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David Wallom (University of Oxford, UK), **Stefano Salvini** (University of Oxford, UK), **Piotr Lopatka** (University of Oxford, UK)

Demand Side Management of Distribution Networks

PAPER PRESENTATION

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2012ISGTEU-047

Enabling Distributed Frequency Response Using Smart Meters

Lee J. Thomas (Cardiff School of Engineering, UK), **Jianzhong Wu** (Cardiff School of Engineering, UK), **Janaka B. Ekanayake** (Cardiff School of Engineering, UK), **Nick Jenkins** (Cardiff School of Engineering, UK)

2012ISGTEU-255

Using Flexible Energy Infrastructures for Demand Response in a Smart Grid City

Stamatis Karnouskos (SAP, Germany), **Dejan Ilic** (SAP, Germany), **Per Goncalves Da Silva** (SAP, Germany)

2012ISGTEU-095

Comparing Demand Side Management Approaches

Albert Molderink (University of Twente, Netherlands), **Vincent Bakker** (University of Twente, Netherlands), **Johann L. Hurink** (University of Twente, Netherlands), **Gerard J.M. Smit** (University of Twente, Netherlands)

2012ISGTEU-075

Self-learning Demand Side Management for a Heterogeneous Cluster of Devices With Binary Control Actions

Bert J. Claessens (MTO, Belgium), **Stijn Vandael** (KU Leuven, Belgium), **Frederik**

Ruelens (KU Leuven, Belgium), **Maarten Hommelberg** (VITO, Belgium)

2012ISGTEU-254

Indirect Control for Demand Side Management – A Conceptual Introduction

Kai Heussen (Technical University of Denmark, Denmark), **Shi You** (Technical University of Denmark, Denmark), **Benjamin Biegel** (Aalborg University, Denmark), **Lars H. Hansen** (DONG Energy, Denmark), **Katrine B. Andersen** (DONG Energy, Denmark)

2012ISGTEU-043

A Predictive Control Scheme for Automated Demand Response Mechanisms

Ioannis Lampropoulos (Eindhoven University of Technology, Netherlands), **Paul P. J. van den Bosch** (Eindhoven University of Technology, Netherlands), **Wil L. Kling** (Eindhoven University of Technology, Netherlands)

2012ISGTEU-113

A Modified Approach for Residential Load Scheduling Using Smart Meters

Shahab Bahrami (Sharif University of Technology, Iran), **Mostafa Parniani** (Sharif University of Technology, Iran), **Ahmadreza Vafaeimehr** (European Business School, Germany)

Impact of Power Electronics Control

PAPER PRESENTATION

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2012ISGTEU-162

Fulfilling the Standard EN 50160 in Distribution Networks With a High Penetration of Renewable Energy System

Christian Röhrig (Otto-von-Guericke University Magdeburg, Germany), **Krzysztof Rudion** (Otto-von-Guericke University Magdeburg, Germany), **Zbigniew A. Styczynski** (Otto-von-Guericke University Magdeburg, Germany), **Hans-Joachim Nehrkorn** (E.ON, Germany)

2012ISGTEU-276

Implementation of Grid-friendly Charging Scheme to Electric Vehicle Off-board Charger for V2G

Yutaka Ota (University of Tokyo, Japan), **Haruhito Taniguchi** (University of Tokyo, Japan), **Hirokazu Suzuki** (University of Tokyo, Japan), **Tatsuhito Nakajima** (Tokyo Electric Power Company, Japan), **Jumpei Baba** (University of Tokyo, Japan), **Akihiko Yokoyama** (University of Tokyo, Japan)

2012ISGTEU-027

Current Harmonics and Commercial Losses in Smart Grids

Anatoly M. Lipsky (Ariel University Center of Samaria, Israel), **Neda V. Miteva** (Ariel University Center of Samaria, Israel), **Efim S. Lokshin** (Ariel University Center of Samaria, Israel)

2012ISGTEU-265

Integrated Power Converter for Multiple DC Voltage Sources

Masahide Hojo (University of Tokushima, Japan), **Ipppei Usuzumi** (University of Tokushima, Japan)

2012ISGTEU-089

Exploring the Range of Impedance Conditioning by Virtual Inductance for Grid Connected Voltage Source Converters

Jon Are Suul (SINTEF Energy Research, Norway), **Marta Molinas** (Norwegian University of Science and Technology, Norway), **Pedro Rodríguez** (Abengoa Research, Spain)

2012ISGTEU-004

Damping Power System Oscillations Using Phase Imbalanced Series Capacitive Compensation and DFIG-based Wind Farms

Irfan Unal (University of Saskatchewan, Canada), **Sherif O. Faried** (University of Saskatchewan, Canada)

HVDC and Offshore Wind Park Connection

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Low Frequency High Voltage Offshore Grid for Transmission of Renewable Power

Wilfried Fischer (50Hertz, Germany), **Rainer Braun** (Deutsche Bahn Energie, Germany), **István Erlich** (University of Duisburg-Essen, Germany)

Cuong Nguyen Mau (Otto-von-Guericke University Magdeburg, Ger.), **Ngoc T. Trinh** (Siemens, Ger.), **Krzysztof Rudion** (Otto-von-Guericke University Magdeburg, Ger.), **Edwin Lerch** (Siemens, Ger.), **Zbigniew A. Styczynski** (Otto-von-Guericke University Magdeburg, Ger.)

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Reactive Power Compensation in Hybrid AC/DC Networks for Smart Grid Applications

Ahmed Mohamed (Florida International University, USA), **Vahid Salehi** (Florida International University, USA), **Osama Mohammed** (Florida International University, USA)

2012ISGTEU-066

VSC-HVDC Link to Support Voltage and Frequency Fluctuations for Variable Speed Wind Turbines for Grid Connection

Ronan Meere (Athlone Institute of Technology, Ireland), **Mark O'Malley** (UCD, Ireland), **Andrew Keane** (UCD, Ireland)

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Experimental Implementation of a Voltage Control for a Multiterminal VSC-HVDC Offshore Transmission System

Agustí Egea-Alvarez (U. Politecnica de Catalunya, Spain), **Fernando Bianchi** (IREC, Spain), **Adria Junyent-Ferré** (U. Politecnica de Catalunya, Spain), **Gabriel Gross** (U. Politecnica de Catalunya, Spain), **Oriol Gomis-Bellmunt** (U. Politecnica de Catalunya, Spain)

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An Analytical Method for Probabilistic Load Flow Applied to Multi-terminal HVDC Networks for Offshore Wind Farm Integration

Emanuele Ciapessoni (RSE, Italy), **Diego Cirio** (RSE, I.), **Andrea Pitto** (RSE, I.), **Stefano Massucco** (University of Genova, I.), **Federico Silvestro** (University of Genova, I.)

