thomas; Draganov, Denis

Proektirovanie i ~eksperimental'noe issledovanie rabocego stola s aktivnoj magnitnoj oporoj
In: Problemy avtomatizirovannogo elektroprivoda. - Dneprodzerzinsk: DGTU, S. 140-142; Sbornik nauchnych trudov Dneprodzerzinskogo gosudarstvennogo techniceskogo universiteta; 2007

Smieja, Tomasz; Angelov, Angel N. ; Styczynski, Zbigniew Antoni

Neue Visualisierungsmethoden kritischer Zustände in elektrischen Energiesystemen
In: 15 Jahre Fraunhofer IFF. - Magdeburg: IFF, S. 298-304, 2007
[IFF-Wissenschaftstage; 10 (Magdeburg): 2007.06.27-28]

Tsepkovskiy, Yuriy

Postroenie opticeskoj obratnoj svjazi dlja upravlenija rukoj robota s ispol'zovaniem videokamery
In: Problemy avtomatizirovannogo elektroprivoda. - Dneprodzerzinsk: DGTU, S. 283-288; Sbornik nauchnych trudov Dneprodzerzinskogo gosudarstvennogo techniceskogo universiteta; 2007

Wissenschaftliche Monografien

Dzienis, Cezary

Ersatzmodelle nichtlinearer Lasten in elektrischen Verteilungsnetzen. - Res Electricae Magdeburgenses; 18
Zugl.: Magdeburg, Univ., Fak. für Elektrotechnik und Informationstechnik, Diss., 2007; Magdeburg: Univ.; X, 138 S:
Ill., graph. Darst.; 21 cm

Winkler, Thoralf

Magnetfeldemission von Widerstandsschweißeinrichtungen. - Zugl.: Magdeburg, Univ., Fak. für Elektrotechnik und Informationstechnik, Diss., 2006; [Link unter URL](#); Magdeburg: Docupoint-Verl.; 196 S: Ill., graph. Darst.; 21 cm, 2007

Buchbeiträge

Angelov, Angel N. ; Smieja, Tomasz; Styczynski, Zbigniew Antoni

Acceptance of 3d visualizations methods for learning and training in the area of electrical engineering
In: Proceedings of the International Conference on Engineering Education 2007, ICEE 2007; September 3-7,2007, Coimbra, Portugal. - Coimbra: Univ., insges. 4 S.
[International Conference on Engineering Education; (Coimbra): 2007.09.03-07]

Döbbelin, Reinhard; Herms, Ronny; Teichert, Christian; Schätzling, Wolfgang; Lindemann, Andreas

Analysis methods and design of transformers with low leakage inductance for pulsed power applications
In: EPE 2007. - Brussels, Belgium: EPE Association, insges. 1 S.
[European Conference on Power Electronics and Applications; 12 (Aalborg): 2007.09.02-05]

Dzhantimirov, Sergiy; Palis, Frank; Schmucker, Ulrich; Telesh, Andriy; Zavgorodniy, Yuriy

HIL/SIL by development of six-legged robot SLAIR2
In: Advances in climbing and walking robots. - Singapore [u.a.]: World Scientific, S. 652-661, 2007
[International Conference on Climbing and Walking Robots; 10 (Singapore): 2007.07.16-18]

Ecklebe, Andreas; Lindemann, Andreas

Bi-directional switch commutation for a resonant matrix converter supplying a contactless energy transmission system
In: The Fourth Power Conversion Conference. - Nagoya, S. 792-799, 2007
[PCC-Nagoya 2007; 4 (Nagoya): 2007.04.02-05]

Fischer, Wolfgang; Lindemann, Andreas

Teaching power electronics with the aid of simulation tools
In: EUROCON 2007. - Piscataway NJ: IEEE Operations Center, S. 2381-2386

[EUROCON 2007 - the International Conference on Computer as a Tool; (Warsaw): 2007.09.09-12]

Förster, Stefan; Lindemann, Andreas

Thermal optimisation in low voltage - high power applications using SMT components

In: International Youth Conference on Energetics 2007 (IYCE '07), Budapest, Hungary, 31st May - 2nd June, 2007.
- Budapest, insges. 1 S.

