Detailed Poster Program
as of July 4, 2016

MONDAY, JULY 11, 2016 - 16:00 - 18:00 - Confederation I
Session A: 16:00 – 17:00
Session B: 17:00 – 18:00

Mo-PS1
Power and Energy - High Voltage/Current Power and Power Analysis
Chair: Jae Kap Jung, Korea Research Institute of Standards and Science
129233 - HOUTZAGER, Ernest | Reference setup for the calibration of power transformer loss measurement systems
129748 - HOUTZAGER, Ernest | Calibration systems for analogue non-conventional voltage and current transducers
130352 - HU, Yue | An Improved Partial Discharge Location Method in Substations: Error Reduction based on Monte-Carlo Simulation
130088 - DJOKIC, Branislav | Hydro-Generator Sudden Short-Circuit Testing Using Rogowski Coils
127341 - KIM, Kye-Tae | Modified Step-Up Technique for the DC High Voltage Traceability
129057 - PROCHAZKA, Radek | Use of a Nanocrystalline Core for a Precise Non-invasive AC Current Measurement
128742 - STYBLÍKOVÁ, Renata | International Comparison of Instrument Current Transformers up to 10 kA at 50 Hz Frequency
129757 - PAN, Xianlin | Comparison of the Phase Angle Errors between RVD and IVD

Mo-PS2
Quantum Standards
Chair: Franz Ahlers, PTB
128111 - CHAE, Dong-Hun | Precision Measurements of Quantum Hall Resistance Plateau in Doping-Controlled Graphene Device
126256 - GÖTZ, Martin | Operation of a Cryogenic Current Comparator in Presence of Mechanical Vibrations
126437 - GÖTZ, Martin | Performance of the Binary Compensation Unit for Cryogenic Current Comparators
127060 - JEANNERET, Blaise | Characterization of HMDS treated CVD Graphene
128259 - KÜRTEN IHLENFELD, Waldemar Guilherme | Development of a PJVS Based Primary AC Power Standard
127148 - WANG, Xueshen | Development of the single quantum Hall devices for the resistance standard in NIM
125888 - ZENG, Tao | Evaluation of the Alignment Errors in Joule Balance Caused by Horizontal Forces and Torques

Mo-PS3
Radio Frequency / Microwave - Power, Noise, and Network-Parameters
Chair: Rolf Judaschke, PTB
Radio Frequency / Microwave - Power, Noise, and Network-Parameters
127262 - CELEP, Murat | New Effective Coaxial Twin-Load Microcalorimeter system
127312 - CUI, Xiaohai | International Comparison of WR15 (50 to 75 GHz) Power Measurements among NIST, NIM, PTB and NMC
125945 - EIØ, Christopher | Measurement Comparison up to 65 GHz in Coaxial 1.85 mm Line
126942 - HOFFMANN, Johannes | Considerations for Using Waveguide Extenders
127641 - HOFFMANN, Johannes | Effects of Connectors and Improper Mounting of Air Lines in TRL Calibration
127278 - YAN, Aaron Y.K. | VRC Measurement for 3.5 mm Coaxial System Using Network Analyzer Fitted with Type K Connector
127713 - ZEIER, Markus | Verification concepts in S-parameter measurements
Mo-PS4
Impedance
Chair: Javier Díaz De Aguilar, Centro Español de Metrología (CEM)
127063 - EKLUND, Gunnar | A Low Frequency Josephson Impedance Bridge
126789 - FUNCK, Torsten | Bilateral International Inductance Comparison Using Traveling Standards in Thermoregulated Enclosures
126369 - MORENO HERNANDEZ, Jose Angel | SIM Key Comparison of 10 mH Inductance Standards
127128 - MORENO HERNANDEZ, Jose Angel | Determination and Use of Temperature Coefficients of Inductance Standards
127606 - PACHECO ESTRADA, Aleph | Development of Calculable Resistors at CENAM

