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ELEKTROTECHNIK UND
INFORMATIONSTECHNIK

Publikationsbericht 2020

Institut für Elektrische Energiesysteme

INSTITUT FÜR ELEKTRISCHE ENERGIESYSTEME

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1. LEITUNG

Prof. Dr.-Ing. Roberto Leidhold
Prof. Dr.-Ing. Andreas Lindemann
Prof. Dr.-Ing. habil. Martin Wolter (geschäftsführender Leiter)
Dr.-Ing. Thomas Schallschmidt

2. VERÖFFENTLICHUNGEN

BEGUTACHTETE ZEITSCHRIFTENAUFsätze

Barrera, Pablo Martin; Otero, Marcial; Schallschmidt, Thomas; Bossio, Guillermo; Leidhold, Roberto
Active broken rotor bars diagnosis in induction motor drives
IEEE transactions on industrial electronics: a publication of the IEEE Industrial Electronics Society/ Institute of Electrical and Electronics Engineers - New York, NY: IEEE . - 2020;
[Online first]
[Imp.fact.: 7.515]

Benecke, Sebastian; Gerlach, Andreas; Leidhold, Roberto
Design principle for linear electrical machines to minimize power loss in periodic motions
IEEE transactions on industry applications: IA ; a publication of the IEEE Industry Applications Society/ Institute of Electrical and Electronics Engineers - New York, NY: IEEE . - 2020;
[Online first]
[Imp.fact.: 3.347]

Gerlach, Andreas; Haeseler, Friedrich; Rottengruber, Hermann; Leidhold, Roberto
Nonlinear power control of an internal combustion engine without throttle actuator
IEEE transactions on control systems technology: a publication of the IEEE Control Systems Society/ Institute of Electrical and Electronics Engineers - New York, NY: IEEE . - 2020, insges. 8 S.;
[Online first]
[Imp.fact.: 5.312]

Hauer, Ines; Balischewski, Stephan; Ziegler, Christian
Design and operation strategy for multi-use application of battery energy storage in wind farms
Journal of energy storage - Amsterdam [u.a.]: Elsevier, Vol. 31 (2020), article 101572;
[Imp.fact.: 3.517]

Otero, Marcial; Barrera, Pablo M.; Bossio, Guillermo R.; Leidhold, Roberto
Stator inter-turn faults diagnosis in induction motors using zero-sequence signal injection
IET electric power applications/ Institution of Engineering and Technology - London [u.a.]: IET . - 2020;
[Imp.fact.: 2.834]

Parol, Mirosław; Wójtowicz, Tomasz; Księżyk, Krzysztof; Wenge, Christoph; Balischewski, Stephan; Arendarski, Bartłomiej
Optimum management of power and energy in low voltage microgrids using evolutionary algorithms and energy storage
International journal of electrical power & energy systems - Amsterdam [u.a.]: Elsevier Science, Volume 119 (2020), article 105886;

[Imp.fact.: 4.418]

Pribahnsnik, Florian P.; Bernardoni, Mirko; Nelhiebel, Michael; Mataln, Marianne; Lindemann, Andreas
Piezoelectric properties of GaN-on-Si heterostructures and their implications on lifetime during switching operation

IEEE transactions on power electronics: PE ; a publication of the Power Electronics Council/ Institute of Electrical and Electronics Engineers - New York, NY: IEEE, Bd. 35.2020, 10, S. 10873-10878;

[Imp.fact.: 6.373]

Schröter, Tamara; Richter, André; Götze, Jens; Naumann, André; Gronau, Jenny; Wolter, Martin

Substation related forecasts of electrical energy storage systems - transmission system operator requirements

Energies: open-access journal of related scientific research, technology development and studies in policy and management - Basel: MDPI, Volume 13(2020), issue 23, article 6207, 26 Seiten;

[Imp.fact.: 2.702]

Zhang, Yonggang; Klabunde, Christian; Wolter, Martin

Frequency-coupled impedance modelling and resonance analysis of DFIG-based offshore wind farm with HVDC connection

IEEE access : practical research, open solutions / Institute of Electrical and Electronics Engineers - New York, NY : IEEE, Bd. 8 (2020), S. 147880-147894

[Imp.fact.: 3.745]

Zhao, Zhao; Leidhold, Roberto

Investigation of current-ripple for three-phase four-wire inverter-fed motors

Energy reports - Amsterdam [u.a.]: Elsevier, Bd. 6.2020, S. 330-337;