[IYCE 2007]

Herms, Ronny; Bartels, Guido; Doeppelin, Reinhard; Lindemann, Andreas

Field Compensation for resistance welding

In: 18th International Zurich Symposium on Electromagnetic Compatibility, EMC-Zurich 2007. - Zürich, S. 497-500
[International Zurich Symposium on Electromagnetic Compatibility; 18 (Munich): 2007.09.24-28]

Herms, Ronny; Winkler, Thoralf; Doeppelin, Reinhard; Lindemann, Andreas

Influence on field compensation on the effective inductance of resistance welding machines

In: The proceedings // 7-th International Symposium on Electromagnetic Compatibility and Electromagnetic Ecology, June 26 - 29, 2007, Saint-Petersburg. - S.-Peterburg, S. 52-55

Kongress: EMC; 7 (Saint-Petersburg): 2007.06.26-29

Heyde, Chris Oliver; Musikowski, Hans-Dieter; Styczynski, Zbigniew Antoni

Active peak shaving with a pv-battery system

In: European Photovoltaic Solar Energy Conference <22, 2007, Milano>: 22nd European Photovoltaic Solar Energy Conference. - München: WIP-Renewable Energies, S. 2805-2809
[European Photovoltaic Solar Energy Conference; 22 (Milano): 2007.09.03-07]

Juhasz, Tamas; Konyev, Mykhaylo; Rusin, Vadym; Schmucker, Ulrich

Contact processing in the simulation of clawar

In: Advances in climbing and walking robots. - Singapore [u.a.]: World Scientific, S. 583-590, 2007
[International Conference on Climbing and Walking Robots; 10 (Singapore): 2007.07.16-18]

Käbisch, Mathias; Teichert, Christian; Haubrock, Jens; Styczynski, Zbigniew Antoni; Lindemann, Andreas

Energiemanagement für Brennstoffzellensysteme in Fahrzeugen

In: Problemy avtomatizirovannogo elektroprivoda. - Dneprodzerzhinsk: DGTU, S. 208-211, 2007

Krykunov, Oleksandr

Analysis of the extended forward converter for fuel cell applications

In: 2007 IEEE International Symposium on Industrial Electronics, June 4-7, 2007, Vigo, Spain. - Piscataway, NJ: IEEE, insges. 1 S.

[ISIE 2007]

Lindemann, Andreas; Herms, Ronny; Doeppelin, Reinhard

Influence of power semiconductor and power supply design on EMC relevant emissions by the example of an arc welding inverter arrangement

In: EPE 2007. - Brussels, Belgium: EPE Association, insges. 1 S.

[European Conference on Power Electronics and Applications; 12 (Aalborg): 2007.09.02-05]

Marfert, Igor; Lindemann, Andreas

Control of mains-connected inverters supplying active power from decentralised energy generation and reactive power for power quality improvement

In: IEEE 5th International Conference-Workshop in Power Electronics, CPE 2007. - Piscataway, NJ: IEEE Operations Center, insges. 6 S.; [Abstract unter URL](#)

[CPE 2007; 5 (Gdansk): 2007.05.29-06.01]

Palis, Frank; Konyev, Mykhaylo; Rusin, Vadym; Zavgorodniy, Yuriy

Control system of six legged autonomous intelligent robot

In: 7th Conference on Mobile Robots and Competitions, robotica 2007. - CCVALG
[Conference on Mobile Robots and Competitions; 7 (Paderne): 2007.04.27-30]

Palis, Stefan; Stamann, Mario; Schallschmidt, Thomas

Nonlinear adaptive control of magnetic bearings

In: EPE 2007. - Brussels, Belgium: EPE Association, insges. 1 S.
[European Conference on Power Electronics and Applications; 12 (Aalborg): 2007.09.02-05]

Rudion, Krzysztof; Ruhle, Olaf; Styczynski, Zbigniew Antoni

Simulation of large wind farms using coherency approach

In: Congress on Modelling and Simulation <6, 2007, Ljubljana>: Proceedings of the 6th EUROSIM Congress on Modelling and Simulation, EUROSIM 2007; Vol. 2: Full papers. - EUROSIM / SLOSIM, insges. 10 S.
[EUROSIM Congress on Modelling and Simulation; 6 (Ljubljana): 2007.09.09-13]

