Session 2 poster tours

09:00 – 10:30 Tour 1: Block 1 – Electric & magnetic fields, safety and interference

0166 Exposure to the electromagnetic fields generated by power lines carrying smart metering RF signals
W Pirard, B Vatovez, P Bernard, ISSEP, Belgium

0299 Estimation of substation earth impedance in a global earthing system
M Davies, R Wellier, Edif ERA, United Kingdom, S Tucker, UK Power Networks, United Kingdom

0452 Validation of an integrated methodology for design of grounding systems through field measurements
C Cardoso, L Rocha, A Leiria, EDPLabelec, Portugal, P Teixeira, EDP Distribuição, Portugal

0487 Multilayer magnetic shielding: an innovative overlapping structure
A Canova, Politecnico di Torino, Italy

0595 Assessment of EMF-Exposure in residential buildings caused by smart metering systems using PLC
A Abart, Netz OÖ GmbH, Austria, M Flohberger, EnergieAG OÖ, Telekom, Austria, R Hirtler, ESF Vienna, Austria

0653 The influence of grounding transformer on ground fault current in MV networks
H Opacak, T Calic, S Jergovic, HEP ODS d.o.o., Croatia

1062 New model for the calculation of harmonics in the residual earth fault current of medium voltage systems
K Frowein, P Schegner, TU Dresden, Germany, U Schmidt, HS Zittau/Goerlitz, Germany, G Druml, Sprecher Automation GmbH, Austria

1065 Making risk based earthing design accessible and effective
W Carman, Bill Carman Consulting, Australia

1230 Magnetic field in an apartment located above 10/0.4 kV substation: levels and mitigation techniques
M Grbic, Electrical Engineering Institute "Nikola Tesla", Serbia, A Canova, L Giaccone, Politecnico di Torino, Italy

1261 Ensuring public safety through proper earthing in low voltage networks
S Bhattacharya, Enexis, Netherlands, S Cobben, TU Eindhoven, Netherlands

1285 Electromagnetic interferences in smart grid applications: a case study of PLC smart meters with PV energy generation
D Roggo, R Hort, L Capponi, HES-SO Valais-Wallis, Switzerland, L Eggschwiler, HES-SO Fribourg, Switzerland, C Pelli, D Corver, Services Industriels de Geneve, Switzerland, F Buholzer, Landis+Gyr, Switzerland

1292 Levels of electric and magnetic fields inside 110/X kV substations
M Grbic, A Paviolic, D Hrvic, B Vulevic, Nikola Tesla Electrical Engineering Institute, Serbia

1294 Hazards and protective measures at work on 20kV line in close vicinity to parallel 220kV line
D Milan, HEP ODS d.o.o., Croatia

1352 Investigation of lossy ground in lightning induced overvoltage at presence of surge arrester in CST software
M Mehdi Khademi, M Hajizadeh, M Zakeri Ziyareti, Hormozgan electrical distribution company, Iran

09:00 – 10:30 Tour 2: Block 2 – Power quality issues of distributed generation and electric vehicles

0076 How to deal with electromagnetic disturbances caused by new inverter technologies connected to public network
X Yang, L Bertin, EDF R&D, France

0097 Comparative performance of Wind Energy Conversion System (WECS) with PI controller using heuristic optimization algorithms
H E Keshta, E M Saied, F M Bendary, Benha University, Egypt, A A Ali, Helwan University, Egypt

0178 Performance indicators for quantifying the ability of the grid to host renewable electricity production
O Lennerhag, G Pinares, N H J Bollen, STRI AB, Sweden, G Foskolos, T Gafurov, MälärEnergi, Sweden

0191 Impact of PAJ with varying POW in voltage sag on rotor over-voltage in DFIG based wind generator
J Ren, X-Y Xiao, Y-F Liu, Z-X Zheng, Sichuan University, China, W-B Chen, Nanjing Golden Cooperative Information & Automation Technology Co Ltd, China

0227 Harmonic disturbances up to 150 kHz produced by small wind turbines on the LV distribution grid
C Leroi, M Tesarova, J Van Ryckeghem, T Delerue, A Bottenberg, Ghent University, Belgium, J Desmet, North-West University, South Africa

0241 Impact of wind power plant operation on MV distribution grids
M H J Bollen, E-medico, M Pfaff, THI Helmond, The Netherlands, EDF R&D, France

0285 Smart voltage regulator to active voltage level management of distribution networks
L Neves Canha, UFES, Brazil, P R Pereira, UNISINOS, Brazil, M Antunes, CEEED, Brazil

