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Research profile

Erik Schaltz received the M.Sc. and Ph.D. degrees in electrical engineering from the Department of Energy, Aalborg University, Aalborg, Denmark, in 2005 and 2010, respectively. From 2009 to 2012 he has been an Assistant Professor at the Department of Energy, Aalborg University, and he is currently an Associate Professor at the same place. At the Department, he is the group leader of the research programme in E-mobility and Drives and the vice group leader of Batteries. He is a guest and associate editor in several journals related to batteries and e-mobility. His research interests include the usage of power electronics, electric machines, fuel cells, batteries, ultracapacitors, etc. in electric and hybrid electric vehicles. In addition, he is also focused on battery state-estimation, management (electric and thermal), and modelling (electric, thermal, and lifetime) of battery cells and packs.

Current Position

I am working as an Associate Professor at the Department of Energy at Aalborg University. My primary tasks involve teaching and project supervision of students on the Bachelor and Master Programme in Electrical Energy Engineering, and research and PhD supervision in the fields of electro-mobility and batteries. At the department, I am the coordinator for the 4th and 5th semester studies, Internship Coordinator at the Bachelor Programme in Sustainable Energy Engineering, Leader of the E-Mobility and Drives Research Group, and the Vice Group Leader of the Batteries Research Group. I'm often involved in assessment of PhD theses both internally and externally. In addition, I'm also often involved in assessment of candidates for various positions at the department, i.e., research assistants, PhDs, postdocs, assistant professors, and associate professors.

University Career

2012 - Present: **Associate Professor**, Department of Energy Technology, Aalborg University.
2009 - 2012: **Assistant Professor**, Department of Energy Technology, Aalborg University.
2008 - 2009: **PostDoc**, Department of Energy Technology, Aalborg University.
2005 - 2008: **PhD student**, Department of Energy Technology, Aalborg University, Denmark.
2005 - 2005: **Research Assistant**, Department of Energy Technology, Aalborg University.

Education

2010 - 2012: Course in **University Pedagogy** for Assistant Professors.
2005 - 2010: **PhD degree**, Electrical and Electronic Engineering, Department of Energy Technology, Aalborg University, Denmark. Thesis title: Design of a Fuel Cell Hybrid Electric Vehicle Drive System.
2000 - 2005: **MSc Electrical Engineering**, Department of Energy Technology, Aalborg University, Denmark, Specialization: Power Electronics, Electric Machines and Drives. Thesis title: Sensorless Control of an IPMSM for Hydraulic Pump Application.
1997 - 2000: **Mathematical Student**, Bjerringbro Gymnasium.

PhD Supervision

2018 - present: **Design and Control of a Bearingless Double U-Core Switched Reluctance Machine Used for a Flywheel**, Fariba Shakibapour
2018 - present: **Battery State Estimation Methods for Electric Vehicles under Real Temperature Conditions**, Alejandro Gismero Galiatsatos
2015 - 2021: **A Systematic Approach for Thermal Analysis of Lithium Titanate Oxide Batteries**, Seyed Saeed Madani
2014 - 2017: **Thermal and Reliability Investigation of Buck-Boost Power Converters**, Brwene Salah Abdelkarim Gadalla
2013 - 2016: **Battery Management Systems for Li-ion battery packs**, Jorge Varela Barreras

2013 - 2016: **Power Electronics for Oxide-based High Temperature Thermoelectric Generators**, Elena Anamaria Man
2012 - 2015: **Magnetic Coupling of Wireless Charging Systems for Electric Vehicles**, Tushar Batra

Board Memberships

2016 - present: Board member of the Danish Battery Society

2013 - 2015: Advisory Board Member of the Danish E-Mobility Business Cluster operated by Insero

Editorial Positions

2021 - 2021: Guest Editor in Electronics in Special Issue on Applications of Batteries and Ultracapacitors in Electric or Hybrid Vehicles

2019 - 2021: Guest Editor in Energies in Special Issue on Energy Storage Systems for Electric Vehicles

2017 - 2018: Guest Editor in Batteries in Special Issue on Battery Integration and Operation in Electro-Mobile Application

2012 - 2013: Guest Associate Editor in IEEE Transactions of Power Electronics in Special Issues on Transportation Electrification and Vehicle Systems