[Part of special issue: 2020 The 7th International Conference on Power and Energy Systems Engineering, (CPESE 2020), 2629 September 2020, Fukuoka, Japan]

[Imp.fact.: 3.595]

BEGUTACHTETE BUCHBEITRÄGE

Barrera, Pablo M.; Bossio, Guillermo R.; Hieke, Sebastian; Leidhold, Roberto

SynRM saliencies evaluation for rotor position estimation

2020 IEEE International Conference on Industrial Technology: Buenos Aires Institute of Technology (ITBA), Buenos Aires, Argentina, 26-28 February, 2020 : proceedings/ IEEE International Conference on Industrial Technology - Piscataway, NJ: IEEE, 2020 . - 2020, S. 223-229;

[Konferenz: IEEE International Conference on Industrial Technology, ICIT, Buenos Aires, 26-28 February 2020]

Benecke, Sebastian; Gerlach, Andreas; Leidhold, Roberto

Analysis and compensation of end effects for improved force control of linear machines

Proceedings 2020 International Conference on Electrical Machines (ICEM): 4030 Piscataway, NJ\$IEEE, 2020 . - 2020;

[Konferenz: 2020 International Conference on Electrical Machines, ICEM, Online, 23-26 August 2020]

Gebhardt, Marc; Wolter, Martin

Decomposition of PST flows via extended power equation

2020 IEEE PES Innovative Smart Grid Technologies Conference Europe (ISGT-Europe) - [Piscataway, NJ]: IEEE, 2020 . - 2020;

[Konferenz: 2020 IEEE PES Innovative Smart Grid Technologies Europe, ISGT-Europe, Delft, 26-28 October 2020]

Gerlach, Andreas; Benecke, Sebastian; Rottengruber, Hermann; Leidhold, Roberto

Efficient motion control of a PMSM and design of a mechanic energy storage for a four stroke free piston engine
2020 IEEE Transportation Electrification Conference and Expo: Chicago, IL, USA, 23-26 June 2020 - [Piscataway, NJ]: IEEE, 2020 . - 2020, S. 235-239;

[Konferenz: IEEE Transportation Electrification Conference & Expo, ITEC, Chicago, IL, USA, 23-26 June 2020]

Helm, Sebastian; Hauer, Ines; Wolter, Martin; Wenge, Christoph; Balischewski, Stephan; Komarnicki, Przemyslaw

Impact of unbalanced electric vehicle charging on low-voltage grids

Smart grids: key enablers of a green power system: 2020 IEEE PES Innovative Smart Grid Technologies Europe : Delft, the Netherlands, 26-28 October, 2020/ IEEE PES Innovative Smart Grid Technologies Europe - [Piscataway, NJ]: IEEE . - 2020;

Kempiak, Carsten; Lindemann, Andreas

Investigation of the threshold voltage shift of SiC MOSFETs during power cycling tests

PCIM Europe: International Exhibition and Conference for Power Electronics, Intelligent Motion, Renewable Energy and Energy Management, 07.-08.07.2020 : proceedings/ PCIM Europe digital days - Berlin: VDE Verlag GmbH, 2020 . - 2020, S. 38-45;

[Virtuelle Konferenz mit Live- und On-Demand-Lösungen für interaktive Präsentationsmöglichkeiten, PCIM Europe digital days 2020, 7-8 July 2020]

Kempiak, Carsten; Lindemann, Andreas; Idaka, Shiori; Thal, Eckard

Comperative study of determining junction temperature of SiC MOSFETs during power cycling tests by a T_j sensor and the V_{SD}(T)-method

CIPS 2020: 11th International Conference on Integrated Power Electronics Systems : March, 24-26, 2020, Berlin, Germany/ CIPS - Berlin: VDE Verlag GmbH, 2020 . - 2020, S. 524-529;

[Konferenz: CIPS 2020, Berlin, March, 24-26, 2020]

Kiselev, Aleksej; Catuogno, Guillermo R.; Kuznietsov, Alexander; Leidhold, Roberto

Finite control set MPC for open-phase fault tolerant control of synchronous reluctance motor

2020 IEEE International Conference on Industrial Technology: Buenos Aires Institute of Technology (ITBA), Buenos Aires, Argentina, 26-28 February, 2020 : proceedings/ IEEE International Conference on Industrial Technology - Piscataway, NJ: IEEE, 2020 . - 2020, S. 1077-1082;