0324 Decongestion of the distribution grid via optimized location of PV-battery systems
J Van Ryckeghem, T Delerue, A Bottenberg, J Desmet, Ghent University, Belgium, J Rens, North-West University, South Africa
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Smart voltage regulator to active management of distribution networks
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Convection of the distribution grid via optimized location of PV-battery systems
J Van Ryckeghem, T Delerue, A Bottenberg, J Desmet, Ghent University, Belgium, J Rens, North-West University, South Africa

Power quality aspects of solar power - results from CIGRE JWG C4/C6.29
J Smith, EPRI, United States, S Rönning, M Bollen, Luleå University of Technology, Sweden, J Meyer, A M Blanco, TU Dresden, Germany, K L Koo, PB World, United Kingdom, D Mushalamirwa, Alstom, Germany

CIGRE C4/C6.29: survey of power quality issues related to solar power
J Meyer, A-M Blanco, Technische Universitaet Dresden, Germany, Sarah Rönnberg, Math Bollen, Luleå University of Technology, Sweden, J Smith, Electric Power Research Institute (EPRI), United States

Harmonic, interharmonic and supraharmonic characterisation of a 12-MW wind park based on field measurements
A-M Blanco, J Meyer, Technische Universitaet Dresden, Germany, B Heimbach, B Wartmann, M Mangani, M Oeschger, EZW, Switzerland

Power quality analysis of the Zhangjiakou Regional Network in China
C Ding, Y Zhang, Tsinghua University, China, X Li, J Ding, State Grid Jibei Electric Economic Research Institute, China, S Wei, L Wang, Sien Electrical Engineering Co Ltd, China

A control strategy for reactive power and harmonic compensation of three-phase grid connected photovoltaic system
M T Hagh, M Jadidbonab, M Jedari, University of Tabriz, Iran

Hybrid statcom solutions in renewable systems
E Perez, S Rementeria, Arteche, Spain, Aitor Laka, Ingeteam Power Technology, Spain

14:00 – 15:30 Tour 3 : Block 3 – Power quality measurement, analysis and mitigation methods

How facts on the distribution system are being used to improve customer power quality
J Diaz de Leon II, B Liebliek, AMSC, United States, E Wylie, AMSC, United Kingdom

THD minimization of multilevel inverter with optimized both DC sources magnitude and switching angles
M T Hagh, F N Mazgar, S Roozbehani, UOT, Iran, A Jalilian, Kermanshah Elect Dist Co, Iran

A new method to assess harmonic grid congestion in MV-networks
S Uytterhoeven, Q Antoine, Laborelec, Belgium, P Vermeyen, Eandis, Belgium

Advanced ripple control signal calculation tools for DNOs
S Uytterhoeven, D Empain, Laborelec, Belgium, P Vermeyen, Eandis, Belgium

Survey of supraharmonic emission of household appliances
A Greven, J Meyer, Technische Universitaet Dresden, Germany, S Rönning, M Bollen, Luleå University of Technology, Sweden, J Myrzik, Technische Universität Dortmund, Germany

Harmonic resonances in residential low voltage networks caused by consumer electronics
J Meyer, R Stiegler, P Schegner, Technische Universität Dresden, Germany, I Röder, A Belger, NRM Netzdienste Rhein-Main GmbH, Germany

Measurement and analysis of base transceiver stations power quality parameters and assessment of its unfavourable effects on Iran distribution systems
K Roshan Milani, B Adham, Electricity Distribution Company of East Azerbaijan province, Iran, M R Banaei, F Mohajel Kazemi, Azerbaijan Shahid Madani University, Iran

Frequency scans and resonance mode analysis for resonance problems identification in power networks in presence of harmonic pollution
L Eggenschwiler, O Gaillard, P Favre-Perrod, HES-SO Fribourg, Switzerland, D Chollet, F Décorvet, Services Industriels de Lausanne, Lausanne, Switzerland, D Roggo, HES-SO Valais, Switzerland

Research of process immunity time of boiler coal feeding system in thermal power plant and solution to volatge sags
L Wang, Golden Cooperate Co., Ltd, China, X Zhu, NUAA, China, H Zhang, Y Zhao, Z Zhu, Shenzhen Power Supply Co Ltd, China, M Fan, CEPR, China, Z Zheng, Sichuan University, China

A new generation voltage regulation distribution transformer with an on load tap changer for power quality improvement in the electrical distribution systems
S Mokkapati, J Weiss, F Schalow, SBG Transformers, Germany, J Declercq, SGB-SMIT Group, Netherlands
1132 Interharmonics analysis of a 7.5kW air compressor motor
M Zhiyuan, M W Xiong, L Le, X Zhong, Electric Power Test & Research Institute of Guangzhou Power Supply Bureau Ltd., China

