
Aachen, Germany
28-30 September 2016
Wednesday, September 28

09:20 - 11:00
Distribution System State Estimation
Session Chair: Carlo Muscas (University of Cagliari, Italy)

Bayesian Distribution System State Estimation in presence of non-Gaussian Pseudo-Measurements
Andrea Angioni (RWTH Aachen University, Germany)
Marco Pau (RWTH Aachen University, Germany)
Ferdinanda Ponci (RWTH Aachen University, Germany)
Antonello Monti (RWTH Aachen University, Germany)
Carlo Muscas (University of Cagliari, Italy)
Sara Sulis (University of Cagliari, Italy)
Paolo Attilio Pegoraro (University of Cagliari, Italy)

Low Voltage System State Estimation based on Smart Metering Infrastructure
Marco Pau (RWTH Aachen University, Germany)
Edoardo Patti (Politecnico di Torino, Italy)
Luca Barbierato (Politecnico di Torino, Italy)
Abouzar Estebsari (Politecnico di Torino, Italy)
Enrico Pons (Politecnico di Torino, Italy)
Ferdinanda Ponci (RWTH Aachen University, Germany)
Antonello Monti (RWTH Aachen University, Germany)

Uncertainty Analysis of Aggregated Smart Meter Data for State Estimation
Fei Ni (Eindhoven University of Technology, The Netherlands)
Phuong Nguyen (Eindhoven University of Technology, The Netherlands)
Joseph Cobben (Eindhoven University of Technology, The Netherlands)
Helko van den Brom (VSL, The Netherlands)
Dongsheng Zhao (VSL, The Netherlands)

Impact of Uncertainty Propagation on the Design of State Estimation for Hybrid ac-dc Grids
Abhinav Sadu (RWTH Aachen University, Germany)
Marco Pau (RWTH Aachen University, Germany)
Suresh Pillai (RWTH Aachen University, Germany)
Ferdinanda Ponci (RWTH Aachen University, Germany)
Antonello Monti (RWTH Aachen University, Germany)

11:30 - 12:45
Assessment of harmonic emission and harmonic impedance
Session Chair: Ferdinanda Ponci (RWTH Aachen University, Germany)

Improved Event Based Method for Harmonic Impedance Assessment
Duan Serfontein (North-West University, South Africa)
Johan Rens (North-West University, South Africa)
Gerhard Botha (North-West University, South Africa)
Jan Desmet (Ghent University, Belgium)

Novel Grid Impedance Measurement Setups in Electrical Power Systems
Trung Thanh Do (Helmut-Schmidt-University, Germany)
Michael Jordan (Helmut-Schmidt-University, Germany)
Hauke Langkowski (Helmut-Schmidt-University, Germany)
Detlef Schulz (Helmut-Schmidt-University, Germany)
On The Assessment of Harmonic Emission in Distribution Networks: Opportunity for the Prevailing Harmonic Phase Angle
Brandon Peterson (North-West University, South Africa)
Johan Rens (North-West University, South Africa)
Jan Meyer (Technische Universität Dresden, Germany)
Gerhard Botha (North-West University, South Africa)
Jan Desmet (Ghent University, Belgium)

14:00 - 15:40
Signal processing for power system measurements
Session Chair: Claudio Narduzzi (Universita' di Padova, Italy)

Power System Frequency Estimation Accuracy of Improved DFT-based Algorithms over Short Intervals
Daniel Belega (University of Timișoara, Romania)
David Macii (University of Trento, Italy)
Dario Petri (University of Trento, Italy)

Implementation of harmonic phase angle measurement for power quality instruments
Ana M Blanco (Technische Universität Dresden, Germany)
Robert Stiegler (Technische Universität Dresden, Germany)
Jan Meyer (Technische Universität Dresden, Germany)
Michael Schwenke (Siemens AG, Germany)

Efficient Detection for Multifrequency Dynamic Phasor Analysis
Guglielmo Frigo (University of Padova, Italy)
Giada Giorgi (University of Padova, Italy)
Claudio Narduzzi (University of Padova, Italy)

