



10th Jubilee International Conference
**ELECTRICAL POWER QUALITY
AND UTILISATION**

Session Agenda

September 15-17, 2009, Lodz, Poland

TUESDAY, SEPTEMBER 15, 2009, 14.00 – 15.30

Opening Ceremony

Keynote paper:

Mielczarski W.: Energy Efficiency and Quality in the European Energy Policy

TUESDAY, SEPTEMBER 15, 2009, 16.00 – 17.30

Session 1

PQ parameters: evaluation and standardization

- 1_1. Rens J.: On the Development of a Power Quality Benchmark Model
- 1_2. Zhezhelenko I.V., Sayenko Y.L., Gorpinich A.V.: Theoretical Principles of the Power Quality Indices Standardization
- 1_3. Bhattacharyya S., Myrzik J., Kling W., Cobben S.: Estimation of the Planning Levels for Flicker in the Dutch Networks
- 1_4. Kuznetsov V., Shpolyanskyy O., Iaremchuk N.: Electromagnetic Compatibility Evaluation Under Simultaneous Presence of Voltage Unbalance and Harmonics
- 1_5. Batkiewicz-Pantula M., Klajn A.: Characteristics of Flicker Depending on Network Loads
- 1_6. Cziker A., Chindris M., Miron A.: Dips Analysis using Virtual Instrumentation

Session 2

Reliability and continuity of supply. PQ improvement

- 2_1. Paska J.: Key Problems of Polish Electric Power System Reliability
- 2_2. Moldrik P., Gurecky J., Paszek L.: Usage of Multi-Criteria Analysis and Supportive Software for Optimum Location of the Modern Devices within Electrical Distribution Networks
- 2_3. Baggini A., Bua F., Buratti F.: Flicker Disturbances in Steel Manufacturing Plant: A Case Study
- 2_4. Herraiz S., Meléndez J., Barrera V.A., Sánchez J., Castro M.: Estimation of Zero-Sequence Impedance of Undergrounds Cables for Single-Phase Fault Location in Distribution Systems with Electric Arc
- 2_5. Piątek K.: Laboratory Tests of a Dynamic Voltage Restorer Model Using Estimation of the Filter Capacitor Current
- 2_6. Savina N.V., Myasoedov Y.V., Krivohizha Y.V.: Optimal Compensation of Reactive Power in Distribution Nets as Means of Voltage Regulation
- 2_7. Tsumura T., Murai H., Hirose K., Yamasaki M.: Development of a Calculating System Using Power Supply Reliability Field Data in Japan
- 2_8. Jagieła K., Gała M., Rak J., Kępiński M., Szewczyk K.: Analysis of Electric Energy Quality in Arc Furnace System with Follow-up SVC Compensation
- 2_9. Tarnini M.Y.: New Series Active Power Filter for Computers Loads and Small Non-Linear Loads

WEDNESDAY, SEPTEMBER 16, 2009, 9.00 – 10.30

Session 3

Methods of PQ analysis. Modeling and simulation – part 1

- 3_1. Gopi R.J., Ramachandramurthy V.K., Au M.T.: Analytical Approach to Stochastic Assessment for Balanced Voltage Sags and Duration on Transmission Networks
- 3_2. Wcislik M.: Linear Model of a Three-Phase Circuit Characteristics
- 3_3. Staroszczyk Z., Figon P.: Experimental Investigations of the Quality of Power System Small-Scale Transformer Modeling
- 3_4. Meister D., de Oliveira M.A.G.: The Use of the Least Squares Method to Estimate the Model Parameters of a Transformer
- 3_5. Kaczmarek M., Nowicz R.: Simulation of the Influence of Conductive Disturbances on Accuracy of the Voltage Transformers during Measurements of Power Quality
- 3_6. Miron A., Chindris M., Cziker A.: Power Systems Modeling using Fuzzy Logic
- 3_7. Gała M.: Application of Neural Method of Voltage Estimation to Evaluation of Influence of Nonlinear Loads on Electric Energy Quality