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Improving Ranking of Electric Power System Dynamic Behavior in DSA System by Applying VSC Based HVDC Technology

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Power Flow Participation by an Embedded HVDC Grid in an Interconnected Power System

Anne-Katrin Marten (TU Ilmenau, Germany), **Dirk Westermann** (TU Ilmenau, Germany)

Optimal Charging of Electric Vehicles II

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Coordinated Electric Vehicle Charging Strategy for Optimal Operation of Distribution Network

Kaiqiao Zhan (Tsinghua University, China), Zechun Hu (Tsinghua University, China), Yonghua Song (Tsinghua University, China), Zhuowei Luo (Tsinghua University, China), Zhiwei Xu (Tsinghua University, China), Long Jia (Tsinghua University, China)

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Urgency-driven, Plug-in Electric Vehicle Charging

Jeff Frolik (University of Vermont, USA), Paul D. Hines (University of Vermont, USA)

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An Optimal Local Charging Strategy for Competing Electric Vehicles on Quick Charging Facilities

Cédric Bodet (NEC Laboratories Europe, Germany), Rafał Jabłonowski (NEC Laboratories Europe, Germany), Kellie Erickson (NEC Laboratories Europe, Germany), Anett Schülke (NEC Laboratories Europe, Germany)

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Strong Stochastic Approach to Assess Impacts of Electric Vehicles on the Distribution Network

Tuan Tran-Quoc (CEA-INES, France), Xavier Le Pivert (CEA-INES, France), Mehdi Saheli (Renault, France), Olivier Beaude (Renault, France)

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Validation of Voltage Regulation Method in Distribution System Utilizing Electric Vehicles

Yuki Mitsukuri (Hokkaido University, Japan), Ryoichi Hara (Hokkaido University, Japan), Hiroyuki Kita (Hokkaido University, Japan), Eiji Kamiya (Tokyo Electric Power Company, Japan), Yasuhiro Kataoka (Tokyo Electric Power Company, Japan), Shoji Taki (Tokyo Electric Power Company, Japan), Eiji Kogure (Tokyo Electric Power Company, Japan)

2012ISGTEU-287

On the Interdependence of Intelligent Charging Approaches for Plug-in Electric Vehicles in Transmission and Distribution Networks

Marina González Vayá (ETH Zurich, Switzerland), Matthias D. Galus (ETH Zurich, Switzerland), Rashid A. Waraich (ETH Zurich, Switzerland), Göran Andersson (ETH Zurich, Switzerland)

Distribution System Modeling and Analysis

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Integrated Reliability Modeling for Data Center Infrastructures: A Case Study

Uwe Müller (ibmu.de, Germany), Kai Strunz (TU Berlin, Germany)

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Analysis of Thevenin Equivalent Network of a Distribution System for Solar Integration Studies

Guangya Y. Yang (Technical University of Denmark, Denmark), Majken R. Mattesen (Østkraft, Denmark), Søren B. Kjær (Danfoss Solar Inverter, Denmark), Radu D. Lazar (Danfoss Solar Inverter, Denmark), Adrian Constantin (Danfoss Solar Inverter, Denmark), Jacob Østergaard (Technical University of Denmark, Denmark), Carl Stephansen (EnergiMidt, Denmark)

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Simplified Modeling of DFIG With PWM Nonlinear Characteristics for Fast Transient Simulation

Yin Xu (Tsinghua University, China), Laijun Chen (Tsinghua University, China), Ying Chen (Tsinghua University, China), Zhenquan Sun (Shaanxi Regional Electric Power, China)

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Modeling the Frequency Response of Photovoltaic Inverters

Ernauli C. Aprilia (Eindhoven University of Technology, Netherlands), Vladimir Cuk (Eindhoven University of Technology, Netherlands), Sjeff Cobben (Eindhoven University of Technology, Netherlands), Paulo F. Ribeiro (Eindhoven University of Technology, Netherlands), Wil L. Kling (Eindhoven University of Technology, Netherlands)

2012ISGTEU-246

Modeling of Auto-transformers for Load Flow Calculations

Hans-Theo Neisius (Siemens, Germany), Izudin Džafić (Siemens, Germany), Sylwia Henselmeyer (Siemens, Germany), Dino Ablakovic (Siemens, Germany), Nenad Leček (Siemens, Germany)

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Hybrid Three-phase Load Flow Method for Ungrounded Distribution Systems

Hongbo Sun (Mitsubishi Electric, USA), Daniel Nikovski (Mitsubishi Electric, USA), Tetsufumi Ohno (Mitsubishi Electric, Japan), Tomihiro Takano (Mitsubishi Electric, Japan), Yasuhiro Kojima (Mitsubishi Electric, Japan)

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Three Phase Current Iteration Power Flow Method Using Fortescue Transformations

Izudin Džafić (Siemens, Germany),
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Sylwia Henselmeyer (Siemens, Germany)

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Increase of the Delivered Energy Probability in DES Using a Fuzzy Probabilistic Modeling

Bruno Canizes (Polytechnic of Porto, Portugal), **João Soares** (Polytechnic of Porto, Portugal), **Zita Vale** (Polytechnic of Porto, Portugal), **Joaquim Teixeira** (Polytechnic of Porto, Portugal)

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Representation and Self-configuration of Physical Entities in Extended Smart Grid Perimeter

Zheng Hu (Orange, France), **Gilles Privat** (Orange, France), **Stéphane Frénot** (INSA-Lyon, France), **Bernard Tourancheau** (IMAG, France)

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Controlling Smart Grid Adaptivity

Hermen A. Toersche (University of Twente, Netherlands), **Stefan Nykamp** (University of Twente, Netherlands), **Albert Molderink** (University of Twente, Netherlands), **Johann L. Hurink** (University of Twente, Netherlands), **Gerard J. M. Smit** (University of Twente, Netherlands)

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Parametric Interface for Battery Energy Storage Systems Providing Ancillary Services

Claudio R. Vergara (Universidade do Porto, Chile)

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A Synchronous Reference Frame Intelligent Structure for Power Control of Distributed Generators in a Microgrid

Sima Seidi Khorramabadi (Queen's University, Canada), **Alireza Bakhshai** (Queen's University, Canada)

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Agent Based Automation for a Smarter Distribution Grid

Mariam Khattabi (MWV, Germany), **Andreas Kießling** (MWV, Germany), **Patrick Selzam** (Fraunhofer IWES, Germany), **Jan Ringelstein** (Fraunhofer IWES, Germany)

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Optimal Economic Operation of Smart Grid by Fuzzy Advanced Quantum Evolutionary Method

Shantanu Chakraborty (Nagoya Institute of Technology, Japan), **Takayuki Ito** (Nagoya Institute of Technology, Japan), **Tomonobu Senjyu** (University of the Ryukyus, Japan)

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Day-ahead and Online Scheduling of a Power Park in Urban Electricity Infrastructure

Ehsan Abbasi (TU Berlin, Germany), **Hossein Ameli** (TU Berlin, Germany), **Kai Strunz** (TU Berlin, Germany)

Islanding Detection and Operation

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Evaluation of Non-active Current Compensation in Smart Grids

Santiago Sanchez Acevedo (Norwegian University of Science and Technology, Norway), Marta Molinas (Norwegian University of Science and Technology, Norway)

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Autonomous Control of Electric Vehicles in Grid-connected and Islanded Modes

Arnaldo Arancibia (TU Berlin, Germany), Kai Strunz (TU Berlin, Germany)

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New Multi-criteria-based Algorithm for Islanding Detection in Smart Grids

Hannu Laaksonen (ABB, Finland)

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Islanding Detection in a Distributed Generation Based Hybrid System Using Intelligent Pattern Recognition Techniques

S. R. Mohanty (University of Beira Interior, Portugal), Nand Kishor (Motilal Nehru National Institute of Technology, India), P. K. Ray (Motilal Nehru National Institute of Technology, India), J. P. S. Catalão (University of Beira Interior, Portugal)

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Islanding Detection for PV and DFIG Using Decision Tree and AdaBoost Algorithm

Seyed S. Madani (Sharif University of Technology, Iran), Ali Abbaspour (Sharif University of Technology, Iran), Mojtaba Beiraghi (Sharif University of Technology, Iran), Payam Zamani Dehkordi (Sharif University of Technology, Iran), Ali M. Ranjbar (Sharif University of Technology, Iran)