Prizes

Best Paper on Ecological Vehicles

Barreras, Jorge Varela (Recipient), Pinto, Claudio (Recipient), de Castro, Ricardo (Recipient), Schaltz, Erik (Recipient), Juhl Andreasen, Søren (Recipient), Rasmussen, Peter Omand (Recipient) & Araujo, Rui Esteves (Recipient), 5 Mar 2015

Best Paper on Ecological Vehicles

Schaltz, Erik (Recipient), Stroe, Daniel-Ioan (Recipient), Nørregaard, Kjeld (Recipient), Stenhøj Kofod, Lasse (Recipient) & Christensen, Andreas (Recipient), 9 May 2019

The ITS Outstanding Application Paper

Man, Elena Anamaria (Recipient), Sera, Dezso (Recipient), Máthé, László (Recipient), Schaltz, Erik (Recipient) & Rosendahl, Lasse Aistrup (Recipient), 2 Jul 2015

Research outputs

Degradation mechanism analysis and State-of-Health estimation for lithium-ion batteries based on distribution of relaxation times

Zhang, Q., Wang, D., Schaltz, E., Stroe, D-I., Gismero, A. & Yang, B., 1 Nov 2022, In: Journal of Energy Storage. 55, 21 p., 105386.

Power Converter Systems for Electrolysis Stacks

Jensen, S. H., Schaltz, E. & Munk-Nielsen, S., Jul 2022, IPC No. C25B 1/042 2021.1, H01M 8/12 2016.1, H02J 1/00 2006.1, H01M 8/249 2016.1, H01M 8/04858 2016.1, H01M 8/0432 2016.1, H01M 8/04298 2016.1, H01M 8/04007 2016.1, H01M 8/0656 2016.1, H01M 8/18 2006.1, C25B 9/70 2021.1, C25B 15/023 2021.1, Patent No. WO/2022/152651, 10 Jan 2022, Priority date 12 Jan 2021, Priority No. 21151151.4

An Enhanced Equivalent Circuit Model with Real-Time Parameter Identification for Battery State-of-Charge Estimation

Naseri, F., Schaltz, E., Stroe, D-I., Gismero, A. & Farjah, E., Apr 2022, In: I E E E Transactions on Industrial Electronics. 69, 4, p. 3743-3751 9 p.

Supercapacitor management system: A comprehensive review of modeling, estimation, balancing, and protection techniques

Naseri, F., Karimi, S., Farjah, E. & Schaltz, E., Mar 2022, In: Renewable and Sustainable Energy Reviews. 155, 111913.

A comprehensive heat generation study of lithium titanate oxide-based lithium-ion batteries

Madani, S. S., Schaltz, E., Kær, S. K. & Ziebert, C., 2022, In: Journal of Physics: Conference Series. 2382, 1, 012004.

Capacity State-of-Health Estimation of Electric Vehicle Batteries Using Machine Learning and Impedance Measurements

Barragan-Moreno, A., Schaltz, E., Gismero, A. & Stroe, D-I., 2022, In: Electronics. 11, 9, 11 p., 1414.

Batterier og elbiler – Levetid og rækkevidde

Schaltz, E., Sep 2021

Characterization of the compressive load on a lithium-ion battery for electric vehicle application

Madani, S. S., Schaltz, E. & Kær, S. K., Apr 2021, In: *Machines*. 9, 4, 71.

Incremental Capacity Analysis Applied on Electric Vehicles for Battery State-of-Health Estimation

Schaltz, E., Stroe, D-I., Nørregaard, K., Stenhøj Kofod, L. & Christensen, A., 1 Mar 2021, In: *IEEE Transactions on Industry Applications*. 57, 2, p. 1810-1817 8 p., 9328130.

Thermal Characterizations of a Lithium Titanate Oxide-Based Lithium-Ion Battery Focused on Random and Periodic Charge- Discharge Pulses

Madani, S. S., Schaltz, E. & Kær, S. K., Mar 2021, In: *Applied System Innovation*. 4, 2, 15 p., 24.

State-of-Charge Estimation of NMC-based Li-ion Battery Based on Continuous Transfer Function Model and Extended Kalman Filter

Naseri, F., Schaltz, E., Stroe, D. I., Gismero, A., Farjah, E. & Karimi, S., 2 Feb 2021, *2021 12th Power Electronics, Drive Systems, and Technologies Conference, PEDSTC 2021*. IEEE Signal Processing Society, 5 p. 9405847. (2021 12th Power Electronics, Drive Systems, and Technologies Conference, PEDSTC 2021).