1267 Resolving inconsistencies in three-phase current measurements
A Urquhart, M Thomson, Loughborough University, United Kingdom

1337 A new method of harmonic analysis in power distribution networks using artificial intelligence
M Fayyazi, Ardebil Electricity Distribution Company, Iran, A Akbari Majd, Mohaghegh University, Iran

1359 Discussion on preconditions for reproducible measurements on power conversion harmonics between 2 and 150 kHz
J Knockaert, B Vanseveren, J Desmet, Ghent University Lemengo, Belgium

14:00 – 15:30 Tour 4 : Block 4 – Power quality monitoring systems, data mining, economic and regulatory issues

0066 Using voltage sag measurements for advanced fault location and condition based maintenance
M Tremblay, B Fazio, D Valiquette, Hydro-Québec, Canada

0106 Evaluation of long-term voltage sags monitoring in the distribution system
M Tesarova, University of West Bohemia, Czech Republic, M Kaspirek, E.ON Distribution, Czech Republic

0146 Voltage dips and swells in Danish distribution grids
H Hansen, M Erleng, Danish Energy Association, Denmark

0336 Evaluation of long and short interruptions indices of power supply in the Czech Republic
K Prochazka, F Broz, EGC CB sro, Czech Republic, J Sefranek, Energy Regulatory Office, Czech Republic, M Konc, CEZ Distribuce, Czech Republic, M Kaspirek, E.ON Ceska Republika, Czech Republic, J Hradecky, REDistribute, Czech Republic

0421 EDP Distribuição’s development of support tools and platforms for power quality management and analysis
F Gonçalves, A Lebre, P Veloso, F Bastião, N Melo, EDP Distribuição, Portugal

0465 An approach to reduce MAIFI - the quality of service indicator for momentary interruptions - the experience of the Portuguese DSO
M Couto, J Pascoal, J Dias Matos, J Antunes, EDP Distribuição, Portugal

0505 A new power quality observation algorithm to power distribution network
M Youhannaie, M E Honarmand, J Talebi, A Sharifi, Gilian Electric Power Co., Iran, H Mokhtari, Sharif University of Technology, Iran

0531 Harmonics penalty tariff design for arc furnace customer
M Rusli, M Ihsan, PLN, Indonesia

0573 The design and application of power quality monitoring system for the smart substation based on IEC 61850
L Luo, S Chen, State Grid Shanghai EPRI, China, Y Yang, S Yuan, State Grid SMEPC, China, H Luo, Hunan University, China, Y Hu, X Electric, SGCC, China

0676 Impacts of the change in regulation in Brazil: penalty simulation for violation of collective interruption indications versus compensation for consumers
A D S Barbosa, P L Carvalho, ANEEL, Brazil

0679 New publicly-accessible online power quality monitoring databases
K Kittredge, D Sablin, B Todd, Electrotek Concepts, United States

0693 Reliability assessment indices and method for urban microgrid
T Niu, X Niu, Beijing jiaotong University, China, X Niu, EDF holding limited company, China

0734 Regulation and classification of voltage dips
L Weldemariam, V Cuk, S Cobben, TU Eindhoven, Netherlands, J van Waes, Movaris Energy, Netherlands

0791 Performance standards applied to Romanian TSO and DSO
D Stanesescu, D Federencuc, Electrica, Romania, M Albu, S Gheorghe, Universitatea Politehnica Bucuresti, Romania, D Ilisiu, C Stanescu, Transelectrica, Romania

1241 An experience in determining a cost versus quality of service characteristic in order to define optimal investment level
I O Cryillo, M A Pelegrini, G Quiroga, Sinapsis Inovação em Energia, Brazil, C F M Almeida, C M V Tahan, M R Gouvea, University São Paulo, Brazil

1266 Dealing with customer’s complaints regarding PQ issues - from DNO perspective
S Bhattacharyya, Enexis, Netherlands, S Cobben, TU Eindhoven, Netherlands

16:00 – 17:30 Tour 3 : Block 3 – Power quality measurement, analysis and mitigation methods

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0693  **Reliability assessment indices and method for urban microgrid**
T Ma, J Wu, *Beijing jiaotong University, China*, X Niu, *EDF holding limited company, China*

0734  **Regulation and classification of voltage dips**

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1266  **Dealing with customer's complaints regarding PQ issues - from DNO perspective**