2012ISGTEU-044

Investigation of the Virtual Synchronous Machine in the Island Mode

Yong Chen (TU Clausthal, Germany), Ralf Hesse (Ingenieurbüro IEHW, Germany), Dirk Turschner (TU Clausthal, Germany), Hans-Peter Beck (TU Clausthal, Germany)

Wide Area Transient Control and Stability Improvement With PMU

PAPER PRESENTATION

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2012ISGTEU-053

New Applications for Wide-area Monitoring, Protection and Control

Sven C. Müller (TU Dortmund, Germany),
Andreas Kubis (TU Dortmund, Germany),
Sebastian Brato (TU Dortmund, Germany),
Ulf Häger (TU Dortmund, Germany),
Christian Rehtanz (TU Dortmund, Germany),
Jürgen Götze (TU Dortmund, Germany)

2012ISGTEU-277

Improvement of Angle and Voltage Stability by Control of Batteries Using Wide-area Measurement System in Power Systems

Kenichi Kawabe (University of Tokyo, Japan), **Akihiko Yokoyama** (University of Tokyo, Japan)

2012ISGTEU-148

Power Grid Transient Stability Prediction Using Wide Area Synchrophasor Measurements

Jagabondhu Hazra (IBM, India), **Ravi K. Reddi** (IIT Kharagpur, India), **Kaushik Das** (IBM, India), **Deva P. Seetharam** (IBM, India), **Avinash K. Sinha** (IIT Kharagpur, India)

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Synchronous Machine Inertia Constants Updating Using Wide Area Measurements

Song Guo (Durham University, UK),
Janusz Bialek (Durham University, UK)

2012ISGTEU-242

A Modified Taylor-Kalman Filter for Instantaneous Dynamic Phasor Estimation

Junqi Liu (RWTH Aachen, Germany), **Fei Ni** (RWTH Aachen, Germany), **Junjie Tang** (RWTH Aachen, Germany), **Ferdinanda Ponci** (RWTH Aachen, Germany), **Antonello Monti** (RWTH Aachen, Germany)

2012ISGTEU-117

Implementation of Power System Model Identification for Locating In-phase Generators

Pavel V. Chusovitin (Ural Federal University, Russia) and **Andrey V. Pazderin** (Ural Federal University, Russia)

Planning of Smart Grids

PAPER PRESENTATION

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2012ISGTEU-283

On the Optimal Placement of Distributed Storage Systems for Voltage Control in Active Distribution Networks

Mostafa Nick (EPFL, Switzerland), **Marc Hohmann** (EPFL, Switzerland), **Rachid Cherkaoui** (EPFL, Switzerland), **Mario Paolone** (EPFL, Switzerland)

2012ISGTEU-129

Optimal Degree of Smart Transformer Substations in Distribution Networks for Reliability Improvement

Andrea Rodriguez-Calvo (Comillas Pontifical University, Spain), **Pablo Frías** (Comillas Pontifical University, Spain), **Javier Reneses** (Comillas Pontifical University, Spain), **Carlos Mateo** (Comillas Pontifical University, Spain)

2012ISGTEU-023

A Multi-objective Planning Framework for Optimal Integration of Distributed Generations

Keshav Pokharel (University of Central Lancashire, UK), **Maizura Mokhtar** (University of Central Lancashire, UK), **Joe Howe** (University of Central Lancashire, UK)

2012ISGTEU-110

Optimization of Supply Source Allocation in the Problem of Rational Configuration of Electricity Supply System

Olga V. Svezhentseva (Irkutsk State Technical University, Russia), **Nikolay I. Voropai** (Melentiev Energy Systems Institute, Russia)

2012ISGTEU-248

The Smart Super-European Grid: Balancing Demand and Supply

Catalina Spataru (University College of London, UK), **Mark Barrett** (University College of London, UK)

2012ISGTEU-233

Integrating Wind – Influence of Transmission Grid Extension on European Electricity Market Prices

Tobias Aigner (Norwegian University of Science and Technology, Norway), **Katrin Schaber** (TU München, Germany), **Thomas Hamacher** (TU München, Germany), **Terje Gjengedal** (Norwegian University of Science and Technology, Norway)

Methods for Integration of Wind Energy

PAPER PRESENTATION

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2012ISGTEU-177

Development of Wind Power Stabilization System Using BESS and STATCOM

Duck-Su Lee (Hyundai, Korea), **Soo-Nam Kim** (Hyundai, Korea), **Young-Chan Choi** (Hyundai, Korea), **Byung-San Baek** (Hyundai, Korea), **Jong-Sung Hur** (Hyundai, Korea)

2012ISGTEU-217

Analysis of Wind Power Integration Capacity in Wind-hydro-thermal Hybrid Power System

Can Sun (Xi'an Jiaotong University, China), **Zhaohong Bie** (Xi'an Jiaotong University, China), **Gengfeng Li** (Xi'an Jiaotong University, China), **Bowen Hua** (Xi'an Jiaotong University, China)

2012ISGTEU-076

Probabilistic Assessment of Operational Risk Considering Different Wind Turbine Technologies

Francisco M. Gonzalez-Longatt (Coventry University, UK), **José L. Rueda** (University of Duisburg-Essen, Germany), **Dimitar Bogdanov** (Technical University of Sofia, Bulgaria)

2012ISGTEU-153

Exploring the Use of Flexibility Indices in Low Carbon Power Systems

Juan Ma (University of Manchester, UK), **Vera Silva** (EDF, France), **Régine Belhomme** (EDF, France), **Daniel S. Kirschen** (University of Washington, USA), **Luis F. Ochoa** (University of Manchester, UK)

2012ISGTEU-090

Impact of Different DFIG Wind Turbines Control Modes on Long-term Voltage Stability

Rafael R. Londero (Federal University of Pará, Brazil), **Carolina M. Affonso** (Federal University of Pará, Brazil), **João P. Abreu Vieira** (Federal University of Pará, Brazil), **Ubiratan H. Bezerra** (Federal University of Pará, Brazil)

2012ISGTEU-253

Dynamic Participation of Wind Farms in System Frequency Control

Mohammadreza Toulabi (Sharif University of Technology, Iran), **Ali Mohammad Ranjbar** (Sharif University of Technology, Iran), **Houshang Karimi** (Sharif University of Technology, Iran), **Mojtaba Shiroie** (Sharif University of Technology, Iran)

Advances to Real-time State Estimation

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Real-time Hybrid State Estimation Incorporating SCADA and PMU Measurements

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Synchro-Phasor Based Three Phase State Estimation Using Modal Components

[Murat Göl](#) (Northeastern University, Boston, USA), [Ali Abur](#) (Northeastern University, Boston, USA)

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An Optimal Hierarchical Algorithm for Factored Nonlinear Weighted Least Squares State Estimation

[George M. Mathews](#) (NICTA, Australia)

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Distribution System State Estimation Using Unsynchronized Phasor Measurements

[Pierre Janssen](#) (Université Libre de Bruxelles, Belgium), [Tevfik Sezi](#) (Siemens, Germany), [Jean-Claude Maun](#) (Université Libre de Bruxelles, Belgium)

2012ISGTEU-267

State Estimation of Active Distribution Networks: Comparison Between WLS and Iterated Kalman-filter Algorithm Integrating PMUs

[Stela Sarri](#) (EPFL, Switzerland), [Mario Paolone](#) (EPFL, Switzerland), [Rachid Cherkaoui](#) (EPFL, Switzerland), [Alberto Borghetti](#) (University of Bologna, Italy), [Fabio Napolitano](#) (University of Bologna, Italy), [Carlo A. Nucci](#) (University of Bologna, Italy)