Applying different configurations for the thermal management of a lithium titanate oxide battery pack

Madani, S. S., Schaltz, E. & Kær, S. K., Jan 2021, In: *Electrochem*. 2, 1, p. 50-63 14 p., 2010005.

Predictive Control of Low-Cost Three-Phase Four-Switch Inverter-Fed Drives for Brushless DC Motor Applications

Naseri, F., Farjah, E., Schaltz, E., Lu, K. & Tashakor, N., 2021, In: *IEEE Transactions on Circuits and Systems I: Regular Papers*. 68, 3, p. 1308-1318 11 p., 9301364.

Thermal Simulation of Phase Change Material for Cooling of a Lithium-Ion Battery Pack

Madani, S. S., Schaltz, E. & Kær, S. K., Dec 2020, In: *Electrochem*. 1, 4, p. 439-449 11 p.

Comparative Study of State of Charge Estimation Under Different Open Circuit Voltage Test Conditions for Lithium-Ion Batteries

Gismero, A., Stroe, D-I. & Schaltz, E., 18 Nov 2020, *IECON 2020 The 46th Annual Conference of the IEEE Industrial Electronics Society*. IEEE, p. 1767-1772 6 p. (Proceedings of the Annual Conference of the IEEE Industrial Electronics Society).

Real-time open-switch fault diagnosis in automotive permanent magnet synchronous motor drives based on Kalman filter

Naseri, F., Schaltz, E., Lu, K. & Farjah, E., 16 Sep 2020, In: *IET Power Electronics*. 13, 12, p. 2450-2460 11 p.

Online Parameter Estimation for Supercapacitor State-of-Energy and State-of-Health Determination in Vehicular Applications

Naseri, F., Farjah, E., Ghanbari, T., Kazemi, Z., Schaltz, E. & Schanen, J-L., Sep 2020, In: *IEEE Transactions on Industrial Electronics*. 67, 9, p. 7963-7972 10 p., 8844313.

Design and Simulation of Internal Flowing Twisted Conduits for Cooling of Lithium-Ion Batteries through Thermal Characterization

Madani, S. S., Schaltz, E. & Kær, S. K., Jun 2020, In: *Batteries*. 6, 2, 14 p., 31.

Recursive State of Charge and State of Health Estimation Method for Lithium-Ion Batteries Based on Coulomb Counting and Open Circuit Voltage

Gismero, A., Schaltz, E. & Stroe, D-I., Apr 2020, In: *Energies*. 13, 7, 11 p., 1811.

Dynamic Stabilization of DC Traction Systems Using a Supercapacitor-Based Active Stabilizer with Model Predictive Control

Naseri, F., Farjah, E., Kazemi, Z., Schaltz, E., Ghanbari, T. & Schanen, J. L., Mar 2020, In: *IEEE Transactions on Transportation Electrification*. 6, 1, p. 228-240 13 p., 8950458.

Thermal Analysis of Cold Plate with Different Configurations for Thermal Management of a Lithium-Ion Battery

Madani, S. S., Schaltz, E. & Kær, S. K., Mar 2020, In: *Batteries*. 6, 1, 17.

Co-Estimation of Supercapacitor States and Parameters Considering Three-Branch Equivalent Circuit Model

Naseri, F., Karimi, S., Farjah, E., Schaltz, E. & Ghanbari, T., Feb 2020, *2020 11th Power Electronics, Drive Systems, and Technologies Conference, PEDSTC 2020*. IEEE, 9088356

Lithium-Ion Battery State-of-Health Estimation Using the Incremental Capacity Analysis Technique

Stroe, D-I. & Schaltz, E., Feb 2020, In: *I E E E Transactions on Industry Applications*. 56, 1, p. 678 - 685 8 p., 8911243.

Effect of Current Rate and Prior Cycling on the Coulombic Efficiency of a Lithium-Ion Battery

Madani, S. S., Schaltz, E. & Kær, S. K., Aug 2019, In: *Batteries*. 5, 3, 9 p., 57.

An experimental analysis of entropic coefficient of a lithium titanate oxide battery

Madani, S. S., Schaltz, E. & Kær, S. K., Jul 2019, In: *Energies*. 12, 14, p. 1-10 10 p., 2685.