Mo-PS5
Resistance - Graphene-Based Electrical Metrology
Chair: Randolph Elmquist, National Inst. Of Standards And Technology
128268 - BERGSTEN, Tobias | Comparison between GaAs and graphene QHR standards for resistance realisation at SP
128201 - FLETCHER, Nick | Carrier Concentration Adjustment in Epitaxial Graphene QHR Devices
128709 - HE, Hans | Fabrication of graphene quantum Hall resistance standard in a cryogen-free table-top system
127145 - WANG, Xueshen | Improvement of Chemical Vapor Deposition Graphene for Quantum Hall Resistance Standard device
128564 - KALMBACH, Cay-Christian | Dissipation Factor and Frequency Dependence of Graphene Quantum Hall Devices

Mo-PS6
Time and Frequency - Photonics and Optical Metrology
Chair: Gordon Shaw, U.S. National Institute of Standards and Technology (NIST)
125750 - BAI, Yang | Six-axis Heterodyne Interferometer System for Joule Balance
130001 - KOLBE, Michael | Fundamental parameter determination to improve spectroscopical methods
127139 - KOKUYAMA, Wataru | Time-domain Phase Noise Measurement in the Optical Frequency Region

Mo-PS7
Magnetics
Chair: Haiming Shao, National Institute of Metrology(NIM), P.R.China
127925 - YANG, Yan | Error Estimation of Magnetic Flux Measurement of the Permanent Magnet in Open Magnetic Circuit
127212 - ISTRATE, Daniela | Determination of the Verdet Constant of Low Birefringence Single-Mode Optical Fiber
127167 - PARK, Po Gyu | Geomagnetic Measurement and Analysis of Cheongyang Observatory

Mo-PS8
Novel Sensors and Measurements
Chair: Ian Robinson, National Physical Laboratory
127359 - ÇELİK, Mehmet | Nanoradian Angle Measurements Using Differential Fabry-Perot Interferometer
130193 - MARTIN, Ramon | Improved NMR magnetometer for weak fields
127535 - SZYMAŃSKI, Krzysztof | Precise measurement of inhomogeneity of two dimensional system by six point method
129463 - WANG, Yicheng | Nonlinearity Testing of Capacitance Bridges Using Programmable Capacitors

Mo-PS9
Voltage
Chair: Waldemar Guilherme Kürtten Ihlenfeld, INMETRO
129565 - FUJIKI, Hiroyuki, HF | An Evaluation Method for Wideband Voltage Dividers Using Two Phase-locked Signal Generators
126974 - GERONYMO, Gean | Design of a Thermal Converter with Frequency Output
127414 - KAMPIK, Marian | About the Use of Ellipse Fitting Algorithm in Sampling Measurements of Complex Ratio of AC Voltages
127419 - KAMPIK, Marian | Trilateral Comparison of a Planar Thin-Film Thermal AC Voltage Standard up to 1 MHz
129749 - PAN, Xianlin | Design and Self-calibration of Cascaded Inductive Voltage Divider with Ratio of 2n:1
Tu-PS1  
**Power and Energy**  
*Chair: Anders Bergman, SP Technical Research Institute of Sweden*  
126716 - GUBLER, Gleb | Making Low Level AC Voltage Measurements with DVM  
129850 - JOVANOVIĆ, Ljubiša | A Novel TDM-Based High Precision Wattmeter  
128608 - JUNG, Jae Kap | An Absolute Method for Determining the Dissipation Factor of Capacitors at Voltages up to 1 kV  
127257 - NELSON, Thomas | Error Correction: a Proposal for a Standard  
127564 - LI, You | Experiments for Calibrate Differential Phase Measurement System  
129852 - MOHNS, Enrico | An AC Power Amplifier for Testing Instrument Transformer Test Equipment  
129059 - JIA, Zhensen | Evaluation of Digital Energy Meter Error by Monte Carlo Method

Tu-PS2  
**Quantum Standards - Development and Fabrication of Josephson Voltage Standards**  
*Chair: Blaise Jeanneret, METAS*  
129860 - BARDALEN, Eivind | Packaging of fiber-coupled module for Josephson Junction Array voltage standards  
129169 - KOHLMANN, Johannes | Series arrays of NbSi barrier Josephson junctions for AC voltage standards  
129121 - SOSSO, Andrea AS | Tests on waveform synthesis in a new cryocooler setup  
126529 - LI, Zhengkun | Stepwise waveform generation using Josephson voltage standards for joule balance