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A Case Study of Bad Data Detection for Distribution Feeder Voltage Measurement

[Naotaka Okada](#) (Central Research Institute of Electric Power Industry, Japan), [Masahiro Takasaki](#) (Central Research Institute of Electric Power Industry, Japan), [Kazuyuki Tanaka](#) (Central Research Institute of Electric Power Industry, Japan)

Microgrids Operation and Control

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Power Management Strategy for Plug and Play DC Microgrid

Xunwei Yu (North Carolina State University, USA), Alex Q. Huang (North Carolina State University, USA)

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Optimal Generation Scheduling of a Microgrid

Xiong Wu (Xi'an Jiaotong University, China), Xiuli Wang (Xi'an Jiaotong University, China), Zhaohong Bie (Xi'an Jiaotong University, China)

2012ISGTEU-102

Optimal Storage Capacity Within an Autonomous Micro Grid With a High Penetration of Renewable Energy Sources

Pio Lombardi (Fraunhofer IFF, Germany), Tatiana Sokolnikova (Irkutsk State Technical University, Russia), Konstantin V. Suslov (Irkutsk State Technical University, Russia), Zbigniew A. Styczynski (Otto-von-Guericke University Magdeburg, Germany)

2012ISGTEU-115

Optimized Operation, Planning, and Frequency Control of Hybrid Generation-Storage Systems in Isolated Networks

Ehsan Abbasi (TU Berlin, Germany), Hossein Ameli (TU Berlin, Germany), Kai Strunz (TU Berlin, Germany), Duc Nguyen Huu (TU Berlin, Germany)

2012ISGTEU-051

Modeling and Simulation of a Microgrid as a Stochastic Hybrid System

Martin Strelec (Honeywell, Czech Republic), Karel Macek (FNSPE CTU, Czech Republic), Alessandro Abate (TU Delft, Netherlands)

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The Role of Microgrids in Accelerating Energy Access

Rena Kuwahata (Ecofys, Germany), Nis Martensen (Energynautics, Germany), Thomas Ackermann (Energynautics, Germany), Sven Teske (Greenpeace, Germany)

Research Projects at National and International Level

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3eHouses: A Smart Metering Pilot in UK Living Labs

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LV Distribution Network Feeders in Belgium and Power Quality Issues due to Increasing PV Penetration Levels

Carlos Gonzalez (KU Leuven, Belgium), **Jurgen Geuns** (KU Leuven, Belgium), **Sam Weckx** (KU Leuven, Belgium), **Thomas Wijnhoven** (KU Leuven, Belgium), **Pieter Vingerhoets** (KU Leuven, Belgium), **Tom De Rybel** (KU Leuven, Belgium), **Johan Driesen** (KU Leuven, Belgium)

2012ISGTEU-003

Demonstrating Coordinated Voltage Control in a Real Distribution Network

Anna Kulmala (Tampere University of Technology, Finland), **Antti Mutanen** (Tampere University of Technology, Finland), **Antti Koto** (Tampere University of Technology, Finland), **Sami Repo** (Tampere University of Technology, Finland), **Pertti Järventausta** (Tampere University of Technology, Finland)

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Impact Investigation of Rooftop Solar PV System: A Case Study in India

Kalpesh A. Joshi (Indian Institute of Technology Gandhinagar, India), **Naran M. Pindoriya** (Indian Institute of Technology Gandhinagar, India)

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A Local Energy Management System for Solar Integration and Improved Security of Supply: The Nice Grid Project

Andrea Michiorri (MINES ParisTech, France), **Robin Girard** (MINES ParisTech, France), **Georges Kariniotakis** (MINES ParisTech, France), **Christophe Lebossé** (ERDF, France), **Sandrine Albou** (RTE, France)

2012ISGTEU-056

Electrical Power and Energy Compensation Demand With Regard to Topological Restrictions of the German Mains for an Efficient Operation of a Smart Grid

Daniel Beyer (Fraunhofer AST, Germany), **Frank Karstädt** (Fraunhofer AST, Germany), **Benjamin Fischer** (Fraunhofer AST, Germany), **Michael Agsten** (Fraunhofer AST, Germany), **Peter Bretschneider** (Fraunhofer AST, Germany)

2012ISGTEU-178

**Northern Isles New Energy Solutions:
Active Network Management Stability
Limits**

Michael J. Dolan (University of Strathclyde, UK), **Graham W. Ault** (University of Strathclyde, UK), **Damien F. Frame** (University of Strathclyde, UK), **Simon Gill** (University of Strathclyde, UK), **Ivana Kockar** (University of Strathclyde, UK), **Olimpo Anaya-Lara** (University of Strathclyde, UK), **Stuart Gal-loway** (University of Strathclyde, UK), **Bryan O'Neill** (Smarter Grid Solutions, UK), **Colin Foote** (Smarter Grid Solutions, UK), **Andrejs Svalovs** (Parsons Brinckerhoff, UK)

2012ISGTEU-140

**Implementing Active Demand in the
ADDRESS Project: Laboratory Tests
and First Results From the Field**

Regine Belhomme (EDF, France), **Philippe Eyrolles** (EDF, France), **Roberto González Sainz-Maza** (Iberdrola, Spain), **Joseba Jimeno Huarte** (Tecnalia, Spain), **Giovanni Valtorta** (ENEL, Italy), **Elena Morozova** (ENEL, Italy), **Francesco Naso** (ENEL, Italy), **Dana Abi Ghanem** (University of Manchester, UK), **Sarah Mander** (University of Manchester, UK)

2012ISGTEU-192

**Evaluating Low-carbon Effects of De-
mand Response From Smart Distribu-
tion Grid**

Tianrui Zhou (Tsinghua University, China), **Chongqing Kang** (Tsinghua University, China), **Xinyu Chen** (Tsinghua University, China), **Yue Wu** (Jiangxi Electric Power Research Institute, China), **Jianbo Xin** (Jiangxi Electric Power Research Institute, China)

2012ISGTEU-191

**Integration of Surplus Wind Energy by
Controlled Charging of Electric Vehicles**

Stefan Mischinger (TU Berlin, Germany), **Wilfried Hennings** (Forschungszentrum Jülich, Germany), **Kai Strunz** (TU Berlin, Germany)

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**Electric Vehicles in Low Voltage Resi-
dential Grid: A Danish Case Study**

Jayakrishnan R. Pillai (Aalborg University, Denmark), **Shaojun Huang** (Aalborg University, Denmark), **Paul Thøgersen** (KK-Electronic, Denmark), **Jan Møller** (Nyfors, Denmark), **Birgitte Bak-Jensen** (Aalborg University, Denmark)

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A Comparison of Electric Vehicle Integration Projects

Peter Bach Andersen (Technical University of Denmark, Denmark), **Rodrigo Garcia-Valle** (Technical University of Denmark, Denmark), **Willett Kempton** (University of Delaware, USA)

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Using Already Existing Artificial Structures for Energy Storage in Areas With High Shares of Renewable Energies

Thomas Weiss (Helmut-Schmidt-University, Germany), **Detlef Schulz** (Helmut-Schmidt-University, Germany)

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PEGASE Pan-European Test-beds for Testing of Algorithms on Very Large Scale Power Systems

Fortunato Vilella (Tractebel Engineering, Belgium), **Sylvain Leclerc** (RTE, France), **István Erlich** (University of Duisburg-Essen, Germany), **Stephane Rapoport** (Tractebel Engineering, Belgium)