Schallschmidt, Thomas; Draganov, Denis; Palis, Frank

Design and experimental investigation of a magnetically suspended rotary table

In: EPE 2007. - Brussels, Belgium: EPE Association, insges. 1 S.
[European Conference on Power Electronics and Applications; 12 (Aalborg): 2007.09.02-05]

Schmucker, Ulrich; Rusin, Vadym; Konyev, Mykhaylo

Contact processing in the simulation of the multi-body systems

In: Congress on Modelling and Simulation <6, 2007, Ljubljana>: Proceedings of the 6th EUROSIM Congress on Modelling and Simulation, EUROSIM 2007; Vol. 2: Full papers. - EUROSIM / SLOSIM
[EUROSIM Congress on Modelling and Simulation; 6 (Ljubljana): 2007.09.09-13]

Schulze, Hans-Peter; Wollenberg, Günter; Matzen, Stefan; Mecke, Katharina

Origins of gas bubbles in a small work during the micro-edm

In: Proceedings of the 15th International Symposium on Electromachining. - Lincoln, Neb. : Industrial and Management Systems Engineering, Univ. of Nebraska-Lincoln, S. 217-220, 2007
[International Symposium on Electromachining; 15 (Pittsburgh, Pa.): 2007.04.23-27]

Teichert, Christian; Lindemann, Andreas

Untersuchung der elektrischen Systemarchitektur für den Einsatz einer brennstoffzellenversorgten Hilfsstromversorgung im Kraftfahrzeug

In: AUTOMOTIVE. - Magdeburg: Univ., S. 87-94, 2007
[Magdeburger Maschinenbau-Tage; 8 (Magdeburg): 2007.10.10-11]

Winkler, Thoralf; Döbbelin, Reinhard; Lindemann, Andreas; Winkler, Reinhard; Gaertner, Uwe

Magnetic field exposure caused by welding equipment - regulations and assessment

In: Proceedings of the IIW International Conference Welding & Materials - Technical, Economic and Ecological Aspects, 01 - 08 July 2007, Dubrovnik & Cavtat, Croatia. - Dubrovnik, S. 121-130
[IIW International Conference; (Dubrovnik & Cavtat, Croatia): 2007.07.01-08]

Winkler, Thoralf; Doeblin, Reinhard; Lindemann, Andreas

Magnetic fields of resistance welding equipment - assessment of the exposure

In: The proceedings // 7-th International Symposium on Electromagnetic Compatibility and Electromagnetic Ecology, June 26 - 29, 2007, Saint-Petersburg. - S.-Peterburg, S. 60-63
[EMC; 7 (Saint-Petersburg): 2007.06.26-29]

Artikel in Kongressbänden

Angelov, Angel N. ; Smieja, Thomasz; Styczynski, Zbigniew Antoni

New training programs in power engineering using VRML visualization methods

In: Conference proceedings // 19th International Conference and Exhibition on Electricity Distribution. - Liege: AIM, insges. 4 S., 2007

[International Conference and Exhibition on Electricity Distribution; 19th (Vienna): 2007.05.21-24]

Barth, Rüdiger; Rudion, Krzysztof; Heyde, Chris O. ; Swider, Derk Jan; Styczynski, Zbigniew Antoni

Improved consideration of the grid in stochastic electricity market models dealing with distributed generation

In: Conference proceedings // 19th International Conference and Exhibition on Electricity Distribution. - Liege: AIM, insges. 5 S., 2007

[International Conference and Exhibition on Electricity Distribution; 19th (Vienna): 2007.05.21-24]

Dzienis, Cezary; Komarnicki, P. ; Styczynski, Zbigniew Antoni

A method for optimally localizing power quality monitoring devices in power systems

In: Power Tech 2007. - IEEE, insges. 6 S.

[PES 2007]

Dzienis, Cezary; Styczynski, Zbigniew Antoni

Implementation of a power quality monitoring system for harmonics assessment in electrical networks

In: Conference proceedings // 19th International Conference and Exhibition on Electricity Distribution. - Liege: AIM, insges. 4 S., 2007

[International Conference and Exhibition on Electricity Distribution; 19th (Vienna): 2007.05.21-24]

Heyde, Chris Oliver; Rudion, Krzysztof; Styczynski, Zbigniew Antoni; Ruhle, Olaf

Stochastic computation of power system security level

In: Power Tech 2007. - IEEE, insges. 6 S.