Tu-PS3  
**Radio Frequency / Microwave**  
*Chair: Djamel Allal, LNE*  
126483 - BRUNETTI, Luciano | Material Measurements Using the Vector Network Analyzer  
127270 - KANG, Tae-Weon | Free-Space Measurement of the Complex Permittivity of Liquid Materials at Millimeter-wave Region  
127058 - KATO, Yuto | Permittivity measurement using a long fixture to eliminate reflection effect at fixture ends  
129582 - KON, Seitaro | Dynamic Measurements of Moisture Content using Microwave Signal and its Verification  
130009 - O'KEEFE, Brian | High Precision Slotted Cavity Measurement of a Novel Ceramic State Polymer Electrolyte  
130290 - ZIADÉ, François | Traceable type N calibration kit: DC to 1 GHz

Tu-PS4  
**Current**  
*Chair: Daniela Istrate, LNE*  
129327 - JIAYUN, Song | Research on Current Calibration System with High Stability  
127028 - KRAUSE, Christian | Cable Noise Investigations for High-Accuracy Measurements of Small Direct Currents  
127543 - SCHERER, Hansjoerg | Improved Calibration of Instruments for Small Direct Currents  
127819 - ZHAO, Wei | Fiber-Optic Current Sensor Utilized for DC High Current Calibration  
128242 - PAN, Xianlin | Design of the Current Comparator for Measuring the Current Shunts at Common Ground

Tu-PS5  
**Watt Balances and Avogadro**  
*Chair: Ali Eichenberger, METAS*  
126025 - BIELSA, Franck | The new interferometer of the BIPM watt balance  
126875 - LI, Zhengkun | Concentricity Alignment between Electromagnet Yoke and Suspended Coil in NIM-2  
129625 - KWON, Taeg Yong | Progress of an Atomic Gravimeter at KRISS  
127933 - PIQUEMAL, François | Static Phase Improvements in the LNE watt balance  
126913 - XU, Jinxin | A Magnetic Damping Device for Watt and Joule Balances  
126915 - XU, Jinxin | An Analytical Model for Designing Permanent Magnet Systems in Watt and Joule Balances  
129010 - WASEDA, Atsushi | Homogeneity Characterization of Lattice Spacing of 28Si Single Crystals
Tu-PS6
Impedance - Bridges and Thompson Lampard Capacitors
Chair: Yicheng Wang, NIST
127585 - KÜRTEH IYLENFELD, Waldemar Guilherme | Comparison Among Three Impedance Bridges for Capacitance Measurements at the nF Range
127068 - EKLUND, Gunnar | A Comparison of the Josephson Impedance Bridges of PTB and SP
128216 - HAGEN, Thomas | Comparison of the Frequency Dependence of Capacitance Ratios between LNE and PTB
125694 - HUANG, Lu | Improvement on Alignment of Fabry-Perot Interferometer in Calculable Capacitor
127305 - MAŠLÁN, Stanislav | Four Terminal Pair Digital Sampling Impedance Bridge
129279 - MAŠLÁN, Stanislav | Digital Sampling Setup for Measurement of Complex Voltage Ratio
128592 - YANG, Yan | A Digital Impedance Bridge with Auto-balancing Source Ratio

Tu-PS7
Resistance
Chair: Dean Jarrett, National Institute of Standards and Technology
128995 - FUKUYAMA, Yasuhiro | Study of Contact Resistance with Physical Simulating using Nano-fabrication
130269 - HUANG, Shiping | The Enhanced Performance of the DCC Current Comparator using AccuBridge™ Technology
130106 - KUČERA, Jan | On Aspects of Calibration of DC Resistance Ratio Bridges
127125 - SATRAPINSKI, Alexandre | Testing the New Generation of Low-Frequency Current Comparators