Concepts of Smart Grid Security

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Yoshiharu Okumoto (Chugoku Electric Power Company, Japan), **Naoto Yorino** (Hiroshima University, Japan), **Yoshifumi Zoka** (Hiroshima University, Japan), **Yutaka Sasaki** (Hiroshima University, Japan), **Toshihiro Yamanaka** (Hiroshima University, Japan), **Tomohisa Akiyoshi** (Hiroshima University, Japan)

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Smart Integration of Distribution Automation Applications

Robert J. W. de Groot (Eindhoven University of Technology, Netherlands), **Johan Morren** (Eindhoven University of Technology, Netherlands), **Han G. Slootweg** (Eindhoven University of Technology, Netherlands)

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Self-healing for Smart Grids: Problem Formulation and Considerations

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Preventive and Emergency Control of Intelligent Power Systems

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Big Bang-Big Crunch Based Optimal Preventive Control Action on Power Systems

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A Smart Power System Restoration Based on the Merger of Two Different Strategies

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Smart Grid Maintenance and Asset Management

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Applying Reliability Centered Maintenance to a Digital Protective Relay

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Reliability Modeling of Protection System Based on Phase-type Distribution

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Implementation of Gaia Methodology for Multi-agent Based Transformer Condition Monitoring

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A Regulatory Framework for Short-term Stochastic Maintenance Outage Scheduling in Smart Grids

Mohammad Ali Fotouhi Ghazvini (Polytechnic of Porto, Portugal), **Zita Vale** (Polytechnic of Porto, Portugal), **Hugo Morais** (Polytechnic of Porto, Portugal), **Bruno Canizes** (Polytechnic of Porto, Portugal)

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Risk-based Life Cycle Cost Analysis Method for Transmission Systems

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Life Cycle Management Method for Smart Grid Asset With Real Option Theory

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Effects of Plug-in Electric Vehicle Charge Scheduling on the Day-ahead Electricity Market Price

Pavan Balram (Chalmers University of Technology, Sweden), **Le Anh Tuan** (Chalmers University of Technology, Sweden), **Lina Bertling Tjernberg** (Chalmers University of Technology, Sweden)

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Decentralized Participation of Electric Vehicles in Network-constrained Market Operation

Dimitrios Papadaskalopoulos (Imperial College London), **Goran Strbac** (Imperial College London)

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Balancing Trade-offs in Coordinated PHEV Charging With Continuous Market-based Control

Klaas De Craemer (KU Leuven, Belgium), **Geert Deconinck** (KU Leuven, Belgium)

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Price Incentives for Smart Electric Vehicle Operation – Status Quo and Perspectives

Christine Brandstätt (Bremer Energie Institut, Germany), **Nele Friedrichsen** (Bremer Energie Institut, Germany)

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A Distributed Approach to the Integration of Electric Vehicles Into Future Smart Grids

Michael Mierau (Fraunhofer ISE, Germany), **Robert Kohrs** (Fraunhofer ISE, Germany), **Christof Wittwer** (Fraunhofer ISE, Germany)

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A Case Study of Coordinated Electric Vehicle Charging for Peak Shaving on a Low Voltage Grid

Niels Leemput (KU Leuven, Belgium), **Frederik Geth** (KU Leuven, Belgium), **Bert Claessens** (VITO, Belgium), **Juan Van Roy** (KU Leuven, Belgium), **Raf Ponnette** (VITO, Belgium), **Johan Driesen** (KU Leuven, Belgium)

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Consumer Phase Identification in a Three Phase Unbalanced LV Distribution Network

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A Self-Calibrating Partial Discharge WSN for Condition Monitoring in the Future Smart Grid

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A Calibration Method for Power Metering System With Electronic Instrument Transformers

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Implementation of the IEEE Std 1459-2010 Using Kalman Filter for Fundamental and Harmonics Detection

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Parameter Identification of Unknown Radial Grids for Theft Detection

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Optimized Positioning of Measurements in Distribution Grids

David Echternacht (RWTH Aachen, Germany), **Christian Linnemann** (RWTH Aachen, Germany), **Albert Moser** (RWTH Aachen, Germany.)

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Measurement Infrastructure for Observing and Controlling Smart Electrical Grids

Gert Rietveld (Van Swinden Laboratorium, Netherlands), **Paul Clarkson** (National Physical Laboratory, UK), **Paul S. Wright** (National Physical Laboratory, UK), **U. Pogliano** (Istituto Nazionale di Ricerca Metrologica, Italy), **Jean-Pierre Braun** (METAS, Switzerland), **Miha Kokalj** (Slovenian Institute of Quality and Metrology, Slovenia), **Rado Lapuh** (Slovenian Institute of Quality and Metrology, Slovenia), **Norbert Zisky** (Physikalisch-Technische Bundesanstalt, Germany)

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Sensing in Power Distribution Networks via Large Numbers of Smart Meters

Dejan Ilic (SAP, Germany.), **Stamatis Karnouskos** (SAP, Germany.), **Per Goncalves Da Silva** (SAP, Germany.)

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State Identification and Automatic Control of Smart Low Voltage Grids

Nils Neusel-Lange (University of Wuppertal, Germany), **Christian Oerter** (University of Wuppertal, Germany), **Markus Zdrallek** (University of Wuppertal, Germany)

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Probabilistic Approach-based PMU Placement for Real-time Power System Vulnerability Assessment

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New Information Technologies for State Estimation of Power Systems With FACTS

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Family of Energy Management System for Smart Grid

Hongbin Sun (Tsinghua University, China), **Boming Zhang** (Tsinghua University, China), **Wenchuan Wu** (Tsinghua University, China), **Qinglai Guo** (Tsinghua University, China)

Voltage Control

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Optimization of the Steady Voltage Profile in Distribution Systems by Coordinating the Controls of Distributed Generations

Yujun He (Supélec, France), **Marc Petit** (Supélec, France), **Philippe Dessante** (Supélec, France)

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Consumer Voltage Regulation Using Coordinated Control of Distributed Static Synchronous Compensators – μ STATCOMs

Yuichiro Kabasawa (Central Research Institute of Electric Power Industry, Japan), **Taku Noda** (Central Research Institute of Electric Power Industry, Japan), **Kentaro Fukushima**

(Central Research Institute of Electric Power Industry, Japan) **Koshichi Nemoto** (Central Research Institute of Electric Power Industry, Japan)

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Centralized Voltage Control Method Using Plural D-STATCOM With Controllable Dead Band in Distribution System With Renewable Energy

Naoyuki Takahashi (Waseda University, Japan), **Yasuhiro Hayashi** (Waseda University, Japan)

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Centralized Voltage Control Method of Load Ratio Control Transformer and Step Voltage Regulator for Bank Fault Restoration

Shinya Yoshizawa (Waseda University, Japan), **Yasuhiro Hayashi** (Waseda University, Japan), **Masaki Tsuji** (Tokyo Electric Power Company, Japan), **Eiji Kamiya** (Tokyo Electric Power Company Japan)

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Regulated Distribution Transformers in Low-voltage Networks With a High Degree of Distributed Generation

Peter Esslinger (TU München, Germany), **Rolf Witzmann** (TU München, Germany)

Large-scale Impact of Demand Side Management

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Optimizing the Use of Flexible Residential Demand for Balancing Wind Power

Muhajir Tadesse Mekonnen (KU Leuven, Belgium), Benjamin Dupont (KU Leuven, Belgium), Kristof De Vos (KU Leuven, Belgium), Kris Kessels (MITO, Belgium), Ronnie Belmans (KU Leuven, Belgium)