Calendar Aging Lifetime Model for NMC-based Lithium-ion Batteries Based on EIS Measurements

Gismero, A., Stroe, D-I. & Schaltz, E., May 2019, *Proceedings of 2019 Fourteenth International Conference on Ecological Vehicles and Renewable Energies (EVER)*. IEEE Press, 8 p. 8813635

Incremental Capacity Analysis for Electric Vehicle Battery State-of-Health Estimation

Schaltz, E., Stroe, D-I., Nørregaard, K., Stenhøj Kofod, L. & Christensen, A., May 2019, *Proceedings of 2019 Fourteenth International Conference on Ecological Vehicles and Renewable Energies (EVER)*. IEEE Press, 6 p. 8813678

Partial Charging Method for Lithium-Ion Battery State-of-Health Estimation

Schaltz, E., Stroe, D-I., Nørregaard, K., Johnsen, B. & Christensen, A., May 2019, *Proceedings of 2019 Fourteenth International Conference on Ecological Vehicles and Renewable Energies (EVER)* . IEEE Press, 6 p. 8813645

An Electrical Equivalent Circuit Model of a Lithium Titanate Oxide Battery

Madani, S. S., Schaltz, E. & Kær, S. K., Mar 2019, In: *Batteries*. 5, 1, p. 1-14 14 p., 31.

Simulation of Thermal Behaviour of a Lithium Titanate Oxide Battery

Madani, S. S., Schaltz, E. & Kær, S. K., 20 Feb 2019, In: *Energies*. 12, 4, p. 1-15 15 p., 679.

Electrochemical Impedance Spectroscopy-Based Electric Circuit Modeling of Lithium-Sulfur Batteries During a Discharging State

Stroe, D-I., Knap, V., Swierczynski, M. J. & Schaltz, E., Jan 2019, In: *I E E E Transactions on Industry Applications*. 55, 1, p. 631-637 7 p., 8428469.

Analyzing Discharging and Charging Performance of a Lithium-Ion Battery

Madani, S. S., Schaltz, E. & Kær, S. K., 2019, In: *ECS Transactions*. 95, 1, p. 37-45 9 p.

An Analytical Solution for Lithium-Ion Batteries Cooling

Madani, S. S., Schaltz, E. & Kær, S. K., 2019, In: *ECS Transactions*. 95, 1, p. 75-79 5 p.

Lifetime Evaluation of a Battery Storage System used for Residential Electricity Supply in East Africa

Stroe, D-I. & Schaltz, E., 2019.

Thermal Analysis of an Indirect Liquid Cooling with Different Geometries for a Lithium-ion Battery

Madani, S. S., Schaltz, E. & Kær, S. K., 2019, In: *ECS Transactions*. 95, 1

Lifetime Prediction of Boost, Z-source and Y-source Converters in a Fuel Cell Hybrid Electric Vehicle Application

Gadalla, B., Schaltz, E., Zhou, D. & Blaabjerg, F., 8 Nov 2018, In: *Electric Power Components and Systems*. 46, 18, p. 1979-1991 13 p.

Heat Loss Measurement of Lithium Titanate Oxide Batteries under Fast Charging Conditions by Employing Isothermal Calorimeter

Madani, S. S., Schaltz, E. & Kær, S. K., Nov 2018, In: *Batteries*. 4, 4, p. 1-15 15 p., 59.

SOH Estimation of LMO/NMC-based Electric Vehicle Lithium-Ion Batteries Using the Incremental Capacity Analysis Technique

Stroe, D-I. & Schaltz, E., Sep 2018, *Proceedings of the 2018 IEEE Energy Conversion Congress and Exposition (ECCE)*. IEEE Press, p. 2720-2725 6 p. (IEEE Energy Conversion Congress and Exposition).

A Review of Different Electric Equivalent Circuit Models and Parameter Identification Methods of Lithium-Ion Batteries

Madani, S. S., Schaltz, E. & Kær, S. K., Aug 2018, In: *ECS Transactions*. 87, 1, p. 23-37 15 p.

Effect of Bad Connection on Surface Temperature of Lithium-Ion Batteries by Using Infrared Thermography

Madani, S. S., Schaltz, E. & Kær, S. K., Aug 2018, In: *ECS Transactions*. 87, 1, p. 39-50 12 p.

Investigation of the Effect of State-of-Charge and C-Rates on the Heat Loss and Efficiency of a Lithium-Ion Battery

Madani, S. S., Schaltz, E. & Kær, S. K., Aug 2018, In: *ECS Transactions*. 87, 1, p. 51-58 8 p.