[Konferenz: IEEE International Conference on Industrial Technology, ICIT, Buenos Aires, 26-28 February 2020]

Kühne, Philipp; Wenske, Michael; Wolter, Martin; Baumann, Nils

Investigation and optimization of Pt/IrO₂ catalyst for unitized regenerative PEM fuel cells

2020 IEEE Power & Energy Society General Meeting (PESGM) - [Piscataway, NJ]: IEEE, 2020 . - 2020;

[Meeting: IEEE Power & Energy Society General Meeting, PESGM, Montreal, QC, Canada, 2-6 August 2020]

Tayyab, Muhammad; Hauer, Ines; Klabunde, Christian; Wolter, Martin

Optimal hybrid storage planning under different tariffs in a microgrid

Smart grids: key enablers of a green power system: 2020 IEEE PES Innovative Smart Grid Technologies Europe : Delft, the Netherlands, 26-28 October, 2020/ IEEE PES Innovative Smart Grid Technologies Europe - [Piscataway, NJ]: IEEE . - 2020;

Teshale, Adisu; Zhao, Zhao; Biru, Getachew; Leidhold, Roberto

Analysis of Common-mode EMI in PM Synchronous Machines with Fractional-slot Concentrated Winding

IEEE PowerAfrica Conference 2020: dates: 25th-28th August 2020, venue: virtual/ IEEE PES & IAS PowerAfrica Conference - [Piscataway, NJ]: IEEE, 2020 . - 2020, insges. 5 S.;

[Kongress: 2020 IEEE PES/IAS PowerAfrica, Nairobi, Kenya, 25 - 28 August 2020]

Zhao, Zhao; Leidhold, Roberto

Common-mode current reduction PWM technique optimized for four-wire inverter-fed motors

APEC 2019: Thirty-Fifth Annual IEEE Applied Power Electronics Conference : March 15-19, 2020, New Orleans, Louisiana - [Piscataway, NJ]: IEEE, 2020 . - 2020, S. 379-384;

[Konferenz: 2020 IEEE Applied Power Electronics Conference and Exposition, APEC, New Orleans, LA, USA, 15-19 March 2020]

NICHT BEGUTACHTETE BUCHBEITRÄGE

Brinken, Julius; Schulz, Tim; Helm, Sebastian; Schmidtke, Niels; Hauer, Ines

Integrated charge site allocation for electric vehicles

ETC conference papers 2020 / European Transport Conference , 2020 - Henley-in-Arden, United Kingdom : Association for European Transport, S. 1-14

Helm, Sebastian; Hauer, Ines; Wolter, Martin

Modellierung von Elektrofahrzeugen zur Potentialabschätzung für Netzservices

20. Dresdener Kreis Elektroenergieversorgung: 20 bis 21. März 2018 in Magdeburg - Hannover: Leibniz Universität Hannover, 2020; Hofmann, Lutz . - 2020, S. 35-40;

Zhang, Yonggang; Klabunde, Christian; Wolter, Martin

Study of resonance issues between DFIG-based offshore wind farm and HVDC transmission

PSCC2020: Porto, Portugal, June 29 - July 3, 2020 - Lausanne: PSCC-central, 2020 . - 2020, insges. 8 S.; [21st Power Systems Computation Conference, PSCC 2020, Porto, Portugal, June 29 - July 3, 2020]

DISSERTATIONEN

Balischewski, Stephan; Hauer, Ines [AkademischeR BetreuerIn]; Wolter, Martin [AkademischeR BetreuerIn]

Multifunktionaler Einsatz von Batteriespeichern in elektrischen Verteilnetzen - optimale Auslegung und Betrieb
Barleben: docupoint GmbH, 2020, 1. Auflage, vi, 127 Seiten, Illustrationen, Diagramme, 21 cm - (Res electricae Magdeburgenses; Band 79)

Middelstädt, Lars; Lindemann, Andreas [AkademischeR BetreuerIn]

Transiente Effekte in leistungselektronischen Schaltungen mit schnellschaltenden Leistungshalbleitern unter besonderer Berücksichtigung der elektromagnetischen Verträglichkeit

Barleben: docupoint GmbH, 2020, 1. Auflage, xvi, 158 Seiten, Illustrationen, Diagramme, 21 cm - (Res electricae Magdeburgenses; Band 81)