Invited Session

PQ regulations in electricity markets – part 1

DERlab Workshop

DG interconnections requirements – part 1

WEDNESDAY, SEPTEMBER 16, 2009, 11.00 – 12.30

Session 4

Methods of PQ analysis. Modelling and simulation – part 2

- 4_1. Brenna M., Foiadelli F., Zaninelli D., Roscia M.: Evaluation of the Interferences in the Interconnection Point between 2x25kVAC High-Speed Railway Lines and 3kVDC Regional System
- 4_2. Micu D.D., Czumbil L., Ceclan A., Darabant L., Stet D., Christoforidis G.: Electromagnetic Interference between HV Power Lines and Metallic Pipelines Evaluated with Neural Network Technique
- 4_3. Bhattacharyya S., Myrzik J., Kling W., Cobben S., Van Casteren J.: Harmonic Current Interactions at a Low Voltage Customer's Installation
- 4_4. Tomoiaga B., Chindris M., Cziker A., Miron A.: Object Oriented Model to Analyse the Propagation of Harmonic Distortion and Asymmetry through Power Transformers
- 4_5. Miron A., Chindris M., Cziker A.: Interharmonics Analysis using Fourier Transform and Virtual Instrumentation
- 4_6. Kuznetsov V., Tugai I.: The Domains of Subharmonic Ferroresonance Occurrence in High-Voltage Substations
- 4_7. Wilkosz K.: Localization of Harmonic Sources in a Power System with Use of the Generalized Localization Rate

Invited Session

PQ regulations in electricity markets – part 2

DERlab Workshop

DG interconnections requirements – part 2

WEDNESDAY, SEPTEMBER 16, 2009, 13.30 – 15.00

Session 5

EMC in electrical engineering

- 5_1. Zhezhelenko I.V., Sayenko Y.L., Gorpinich A.V.: Electromagnetic Compatibility in the Industrial Electric Power Supply Systems
- 5_2. Zhezhelenko I.V., Sayenko Y.L., Gorpinich A.V., Nesterovych V.V., Baranenko T.K.: Analysis of Resonance Modes in the Single-Phase Industrial AC Electrified Railway Systems
- 5_3. Varetsky Y., Hanzelka Z.: Capacitor Bank Impact on Harmonic Filters Operation in Power Supply System
- 5_4. Abbaspour M., Jahanikia A.H.: Power Quality Consideration in the Widespread Use of Compact Fluorescent Lamps
- 5_5. Baranenko T., Saravas V.: Spectral Composition of Input Voltage of the Asynchronous Drive with Valve Cascade Converter
- 5_6. Tugay Y.: The Resonance Overvoltages in EHV Network
- 5_7. Myasoedov Y.V.: The Influence of Electromagnetic Interference on Microprocessor Relay Protection and Automatics Functioning Safety

Invited Session

Roundtable discussion

Session 6

Economics aspects of PQ. Energy efficiency

- 6_1. Kaszowska B., Włóczyk A.: Methodology of Calculating Electric Energy Losses in Distribution Networks for the Needs of Assessment of Operation Effectiveness of Distribution Companies
- 6_2. Avendano-Mora M., Milanovic J.V., Patel B., Zhang Y.: The Influence of Model Parameters and Uncertainties on Assessment of Network Wide Costs of Voltage Sags
- 6_3. Paska J., Biczal P., Kłos M.: Technical and Economic Aspects of Electricity Storage Systems Co-operating with Renewable Energy Sources
- 6_4. Klempka R., Świętek B.: In Day-Ahead Electricity Load Forecasting
- 6_5. Savina N.V.: The Integrated Assessment of Power Loss in Power Supply Systems Caused by Poor Power Quality
- 6_6. Savina N.V., Suhomesov M.A.: The Estimation of Hydroelectric Power Station Functioning Efficiency at the Poor Power Quality