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Security-constrained Dispatch With Controllable Loads for Integrating Stochastic Wind Energy

Simon Kwok Kei Ng (University of Hong Kong, Hong Kong), Jin Zhong (University of Hong Kong, Hong Kong)

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Flexible Consumers Reserving Electricity and Offering Profitable Downward Regulation

Nicolas Höning (CWI Amsterdam, Netherlands), Han La Poutré (CWI Amsterdam, Netherlands)

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Reliability Performance of Smart Grids With Demand-side Management and Distributed Generation/Storage Technologies

Ignacio Hernando-Gil (University of Edinburgh, UK), Irinel-Sorin Ilie (University of Edinburgh, UK), Saša Z. Djokić (University of Edinburgh, UK)

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A Survey Towards Understanding Residential Prosumers in Smart Grid Neighbourhoods

Per Goncalves Da Silva (SAP, Germany), Stamatis Karnouskos (SAP, Germany), Dejan Ilic (SAP, Germany)

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Involvement of Flexible Loads in Transmission System Operation

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Tariffs and Customer Relations

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The Market Approach of Demand Management in the Power System

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Automated Residential Demand Response Based on Dynamic Pricing

Benjamin Dupont (KU Leuven, Belgium), **Jeroen Tant** (KU Leuven, Belgium), **Ronnie Belmans** (KU Leuven, Belgium)

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Influencing Domestic Customers' Market Behavior With Time Flexible Tariffs

Mike Ifland (TU Ilmenau, Germany), **Nadine Exner** (TU Ilmenau, Germany), **Dirk Westermann** (TU Ilmenau, Germany)

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Setting Regulatory Incentives for Continuity of Supply in Smart Distribution Grids

Rafael Cossent (Comillas Pontifical University, Spain)

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Assessment Method for Incentives and Their Optimization Considering Demand Response of Consumers

Thomas Holtschneider (University of Duisburg-Essen, Germany), **István Erlich** (University of Duisburg-Essen, Germany)

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A New Customer Relation Model for Energy Utilities

Massimiliano Schillaci (MGTECH, Italy), **Paola Bisaglia** (DORA – STMicroelectronics Group, Italy), **Andrea Giorgi** (STMicroelectronics, Italy)

Energy Management of Systems With Battery Storage

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Robust Control Design for Integration of Energy Storage Into Frequency Regulation

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Energy Management System With Dynamic Component Control for Efficiency Optimization

[Natalia Moskalenko](#) (Otto-von-Guericke University Magdeburg, Germany), [Christoph Wenge](#) (Fraunhofer IFF, Germany), [Alexander Pelzer](#) (Fraunhofer IFF, Germany), [Przemysław Komarnicki](#) (Fraunhofer IFF, Germany), [Zbigniew A. Styczynski](#) (Otto-von-Guericke University Magdeburg, Germany)

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Load Frequency Control Using Distributed Batteries on the Demand Side With Communication Characteristics

[Kohei Wada](#) (University of Tokyo, Japan), [Akihiko Yokoyama](#) (University of Tokyo, Japan)

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Operation Strategies of Hybrid Energy Storages in Low-voltage Distribution Grids With a High Degree of Decentralized Generation

[Martin Lödl](#) (TU München, Germany), [Rolf Witzmann](#) (TU München, Germany)

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[Ismael Miranda](#) (University of Porto, Portugal), [Nuno Silva](#) (EFACEC, Portugal), [Helder Leite](#) (University of Porto, Portugal)

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Physical-hybrid Simulation for In-situ Evaluation of Energy Storage System

[Nicholas Etherden](#) (Luleå University of Technology, Sweden), [Leopold Weingarten](#) (STRI, Sweden), [Math Bollen](#) (Luleå University of Technology, Sweden)

Real-time Modeling and Laboratories of Smart Grids

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Electrical Design of an Efficiency House Plus

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An Experimental Study on Load-peak Shaving in Smart Homes by Means of Online Admission Control

Giuseppe Tommaso Costanzo (Technical University of Denmark, Denmark), **Anna Magdalena Kosek** (Technical University of Denmark, Denmark), **Guchuan Zhu** (Ecole Polytechnique de Montreal, Canada), **Luca Ferrarini** (Politecnico di Milano, Italy), **Miguel F. Anjos** (Ecole Polytechnique de Montreal, Canada), **Gilles Savard** (Ecole Polytechnique de Montreal, Canada)

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Real Time Validation of an Optimization Building Energy Management Strategy Based on Power-hardware-in-the-loop Tool

Rim Missaoui (INP Grenoble, France), **Ghaith Warkozek** (INP Grenoble, France), **Seddik Bacha** (INP Grenoble, France), **Stéphane Ploix** (INP Grenoble, France)

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A Microgrid Structure Supplying a Research and Education Centre – Polish Case

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Modeling and Validation of a Flywheel Energy Storage Lab-setup

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Modeling and Investigation of Communication and Protection Scenarios for Smart Grid

Illia Bielchev (Otto-von-Guericke University Magdeburg, Ger.), **André Naumann** (Otto-von-Guericke University Magdeburg, Ger.), **Alexander Visyashchev** (Irkutsk State Technical University, Russia), **Rainer Krebs** (Siemens, Ger.), **Zbigniew A. Styczynski** (Otto-von-Guericke University Magdeburg, Ger.)

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A Virtual Laboratory for Microgrid Information and Communication Infrastructures

James Weimer (KTH Stockholm, Sweden), **Yuzhe Xu** (KTH Stockholm, Sweden), **Carlo Fischione** (KTH Stockholm, Sweden), **Karl Henrik Johansson** (KTH Stockholm, Sweden), **Per Ljungberg** (Ericsson, Sweden), **Craig Donovan** (Ericsson, Sweden), **Ariane Sutor** (Siemens, Germany), **Lennart E. Fahlén** (Swedish Institute of Computer Science, Sweden)

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A Generic Danish Distribution Grid Model for Smart Grid Technology Testing

Seung Tae Cha (Technical University of Denmark, Denmark), **Qiuwei Wu** (Technical University of Denmark, Denmark), **Jacob Østergaard** (Technical University of Denmark, Denmark)

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Analysis of the Italian Distribution System Evolution Through Reference Networks

Antonio Bracale (University of Napoli Parthenope, Italy), **Roberto Caldon** (University of Padova, Italy), **Gianni Celli** (University of Cagliari, Italy), **Massimiliano Coppo** (University of Padova, Italy), **Diego Dal Canto** (ENEL, Italy), **Roberto Langella** (University of Naples Federico II, Italy), **Giacomo Petretto** (ENEL, Italy), **Fabrizio Pilo** (University of Cagliari, Italy), **Giuditta Pisano** (University of Cagliari, Italy), **Daniela Proto** (University of Naples Federico II, Italy), **Sandra Scalari** (ENEL, Italy), **Roberto Turri** (University of Padova, Italy)

2012ISGTEU-196

Model of a Real Medium Voltage Distribution Network for Analysis of Distributed Generation Penetration in a Smart Grid Scenario

Francesco Adinolfi (University of Genova, Italy), **Francesco Baccino** (University of Genova, Italy), **Mattia Marinelli** (University of Genova, Italy), **Stefano Massucco** (University of Genova, Italy), **Federico Silvestro** (University of Genova, Italy)

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Comparison of Line Voltage Stability Indices Using Dynamic Real Time Simulation