Choice and Properties of Adaptive and Tunable Digital Boxcar (Moving Average) Filters for Power Systems and other Signal Processing Applications
Andrew Roscoe (University of Strathclyde, United Kingdom)
Steven Blair (University of Strathclyde, United Kingdom)

16:10 - 17:00
Sampled Values and Merging Units
Session Chair: Johan Rens (North-West University, Potchefstroom, South Africa)

Real-Time Compression of IEC 61869-9 Sampled Value Data
Steven Blair (University of Strathclyde, United Kingdom)
Andrew Roscoe (University of Strathclyde, United Kingdom)
James Irvine (University of Strathclyde, United Kingdom)

Uncertainty Evaluation in Measurement Equipments for Power Systems
Lorenzo Peretto (University of Bologna, Italy)
Roberto Tinarelli (University of Bologna, Italy)
Kenan Yiğit (Yildiz Technical University, Turkey & University of Bologna, Italy)
Thursday, September 29

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Friday, September 30

09:00 - 10:40
**Voltage and current sensors**
*Session Chair:* Lorenzo Peretto (University of Bologna, Italy)

- **Simple Skin Effect Compensation in Cylindrical Shunts**
  Marco Faifer (Politecnico di Milano, Italy)
  Christian Laurano (Politecnico di Milano, Italy)
  Roberto Ottoboni (Politecnico di Milano, Italy)
  Sergio Toscani (Politecnico di Milano, Italy)
  Michele Zanoni (Politecnico di Milano, Italy)
  Roberto Ferrero (University of Liverpool, United Kingdom)

- **IEC 61869 Compliant Rogowski Coil for Volume Production**
  Wolfram Teppan (LEM Intellectual Property SA, Switzerland)
  Pierre Turpin (LEM Switzerland SA, Switzerland)
  Mathieu Beguin (LEM International SA, Switzerland)

- **Development and testing of optically-interrogated current sensors**
  John Nelson (University of Strathclyde, United Kingdom)
  Grzegorz Fusiek (University of Strathclyde, United Kingdom)
  Lloyd Clayburn (University of Strathclyde, United Kingdom)
  Pawel Niewczas (University of Strathclyde, United Kingdom)
  Campbell Booth (University of Strathclyde, United Kingdom)
  Philip Orr (Synaptec Ltd, United Kingdom)
  Neil Gordon (Synaptec Ltd, United Kingdom)

- **Investigating the properties of precision resistors for the application in high voltage DC dividers**
  Stephan Passon (Physikalisch-Technische Bundesanstalt, Germany)
  Ilja Gitin (Physikalisch-Technische Bundesanstalt, Germany)
  Johann Meisner (Physikalisch-Technische Bundesanstalt, Germany)

11:10 - 12:25
**Real-time and Hardware-in-the-Loop Simulations**
*Session Chair:* Alfredo Testa (Second University of Naples, Italy)

- **Wideband Identification of Impedance to improve Accuracy and Stability of Power-Hardware-in-the-Loop Simulations**
  Eyke Liegmann (E. ON Energy Research Center at RWTH Aachen University, Germany)
  Antonino Riccobono (E. ON Energy Research Center at RWTH Aachen University, Germany)
  Antonello Monti (E. ON Energy Research Center at RWTH Aachen University, Germany)

- **Data Acquisition and Processing for Power Hardware-in-the-Loop Simulations of LV Distribution Feeders**
  Seymour Pijpers (Eindhoven University of Technology, The Netherlands)
  Niels Blaauwbroek (Eindhoven University of Technology, The Netherlands)
  Phuong Nguyen (Eindhoven University of Technology, The Netherlands)
  Han Slootweg (Eindhoven University of Technology, The Netherlands)

- **Testing of a predictive pole-slip protection algorithm on a Real Time Digital Simulator**
  Lafras Lamont (North-West University, South Africa)
  Johan Rens (North-West University, South Africa)
  Jan de Kock (North-West University, South Africa)

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