Study of Temperature Impacts on a Lithium-Ion Battery Thermal Behaviour by Employing Isothermal Calorimeter

Madani, S. S., Schaltz, E. & Kær, S. K., Aug 2018, In: *ECS Transactions*. 87, 1, p. 295-305 11 p.

Thermal Modelling of a Lithium Titanate Oxide Battery

Madani, S. S., Schaltz, E. & Kær, S. K., Aug 2018, In: *ECS Transactions*. 87, 1, p. 315-326 12 p.

Review of Parameter Determination for Thermal Modeling of Lithium Ion Batteries

Saeed Madani, S., Schaltz, E. & Kær, S. K., Apr 2018, In: *Batteries*. 4, 2, p. 1-16 16 p., 20.

Flat tie-line power scheduling control of grid-connected hybrid microgrids

Xiao, Z. X., Guerrero, J. M., Shuang, J., Sera, D., Schaltz, E. & Vásquez, J. C., Jan 2018, In: *Applied Energy*. 210, p. 786-799 14 p.

State-of-Health Estimation of Lithium-Ion Batteries based on Partial Charging Voltage Profiles

Stroe, D-I., Knap, V. & Schaltz, E., 2018, In: *ECS Transactions*. 85, 13, p. 379-386 8 p.

Results of screening over 200 pristine lithium-ion cells

Varela Barreras, J., Raj, T., Howey, D. & Schaltz, E., Dec 2017, *Proceedings of IEEE Vehicle Power and Propulsion Conference (VPPC)*. IEEE Press, 6 p.

Self-balancing feature of Lithium-Sulfur batteries

Knap, V., Stroe, D-I., Christensen, A. E., Propp, K., Fotouhi, A., Auger, D. J., Schaltz, E. & Teodorescu, R., Dec 2017, In: *Journal of Power Sources*. 372, p. 245-251 7 p.

Functional Assessment of Battery Management System Tested on Hardware-in-the-Loop Simulator

Kalogiannis, T., Stroe, D-I., Swierczynski, M. J., Schaltz, E. & Elkjær Christensen, A., Nov 2017, *Proceedings of 2017 International Conference on Electrical and Information Technologies (ICEIT)*. IEEE Press, 6 p.

Electric circuit modeling of lithium-sulfur batteries during discharging state

Stroe, D-I., Knap, V., Swierczynski, M. J. & Schaltz, E., Oct 2017, *Proceedings of 2017 IEEE Energy Conversion Congress and Exposition (ECCE)*. IEEE, p. 1024-1029 6 p. (IEEE Energy Conversion Congress and Exposition).

Study on the combined influence of battery models and sizing strategy for hybrid and battery-based electric vehicles
Pinto, C., Barreras, J. V., de Castro, R., Araújo, R. E. & Schaltz, E., Oct 2017, In: Energy. 137, p. 272-284 13 p.

Loss Distribution and Thermal Behaviour of the Y-source Converter for a Wide Power and Voltage Range
Gadalla, B. S. A., Schaltz, E., Siwakoti, Y. P. & Blaabjerg, F., Jun 2017, *Proceedings of 2017 IEEE 3rd International Future Energy Electronics Conference and ECCE Asia (IFEEEC 2017 - ECCE Asia)*. IEEE Press, p. 878-883 6 p.

State of charge balancing after hot swap for cascaded H-bridge multilevel converters
Mathe, L., Schaltz, E. & Teodorescu, R., May 2017, *Proceedings of the 2017 International Conference on Optimization of Electrical and Electronic Equipment (OPTIM) & 2017 Intl Aegean Conference on Electrical Machines and Power Electronics (ACEMP)*. IEEE Press, p. 741-746 6 p. 7975057

Analysis of loss distribution of Conventional Boost, Z-source and Y-source Converters for wide power and voltage range
Gadalla, B. S. A., Schaltz, E., Siwakoti, Y. P. & Blaabjerg, F., Jan 2017, In: *Transaction on Environment and Electrical Engineering* . 2, 1, 9 p.

Incremental Capacity Analysis of a Lithium-Ion Battery Pack for Different Charging Rates
Kalogiannis, T., Stroe, D-I., Nyborg, J., Nørregaard, K., Christensen, A. E. & Schaltz, E., 2017, In: *ECS Transactions*. 77, 11, p. 403-412 10 p.