Marco Cupelli (RWTH Aachen, Germany), **Christine Doig Cardet** (RWTH Aachen, Germany), **Antonello Monti** (RWTH Aachen, Germany)

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Investigation of the Adaptability of Transient Stability Assessment Methods to Real-time Operation

Tilman Weckesser (Technical University of Denmark, Denmark), **Hjörtur Jóhannsson** (Technical University of Denmark, Denmark), **Stefan Sommer** (Technical University of Denmark, Denmark), **Jacob Østergaard** (Technical University of Denmark, Denmark)

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Real-time Implementation of an Automatic Voltage Stabilizer for HVDC Control

Kim Weyrich (FH Frankfurt University of Applied Sciences, Germany), **Rujiroj Leelarujj** (KTH Stockholm, Sweden), **Walter Kuehn** (FH Frankfurt University of Applied Sciences, Germany), **Luigi Vanfretti** (KTH Stockholm, Sweden)

Methods of Modeling Uncertainty and Reliability

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Electricity Price Forecasting Considering Residual Demand

Amir Motamedi (AESO, Canada), **Christian Geidel** (TU Berlin, Germany), **Hamidreza Zareipour** (University of Calgary, Canada), **William D. Rosehart** (University of Calgary, Canada)

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Methods for Energy Price Prediction in the Smart Grid

Emanuele Crisostomi (University of Pisa, Italy), **Mauro Tucci** (University of Pisa, Italy), **Marco Raugi** (University of Pisa, Italy)

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Simulating the Optimized Participation of Distributed Controllable Generators at the Spot Market for Electricity Consi- dering Prediction Errors

Raphael Hollinger (Fraunhofer ISE, Germany), **Simon Hamperl** (Fraunhofer ISE, Germany), **Thomas Erge** (Fraunhofer ISE, Germany), **Bernhard Wille-Hausmann** (Fraunhofer ISE, Germany), **Christof Wittwer** (Fraunhofer ISE, Germany)

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Identification of Gaussian Mixture Model Using Mean Variance Mapping Optimization: Venezuelan Case

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Intelligent State Space Pruning With Local Search for Power System Reliability Evaluation

Robert C. Green II (University of Toledo, USA), **Lingfeng Wang** (University of Toledo, USA), **Mansoor Alam** (University of Toledo, USA)

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Statistical Analysis of Power Quality Disturbances Propagation by Means of the Method of Disturbances Interaction

Andrés Pavas (Universidad Nacional de Colombia, Colombia), **Horacio Torres-Sánchez** (Universidad Nacional de Colombia, Colombia), **Volker Staudt** (Ruhr Universitaet Bochum, Germany)

Methods for Integration of Photovoltaics

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2012ISGTEU-109

Impact of High-penetration PV on Distribution Feeders

Rossen Tzartzev (University of Texas at Austin, USA), **W. Mack Grady** (University of Texas at Austin, USA), **Jay Patel** (Kansas City Power & Light, USA)

2012ISGTEU-185

Evaluating Improved Generation Efficiency: One Year Using Residential PV Voltage Control With a Clustered Residential Grid-interconnected PV

Yusuke Miyamoto (Kandenko, Japan), **Yasuhiro Hayashi** (Waseda University, Japan)

2012ISGTEU-188

Modeling Photovoltaic Optimized Charging of Electric Vehicles

Lena-Marie Ritte (ILF Consulting Engineers, Germany), **Stefan Mischinger** (TU Berlin, Germany), **Kai Strunz** (TU Berlin, Germany), **Johannes Eckstein** (E.ON, Germany)

2012ISGTEU-264

Using Photovoltaic Systems to Improve Voltage Control in Low Voltage Distribution Networks

Justino Rodrigues (INESC Porto, Portugal), **Fernanda Resende** (INESC Porto, Portugal)

2012ISGTEU-086

Energy Storage Options for Voltage Support in Low-voltage Grids With High Penetration of Photovoltaic

Francesco Marra (SMA, Germany), **Y. Tarek Fawzy** (SMA, Germany), **Thorsten Bülo** (SMA, Germany), **Boštjan Blažic** (University of Ljubljana, Slovenia)

2012ISGTEU-288

A Maximum Power Point Tracker Variable-DC-link Three-phase Inverter for Grid-connected PV Panels

Fernando Mancilla-David (University of Colorado Denver, USA), **Arnaldo Arancibia** (TU Berlin, Germany), **F. Riganti-Fulginei** (University of Roma Tre, Italy), **Edward Muljadi** (NREL, USA), **Matteo Cerroni** (University of Roma Tre, Italy)

Energy Management in Smart Homes

PAPER PRESENTATION

Chair: **Matthias D. Galus**, Swiss Federal Office of Energy, Switzerland

2012ISGTEU-092

Integrated Energy Optimization With Smart Home Energy Management Systems

Ballard Asare-Bediako (Eindhoven University of Technology, Netherlands), **Paulo F. Ribeiro** (Eindhoven University of Technology, Netherlands), **Wil L. Kling** (Eindhoven University of Technology, Netherlands)

2012ISGTEU-216

Distributed Energy Resources for a Zero-energy Neighborhood

Rosa Morales González (Eindhoven University of Technology, Netherlands), **Ballard Asare-Bediako** (Eindhoven University of Technology, Netherlands), **Sjef Cobben** (Eindhoven University of Technology, Netherlands), **Wil L. Kling** (Eindhoven University of Technology, Netherlands), **Gerrit Scharrenberg** (NV RENDO, Netherlands), **Dirk Dijkstra** (NV RENDO, Netherlands)

2012ISGTEU-236

Energy Management Problem in Dwellings: Combining Centralized and Distributed Solving Approaches

Hussein Joumaa (INP Grenoble, France), **Gregory De-Oliviera** (INP Grenoble, France), **Stephane Ploix** (INP Grenoble, France), **Mireille Jacomino** (INP Grenoble, France)

2012ISGTEU-006

Platform for Coordination of Energy Generation and Consumption in Residential Neighborhoods

Vladimír Bicik (Czech Technical University, Czech Republic), **Ondrej Holub** (Honeywell, Czech Republic), **Karel Marik** (Honeywell, Czech Republic), **Marek Sikora** (Honeywell, Czech Republic), **Petr Stluka** (Honeywell, Czech Republic), **Reinhilde D'hulst** (MTO, Belgium)

2012ISGTEU-058

Load Models for Home Energy System and Micro Grid Simulations

Christoph Molitor (RWTH Aachen, Germany), **Kanali Togawa** (RWTH Aachen, Germany), **Sebastian Bolte** (RWTH Aachen, Germany), **Antonello Monti** (RWTH Aachen, Germany)

Management of Electric Vehicles

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Requirements for EV Charge Stations With Photovoltaic Generation and Storage

Ignasi Cairo (IREC, Spain), Andreas Sumper (IREC, Spain)

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Economics of V2G Frequency Regulation in Consideration of the Battery Wear

Sekyung Han (AIST, Japan), Soohye Han (Konkuk University, Korea)

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Case Study of the Load Demand of Electric Vehicle Charging and Optimal Charging Schemes in an Urban Area

Ville Tikka (Lappeenranta University of Technology, Finland), Jukka Lassila (Lappeenranta University of Technology, Finland), Henri Makkonen (Lappeenranta University of Technology, Finland), Jarmo Partanen (Lappeenranta University of Technology, Finland)

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Forecasting Issues for Managing a Portfolio of Electric Vehicles Under a Smart Grid Paradigm

Ricardo J. Bessa (INESC Porto, Portugal), Manuel A. Matos (INESC Porto, Portugal)