Tu-PS8
Voltage
Chair: Bjørnar Karlsen, Justervesenet
125554 - FUNCK, Torsten | Automated Setup for Calibration of Calibrators at Alternating Voltage and Alternating Current
129161 - LAPUH, Rado | Quasi coherent overlapping procedure to improve harmonics suppression
129136 - LAPUH, Rado | Keysight 3458A noise performance
128015 - MELENDEZ, Roger | Zener DC Voltage Standard Pressure Coefficient Measurement
127313 - ŠÍRA, Martin | QWTB – Software Toolbox for Sampling Measurements
127767 - KAMPIK, Marian | Calculable Thermal AC Voltage Standards for 10 kHz - 1 MHz Frequency Range

WEDNESDAY, JULY 13, 2016 - 16:00 - 18:00 - Confederation I
Session A: 16:00 – 17:00
Session B: 17:00 – 18:00

We-PS1
Power and Energy - Smart Grid and Phase Measurement Unit
Chair: Gert Rietveld, VSL
129766 - MESTER, Christian | Requirements for an Advanced PMU Calibrator
126696 - DJOKIC, Branislav | Development of a System for the Calibration of Digital Bridges for Non-Conventional Transformers
129058 - KOKALJ, Miha | Behaviour of different PMU algorithms under static and dynamic conditions
130304 - CARRANZA LOPEZ PADILLA, René David | Algorithm for measuring amplitude and frequency deviations intended for PMU
129221 - ŠÍRA, Martin | Modelling of PMU Uncertainty by Means of Monte Carlo Method
127213 - RITZMANN, Deborah | Synchronphasor-based Transmission Line Impedance Measurement
127144 - GEORGAKOPOULOS, Dimitrios | Precision Measurement System for the Calibration of Phasor Measurement Units
129496 - MAK, Sioe | Advanced Applications of AMR Data to Generate Functions for Enhancing SMART GRID Operation

We-PS2
Quantum Standards - Development and Fabrication of Josephson Voltage Standards
Chair: Luis Palafox-Gámir, PTB
127474 - BEHR, Ralph | Portable Josephson Voltage Reference Standard
126580 - CHEN, Shih-Fang | Differential Sampling Measurements of Low-Frequency Sinusoidal Waveforms Using AC-PJVS
127497 - VAN DEN BROM, Helko | Voltage Lead Errors in an AC Josephson Voltage Standard: Explanation in Terms of Standing Waves
127162 - LI, Honghui | Research on Differential Sampling Method with Josephson Voltage Standard
We-PS3
Radio Frequency / Microwave
Chair: Christopher Eiø, NPL
127349 - ALLAL, Djamel | S parameters measurement of antennas under thermal stress
127018 - CHO, Chihyutun | Calibration of Sample-Time Error in a Sampling Oscilloscope and Uncertainty Analysis
129017 - IIDA, Hitoshi | Study on Calibration of of Terahertz Attenuators Haiming Shao, National Institute of Metrology
130359 - KANG, Tae-Weon | Uncertainty Improvement of Monopole Antenna Calibration Using ECSM
129004 - KINOSHITA, Moto | Measurement of microwave magnetic field in free space using the Rabi frequency

We-PS4
Current
Chair: Torsten Funck, Physikalisch-Technische Bundesanstalt
129831 - ARIFOVIC, Mehedin | Extending AC-DC Current Transfer to 100 A, 100 kHz in UME
129839 - NOVÁKOVÁ ZACHOVALOVÁ, Věra | Development of Primary Standard for AC-DC Current Transfer Difference
129620 - SONG, Kwangjae | The Establishment of mA CT Calibration System at KTL and Comparison with NRC
129782 - POGLIANO, Umberto | AC-DC Current Transfer Difference Estimation of Thin-Film Multijunction TCs up to 1 MHz
129616 - SHAO, Haiming | A High Current Nanosecond Pulse Generator for Calibrating Current Shunts
129921 - WANG, Shuqiang | Analysis on Double-layer Squirrel-cage Shunt for Large Pulse Current with High Frequency