[PES 2007]

Heyde, Chris Oliver; Styczynski, Zbigniew Antoni

Calculation of network security management (NSM) intensity in the distribution system

In: Conference proceedings // 19th International Conference and Exhibition on Electricity Distribution. - Liege: AIM, insges. 4 S., 2007

[International Conference and Exhibition on Electricity Distribution; 19th (Vienna): 2007.05.21-24]

Komarnicki, Przemyslaw; Dzienis, Cezary; Styczynski, Zbigniew Antoni; Phadke, Arum; Blumenschein, Jörg

Optimized testing procedures for phasor measurement units

In: XIII Miedzynarodowa Konferencja Naukowa Aktualne Problemy w Elektroenergetyce; Tom 2: Automatyka i pomiar. - Gdańsk: Politechnika Gdańsk, S. 145-152, 2007

[International Conference on Present-Day Problems of Power Engineering; 13 (Gdańsk-Jurata, Poland): 2007.06.13-15]

Merfert, Igor; Lindemann, Andreas

Application of a simplified control scheme for the generalised instantaneous reactive power theory in active power filters for decentralised energy generation

In: Proceedings // PCIM Europe 2007, International Exhibition & Conference for Power Electronics, Intelligent Motion, Power Quality. - Stuttgart: Mesago, insges. 6 S.

[PCIM Europe 2007; (Nürnberg): 2007.05.22-24]

Müller, Gerhard; Komarnicki, Przemyslaw; Styczynski, Zbigniew Antoni; Dzienis, Cezary; Golub, Irinka; Blumenschein, Joerg

PMU placement method based on decoupled newton power flow and sensitivity analysis

In: 9th International Conference Electrical Power Quality and Utilisation, EPQU'07. - Barcelona, insges. 5 S., 2007 [EPQU'07; 9 (Barcelona): 2007.10.09-11]

Winkler, Thoralf; Döbbelin, Reinhard; Lindemann, Andreas; Gärtner, Uwe; Winkler, Reinhard

Magnetfelder beim Widerstandsschweißen - praxistaugliche Bewertung und Beeinflussung

In: Treffpunkt Widerstandsschweißen. - Düsseldorf: DVS, S. 148-154, 2007

[DVS-Sondertagung "Widerstandsschweißen"; 20 (Duisburg): 2007.05.09-10]

Andere Materialien

Palis, Stefan; Stamann, Mario; Schallschmidt, Thomas

Adaptive control of a 5 DOF magnetic bearing

In: Problemy avtomatizirovannogo ·elektroprivoda. - Dneprodzerzinsk: DGTU, S. 315-317; Sbornik naucnykh trudov Dneprodzerzinskogo gosudarstvennogo technicheskogo universiteta; 2007

Dissertationen

Angelov, Angel Nikolaev

Rechnergestütztes Lernen im Bereich der regenerativen Energien - ausgewählte Aspekte. - Magdeburg, Univ., Fak. für Elektrotechnik und Informationstechnik, Diss., 2007; [Link unter URL](#); IV, 104 S.: 1 CD

[Auch als elektronisches Dokument vorhanden]

Dzienis, Cezary

Ersatzmodelle nichtlinearer Lasten in elektrischen Verteilungsnetzen. - Res Electricae Magdeburgenses; 18

Zugl.: Magdeburg, Univ., Fak. für Elektrotechnik und Informationstechnik, Diss., 2007; Magdeburg: Univ.; X, 138 S: III., graph. Darst.; 21 cm

Winkler, Thoralf

Magnetfeldemission von Widerstandsschweißeinrichtungen. - Zugl.: Magdeburg, Univ., Fak. für Elektrotechnik und Informationstechnik, Diss., 2006; [Link unter URL](#); Magdeburg: Docupoint-Verl.; 196 S: III., graph. Darst.; 21 cm, 2007

Zeghbib, Abdelhafid

Forearm surface EMG signals recognition and musculoskeletal system dynamics identification using intelligent computational methods. - Magdeburg, Univ., Fak. für Elektrotechnik und Informationstechnik, Diss., 2007;

[Link unter URL](#); XV, 229 S.: graph. Darst.

[Auch als elektronisches Dokument vorhanden]