Incremental Capacity Analysis of a Lithium-ion Battery Pack for Different Charging Rates
Kalogiannis, T., Stroe, D-I., Nyborg, J., Nørregaard, K., Christensen, A. E. & Schaltz, E., 2017.

Thermal Behavior and Heat Generation Modeling of Lithium Sulfur Batteries
Stroe, D-I., Knap, V., Swierczynski, M. J. & Schaltz, E., 2017, In: *ECS Transactions*. 77, 11, p. 467-476 10 p.

Transferring the Incremental Capacity Analysis to Lithium-Sulfur Batteries
Knap, V., Kalogiannis, T., Purkayastha, R., Beczkowski, S., Stroe, D-I., Schaltz, E. & Teodorescu, R., 2017, In: *ECS Transactions*. 77, 11, p. 1919-1927 9 p.

An Advanced HIL Simulation Battery Model for Battery Management System Testing
Barreras, J. V., Fleischer, C., Christensen, A. E., Swierczynski, M. J., Schaltz, E., Andreasen, S. J. & Sauer, D. U., Dec 2016, In: *IEEE Transactions on Industry Applications*. 52, 6, p. 5086-5099 14 p., 6.

A self-discharge model of Lithium-Sulfur batteries based on direct shuttle current measurement
Knap, V., Stroe, D. L., Swierczynski, M. J., Purkayastha, R., Propp, K., Teodorescu, R. & Schaltz, E., Dec 2016, In: *Journal of Power Sources*. 336, p. 325-331 7 p.

Significance of the Capacity Recovery Effect in Pouch Lithium-Sulfur Battery Cells
Knap, V., Zhang, T., Stroe, D. L., Schaltz, E., Teodorescu, R. & Propp, K., Dec 2016, In: *ECS Transactions*. 74, 1, p. 95-100 6 p.

Evaluation of a Novel BEV Concept Based on Fixed and Swappable Li-Ion Battery Packs
Barreras, J. V., Pinto, C., de Castro, R., Schaltz, E., Juhl Andreasen, S., Rasmussen, P. O. & Araujo, R. E., Nov 2016, In: *IEEE Transactions on Industry Applications*. 52, 6, p. 5073 - 5085 13 p.

An Electrochemical Impedance Spectroscopy Study on a Lithium Sulfur Pouch Cell
Stroe, D. L., Knap, V., Swierczynski, M. J., Stanciu, T., Schaltz, E. & Teodorescu, R., Oct 2016, In: *ECS Transactions*. 72, 12, p. 13-22 10 p.

Distributed Coordination of Electric Vehicle Charging in a Community Microgrid Considering Real-Time Price
Li, C., Schaltz, E., Quintero, J. C. V. & Guerrero, J. M., Sep 2016, *Proceedings of the 18th European Conference on Power Electronics and Applications (EPE'16 ECCE-Europe), 2016*. IEEE Press, 8 p.

Efficiency Study of Vertical Distance Variations in Wireless Power Transfer for E-Mobility

Ghorbani Eftekhari, M., Ouyang, Z., Andersen, M. A. E., Andersen, P. B., De Ribeiro, L. A. S. & Schaltz, E., Jul 2016, In: IEEE Transactions on Magnetics. 52, 7, 4 p., 8401004.

Battery pack state of charge balancing algorithm for cascaded H-Bridge multilevel converters

Máthé, L., Burlacu, P. D., Schaltz, E. & Teodorescu, R., Jun 2016, *Proceedings of IEEE 16th International Conference on Environment and Electrical Engineering (EEEIC), 2016*. IEEE Press, 6 p.

Thermal Performance and Efficiency Investigation of Conventional Boost, Z-source and Y-source Converters

Gadalla, B. S. A., Schaltz, E., Siwakoti, Y. P. & Blaabjerg, F., Jun 2016, *Proceedings of 16 IEEE International Conference on Environment and Electrical Engineering (EEEIC), 2016*. Florence, Italy: IEEE Press, p. 1297-1302 6 p.

Development of Software and Strategies for Battery Management System Testing on HIL Simulator

Fleischer, C., Sauer, D. U., Barreras, J. V., Schaltz, E. & Christensen, A. E., Apr 2016, *Proceedings of the 2016 Eleventh International Conference on Ecological Vehicles and Renewable Energies (EVER), 2016*. Monte-Carlo: IEEE Press, 12 p.