We-PS5
Watt Balances, Gravity, and Avogadro
Chair: Stephan Schlaminger, National Institute of Standards and Technology
130422 - COSKUN ÖZTÜRK, Tezgül | Feasibility Study of Electrical Measurements of Oscillating – Magnet Watt Balance
127822 - CHOI, In-Mook | Gravity Measurements for the KRISS Watt Balance
129909 - FAN, Isaac | Frequency Estimation of a Damped Sinusoidal Signal and Comparison to Theoretical Lower Bound
127455 - LU, Yunfeng | Plane mirror based method for laser beam alignment
130120 - HADDAD, Darine | Monitoring Gravity for the NIST-4 Watt Balance
129569 - SUTTON, Christopher | The feasibility of a watt balance based on twin pressure balances
130357 - LI, Zhengkun | Preliminary result of accurate gravimetry at NIM Joule Balance site
129834 - LI, Zhengkun | A preliminary magnet nonlinear research on the joule balance
129592 - ZHANG, Lulu | Thickness measurements of oxide and carbonaceous layer on a 28Si sphere by using XPS

We-PS6
Impedance
Chair: Olivier Thévenot, Laboratoire National de Métrologie et d’Essai (LNE)
129066 - GOURNAY, Pierre | A New CCEM-K4 Comparison of Capacitance at 10 pF
128927 - HOMKLINTIAN, Monthol | Measurement of Frequency Dependence of Standard Capacitors in the Frequency range 10 kHz to 1 MHz
129284 - MAŠLÁŇ, Stanislav | Simple Resistance Standard with Calculable Time Constant
129853 - RASO, Félix | Towards an Impedance Bridge Based on a Single Programmable Josephson Voltage Standard
129858 - RASO, Félix | Method of Calibration of Lock In Amplifiers in Linearity
129916 - VOJÁČKOVÁ, Lucie | Calculation of High Frequency 4-TP Impedance Standards
130328 - WALTRIP, Bryan | A Programmable Capacitor for Inductance Measurements

We-PS7
Time and Frequency - Atomic Fountains and Clocks
Chair: Thomas Legero, Physikalisch-Technische Bundesanstalt
130123 - BEATTIE, Scott | Status of the Cs Fountain Clock at the National Research Council of Canada
129818 - HEO, Myoung-Sun | Drift-compensated Low-noise Frequency Synthesis Based on a CryoCSO for the KRISS-F1(Cs)
129814 - KUMAGAI, Motohiro | Recent Improvements of NICT atomic fountains CsF1 & CsF2
129778 - KWON, Taeg Yong | Operating Atomic Fountain Clock using Robust DBR Laser System
128629 - MERIMAA, Mikko | Pre-stabilization of a Distributed Feedback Diode Laser for Locking to a High-Finesse Cavity
126669 - HUANG, Yi-Jiun | A New Scheme of TWSTFFT Receiver for Multiple Access Interference Suppression
128499 - XU, Yuan | Development of GNSS-based High Reliable Time Transfer System
Th-PS1
Power and Energy - Power Analysis
Chair: Gleb Gubler, D.I.Mendeleyev Institute for Metrology (VNIIM)
128232 - BERGSTEN, Tobias | An electrical power reference system up to 1 MHz
128602 - YAN, Aaron Y.K. | High Accuracy and Traceable Power Quality Instrument Calibration
128244 - PAN, Xianlin | Using Inductive Voltage Divider to Calibrate Linearity of Wideband Digitizer
129746 - PAN, Xianlin | Self-Calibration of the Current Comparator with Common Ground
129637 - HUANG, Hongtao | Dynamical Waveforms and the Dynamical Source for Electricity Meter Dynamical Experiment
129878 - LEHTONEN, Tapio | A Three-Phase Calibration and Field Measurement Setup Based on a Custom Digitizer
128231 - LAPUH, Rado | Measurement and estimation of arbitrary signal power using a window technique
129393 - TIMMONS, Richard | Asynchronous 3-Phase Power Measurements