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Coordination Strategies for Distribution Grid Congestion Management in a Multi-actor, Multi-objective Setting

Peter Bach Andersen (Technical University of Denmark, Denmark)

Energy Management of Systems With Heat Pumps and Thermal Storage

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Design of Demand Management System for Household Heating and Cooling

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An ARTMAP-incorporated Multi-agent System for Building Intelligent Heat Management

Maizura Mokhtar (University of Central Lancashire, UK), Xiongwei Liu (University of Central Lancashire, UK)

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Fine-time-granularity Fast Demand Control of Building HVAC Facilities for Future Smart Grid

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Demand Side Management of Electric Boilers

Elke Klaassen (Eindhoven University of Technology, Netherlands), Yan Zhang (ABB, Switzerland), Ioannis Lampropoulos (Eindhoven University of Technology, Netherlands), Han Slootweg (Eindhoven University of Technology, Netherlands)

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Shifting of Thermal and Schedulable Loads Based on Abstract Cost Profiles

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Aggregating the Flexibility Provided by Domestic Hot-water Boilers to Offer Tertiary Regulation Power in Switzerland

Olle Sundström (IBM, Switzerland), Carl Binding (IBM, Switzerland), Dieter Gantenbein (IBM, Switzerland), Daniel Berner (BKW FMB Energy, Switzerland), Wolf-Christian Rumsch (BKW FMB Energy, Switzerland)

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Integration of Heat Pumps in Distribution Grids: Economic Motivation for Grid Control

Stefan Nykamp (University Twente, Netherlands), **Albert Molderink** (University Twente, Netherlands), **Vincent Bakker** (University Twente, Netherlands), **Hermen A. Toersche** (University Twente, Netherlands), **Johann L. Hurink** (University Twente, Netherlands), **Gerard J. M. Smit** (University Twente, Netherlands)

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Electricity Demand Impact From Increased Use of Ground Sourced Heat Pumps

Javier Campillo (Mälardalen University, Sweden), **Fredrik Wallin** (Mälardalen University, Sweden), **Iana Vassileva** (Mälardalen University, Sweden), **Erik Dahlquist** (Mälardalen University, Sweden)

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Modeling a Vendor Independent IEC 61850 Profile for Energy Management of Micro-CHP Units

Stefan Feuerhahn (Fraunhofer ISE, Germany), **Raphael Hollinger** (Fraunhofer ISE, G.), **Chau Do** (Fraunhofer ISE, G.), **Bernhard Wille-Hausmann** (Fraunhofer ISE, G.), **Christof Wittwer** (Fraunhofer ISE, G.)

2012ISGTEU-163

Combined Heat and Power and Consumption Optimization in a SCADA-based System

Filipe Fernandes (Polytechnic of Porto, Portugal), **Hugo Morais** (P. of Porto, Portugal), **Pedro Faria** (P. of Porto, Portugal), **Zita Vale** (P. of Porto, Portugal), **Carlos Ramos** (P. of Porto, Portugal)

2012ISGTEU-193

Development of a Control Strategy for Mini CHP Plants for an Active Voltage Management in Low Voltage Networks

Diego I. Hidalgo Rodriguez (Fraunhofer IWES, Germany), **Lukas Spitalny** (TU Dortmund, Germany), **Johanna Myrzik** (TU Dortmund, Germany), **Martin Braun** (University of Stuttgart, Germany)

2012ISGTEU-189

Method of Controlling Reverse Power Flow of PV System With Heat Pump Water Heater

Masahiro Asari (Central Research Institute of Electric Power Industry, Japan), **Hiromu Kobayashi** (Central Research Institute of Electric Power Industry, Japan)

2012ISGTEU-270

Demand Side Management Through Heat Pumps, Thermal Storage and Battery Storage to Increase Local Self-consumption and Grid Compatibility of PV Systems

Christopher J. C. Williams (ZSW, Germany), **Jann O. Binder** (ZSW, Germany), **Tobias Kelm** (ZSW, Germany)

2012ISGTEU-280

Thermal Comfort Analysis During Power Fluctuation Compensation by Use of Air-conditioning System

Shunsuke Kawachi (University of Tokyo, Japan), **Hiroto Hagiwara** (University of Tokyo, Japan), **Jumpei Baba** (University of Tokyo, Japan), **Eisuke Shimoda** (Shimizu Corporation, Japan)

Modeling of Load and Battery Resources

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An Improved Lithium-ion Battery Model With Temperature Prediction Considering Entropy

Xue Feng (Nanyang Technological University, Singapore), **Hoay B. Gooi** (Nanyang Technological University, Singapore), **Shuai X. Chen** (Nanyang Technological University, Singapore)

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A Dynamic Battery Model for Simulation of Battery-to-grid Applications

Clemens Guenther (ZSW, Germany), **Joaquin Klee Barillas** (ZSW, Germany), **Stefan Stumpp** (ZSW, Germany), **Michael A. Danzer** (ZSW, Germany)

2012ISGTEU-137

Processing of Load Parameters Based on Existing Load Models

Lidija M. Korunovic (University of Niš, Serbia), **Stefan Sterpu** (EDF, France), **Saša Z. Djokić** (University of Edinburgh, UK), **Koji Yamashita** (Central Research Institute of Electric Power Industry, Japan), **Sergio Martinez Villanueva** (Red Eléctrica de España, Spain), **Jovica V. Milanovic** (University of Manchester, UK)

2012ISGTEU-262

Multi-scale Electrical Load Modelling for Demand-side Management

Adam J. Collin (University of Edinburgh, UK), **George Tsagarakis** (University of Edinburgh, UK), **Aristides E. Kiprakis** (University of Edinburgh, UK), **Stephen McLaughlin** (Heriot-Watt University, UK)

2012ISGTEU-182

Passivity-based Control of Synchronous Motors

Hua Xue (Shanghai University of Electric Power, China), **Yufei Wang** (Shanghai University of Electric Power, China)

Optimal Power Flow Control via Dispatching, Demand Response, and Reconfiguration

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Area-level Reduction of Wheeling Loop Flows in Regional Power Networks

Sanja Cvijic (Carnegie Mellon University, USA), Marija Ilic (Carnegie Mellon University, USA)

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Smart Grid Reconfiguration Using Simple Genetic Algorithm and NSGA-II

Parvathy Chittur Ramaswamy (KU Leuven, Belgium), Geert Deconinck (KU Leuven, Belgium)

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The Autonomic Power System – Network Operation and Control Beyond Smart Grids

Stephen D. J. McArthur (University of Strathclyde, UK), Philip C. Taylor (Durham University, UK), Graham W. Ault (University of Strathclyde, UK), James E. King (Parsons Brinckerhoff, UK), Dimitrios Athanasiadis (University of Strathclyde, UK), Varvara D. Alimisis (Durham University, UK), Maciej Czaplewski (University of Strathclyde, UK)

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Integration of Optimal Reconfiguration Tools in Advanced Distribution Management System

Sergio Bruno (Polytechnic School of Bari, Italy), Silvia Lamonaca (Polytechnic School of Bari, Italy), Massimo La Scala (Polytechnic School of Bari, Italy), Ugo Stecchi (Polytechnic School of Bari, Italy)

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Distributed Generation Management: An Optimal Sensitivity Approach for Decentralized Power Control

Vito Calderaro (University of Salerno, Italy), Vincenzo Galdi (University of Salerno, Italy), Giovanni Massa (University of Salerno, Italy), Antonio Piccolo (University of Salerno, Italy)