Dynamic Performance of Maximum Power Point Trackers in TEG Systems Under Rapidly Changing Temperature Conditions

Man, E. A., Sera, D., Mathe, L., Schaltz, E. & Rosendahl, L., Mar 2016, In: Journal of Electronic Materials. 45, 3, p. 1309-1315 7 p.

Investigation of the Self-Discharge Behavior of Lithium-Sulfur Batteries

Knap, V., Stroe, D. L., Swierczynski, M. J., Teodorescu, R. & Schaltz, E., Mar 2016, In: Journal of The Electrochemical Society. 163, 6, p. A911-A916 6 p.

Evaluation of Advanced Control for Li-ion Battery Balancing Systems using Convex Optimization

Pinto, C., Barreras, J. V., Schaltz, E. & Araujo, R. E., 2016, In: IEEE Transactions on Sustainable Energy. 7, 4, p. 1703 - 1717 15 p.

An Improved Parametrization Method for Li-ion Linear Static Equivalent Circuit Battery Models Based on Direct Current Resistance Measurement

Barreras, J. V., Pinto, C., de Castro, R., Schaltz, E., Swierczynski, M. J., Juhl Andreasen, S. & Araujo, R. E., 23 Nov 2015, *International Conference on Sustainable Mobility Applications, Renewables and Technology (SMART), 2015*. IEEE Press, p. 1-9 9 p.

A High Temperature Experimental Characterization Procedure for Oxide-Based Thermoelectric Generator Modules under Transient Conditions

Man, E. A., Schaltz, E., Rosendahl, L., Rezaniakolaei, A. & Platzeck, D., Nov 2015, In: Energies. 8, 11, p. 12839-12847

State of Charge Balancing Control of a Multi-Functional Battery Energy Storage System Based on a 11-Level Cascaded Multilevel PWM Converter

Wang, S., Teodorescu, R., Máthé, L., Schaltz, E. & Burlacu, P. D., Nov 2015, *Proceedings of 2015 International Conference on Optimization of Electrical & Electronic Equipment (OPTIM)*. IEEE Press, p. 336 - 342 7 p.

A Survey on the Reliability of Power Electronics in Electro-Mobility Applications

Gadalla, B. S. A., Schaltz, E. & Blaabjerg, F., Sep 2015, *Proceedings of the 2015 International Aegean Conference on Electrical machines and Power Electronics ACEMPOPTIM- ELECTROMOTION Joint Conference*. Side, Turkey: IEEE Press, p. 304-310 7 p.

Thermoelectric Generator Emulator for MPPT Testing

Man, E. A., Sera, D., Máthé, L., Schaltz, E. & Rosendahl, L. A., Sep 2015, *Proceedings of the 2015 ACEMP-OPTIM-Electromotion International Conference*. IEEE Press, p. 774 - 778 5 p.

A novel BEV concept based on fixed and swappable li-ion battery packs

Barreras, J. V., Pinto, C., de Castro, R., Schaltz, E., Andreasen, S. J., Rasmussen, P. O. & Araújo, R. E., Apr 2015, *Proceedings of the 2015 Tenth International Conference on Ecological Vehicles and Renewable Energies (EVER)*. Monte-Carlo: IEEE Press, p. 1-8 9 p.

Effect of ferrite addition above the base ferrite on the coupling factor of wireless power transfer for vehicle applications

Batra, T., Schaltz, E. & Ahn, S., 2015, In: *Journal of Applied Physics*. 117, 17

Functional Analysis of Battery Management Systems using Multi-Cell HIL Simulator

Barreras, J. V., Swierczynski, M. J., Schaltz, E., Andreasen, S. J., Fleischer, C., Sauer, D. U. & Christensen, A. E., 2015, *Proceedings of the 2015 Tenth International Conference on Ecological Vehicles and Renewable Energies (EVER)*. Monte-Carlo: IEEE Press, 10 p.

Investigation of Efficiency and Thermal Performance of the Y-source Converters for a Wide Voltage Range

Gadalla, B. S. A., Schaltz, E., Siwakoti, Y. P. & Blaabjerg, F., 2015, In: *Journal of Renewable Energy and Sustainable Development (RES D)*. 1, 2, p. 300-305 5 p., 2.

Passive Shielding Effect on Space Profile of Magnetic Field Emissions for Wireless Power Transfer to Vehicles

Batra, T. & Schaltz, E., 2015, In: *Journal of Applied Physics*. 117, p. 17A739.1-17A739.4 4 p.

Study on Self-discharge Behavior of Lithium-Sulfur Batteries

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