THURSDAY, SEPTEMBER 17, 2009, 9.00 – 10.30

Session 7

PQ in grids with DG

- 7_1. Geibel D., Degner T., Hardt C., Antchev M., Krusteva A.: Improvement of Power Quality and Reliability with Multifunctional PV-Inverters in Distributed Energy Systems
- 7_2. Moldrik P., Sebesta R.: Hydrogen Fuel Cells as a Part of the System for Accumulation of Electric Energy
- 7_3. Valsera-Naranjo E., Sumper A., Lloret-Gallego P., Villafáfila-Robles R., Sudrià-Andreu A.: Electrical Vehicles: State of Art and Issues for their Connection to the Network
- 7_4. Anuszczyk J., Terlecki B.: Analysis of Electric Power Quality. A Case Study: Kamiensk Wind Power Plant
- 7_5. Hartung K-H., Schmidt V.: Limitation of Short Circuit Current by an Is-Limiter
- 7_6. Kędra B.: Grid Modelling for Purposes of Wind Farm Harmonic Voltages Evaluation

Session 8

PQ measurements: techniques, instruments – part 1

- 8_1. Stander T., Rens J.: The Application of Modern Technology in Power Quality Management
- 8_2. Staroszczyk Z.: Impedance in Voltage-Current Relations Description of the Power System PCC - Experimental Investigations of the Accuracy of the LTI System Model
- 8_3. Kaczmarek M., Nowicz R., Szczęsny A., Pacholski K.: The Influence of the Method of Winding Construction on Metrological Properties of Current Transformers Designed for Systems of Monitoring of Power Quality
- 8_4. Kaczmarek M., Brodecki D., Nowicz R.: Analysis of Operation of Voltage Transformers During Interruptions, Dips and Variations of Primary Voltage
- 8_5. Kanaesalingam S.R.K., Ramachandaramurthy V.K.: Intelligent Driven Power Quality Monitoring Using Pseudomeasurement Technique
- 8_6. Santos M.N.N., Tostes M.E.L., Silva R.D.S., Fadul R.S.: Software for Monitoring and Analysis of Power Quality Parameters
- 8_7. Wasiak I., Mienski R., Pawelek R., Gburczyk P.: Monitoring and Control Systems for Testing Microgrids Operation on the Example of Laboratory of Distributed Generation at the Technical University of Lodz

THURSDAY, SEPTEMBER 17, 2009, 11.00 – 12.30

Session 9

Electrical power converters in grids with DG

- 9_1. Muro G.A., Rodriguez-Seco J.E., Zabala E., Mayr C., Brundlinger R., Romanovsky G., Gehrke O., Isleifsson F.: Inverter Interconnection Tests Performed in the LABEIN-Tecnalia Microgrid Involved in the DERlab Round-Robin Testing Activity
- 9_2. Menniti D., Burgio A., Sorrentino N., Pinnarelli A. Brusco G.: An Incremental Conductance Method with Variable Step Size for MPPT: Design and Implementation
- 9_3. Vinnikov D., Roasto I., Jalakas T.: An Improved High-Power DC/DC Converter for Distributed Power Generation
- 9_4. Karys S.: Selection of Resonant Circuit Elements for the ARCP Inverter
- 9_5. Strauss P., Degner T., Heckmann W., Wasiak I., Gburczyk P., Hanzelka Z., Hatziargyriou N., Romanos T., Zountouridou E., Dimeas A.: International White Book on the Grid Integration of Static Converters
- 9_6 Emanuel H., Wachtel S., Schellschmidt M., Adloff S.: Power Quality Measurements of Wind Energy Converters with Full-Scale Converter according to IEC 61400-21

Session 10

PQ measurements: techniques, instruments – part 2

- 10_1. Szlosek M., Hanzelka Z.: Applications of Neural Networks for the Power Quality Factors Measurement – i.e. Voltage Fluctuations
- 10_2. Graczyk A.: Construction Criteria of a Digital Flickermeter
- 10_3. Bilik P.: Measurement of Voltage and Current Harmonics for Frequencies up to 9 kHz According to IEC 61000-4-7
- 10_4. Melo M., Brito T., Soares T., Alves R.: Metrological Confirmation of Total Harmonic Distortion of Voltage Meters Used in Brazilian Electrical Power System
- 10_5. Pontt J., Valenzuela J.: A Review to the Interharmonics Analysis and Measurement FFT-Based Algorithm
- 10_6. Osnach O.: The Apparent Power of Electric Circuits with Switching Elements in Single-Phase Systems