Th-PS2
Power and Energy - Harmonic Power
Chair: Peter Davis, National Physical Laboratory
128752 - TRIGO, Leonardo | Resistor Dividers for Power Quality Meters
128718 - ARISTOY, Gonzalo | Measuring System for Calibrating High Voltage Instrument Transformers at Distorted Waveforms
129965 - POGLIANO, Umberto | Dynamic algorithms for PMUs – methods for improving the signal processing effectiveness
126513 - ESPINOSA, Carlos | A Two-Channel Digital Sampling System for Estimating Harmonic Parameters at Low Frequencies

Th-PS3
Quantum Voltage Standards
Chair: Uwe Siegner, PTB
128302 - KYRIAZIS, Gregory | Improvements in the Inmetro Zener Calibration Uncertainty Budgets Using CJVS and PJVS
128276 - BEHR, Ralf | Towards a Quantum Sampling System
129815 - RASO, Félix I. | Proposal for a New Quantum Voltage Standard based in Optical Frequency measurements
129885 - KIM, Mun-Seog | Voltage Linearity Evaluation for a High-Speed Digitizer adopted to a Quantum Sampling Voltmeter

Th-PS4
Radio Frequency / Microwave - Power, Noise, and Network-Parameters
Chair: Markus Zeier, METAS
129530 - ALLAL, Djamel | Vector Network Analyzer Comparison up to 110 GHz in 1 mm Coaxial Line
128579 - CUI, Xiaohai | Uncertainty Analysis and Evaluation of a WR-28 (26.5 to 40 GHz) Millimeter-Wave Power Standard
128946 - HORIBE, Masahiro | Primary Standard and Calibration of Scattering Parameter up to 12 GHz for Type N, 75 ohms connector
129662 - HORIBE, Masahiro | Uncertainty Estimation for Gallium Nitride Diode Model based on VNA Measurement at 5.8 GHz
129080 - MENG, Yu Song | Bilateral Comparison of RF Power Measurements with 2.4 mm Connectors between SCL and NMC, A*STAR
129039 - NAKAMURA, Shintaro | Metrological Connector Conversion Technique for Scattering Parameter Calibration
129392 - SUREK, Jack | Development of a NIST WR10 Radiometer

Th-PS5
Current
Chair: Thomas Lipe, NIST
126692 - DJOKIC, Branislav | A Comparison of Two Current Transformer Calibration Systems at NRC Canada
125553 - FUNCK, Torsten | AC-DC Disk Resistors Made of Surface-Mount Components
126130 - FUNCK, Torsten | AC-DC Current Transfer Standards Suitable for Use Below 1 mA and up to 1 MHz
129750 - LI, Zhengkun | A 10-A Wideband Transconductance Amplifier
Th-PS6
Resistance
Chair: Ernest Houtzager, VSL Dutch Metrology Institute
127202 - CASTRO, Blanca I | Fabrication of High Value Standard Resistors for ICE-LMVE
127149 - DOMAE, Atsushi | Evaluation of a Resistive Voltage Divider Based on a Quantized Hall Resistance Voltage Divider
126922 - KRAWCZYK, Krystian | Double Path System for Resistance Unit Transfer from QHR Primary Std to 100TΩ Std
127189 - MELCHER, Juergen | Measurement of Conductivity of Materials at PTB
126448 - QIAN, Lushuai | A Low Thermal EMF Relay-based Scanner for Precision Resistor Load Coefficient Calibration System
127337 - GERONIMO, Gean | Inmetro's Coaxial Calculable Resistance Project

Th-PS7
Voltage
Chair: Nobu-Hisa Kaneko, NMIJ/AIST
126482 - JEANNERET, Blaise | Josephson-Based Characterization of Analog-to-Digital Converters
129037 - JIA, Zhengsen | An Improved Sinc Function Compensation Algorithm in AC Programmable Josephson Voltage Standard
129038 - JIA, Zhengsen | The Accuracy Research of AC Waveform in Differential Sampling Method
129168 - LAPUH, Rado | Uncertainty of the signal parameter measurement due to their estimation from sampled data
127642 - KÜRTEN IHLENFELD, Waldemar Guilherme | The AC-AC Transfer Technique with Subsampling

Th-PS8
Quantum Hall, CCC, and SET
Chair: Wilfrid Poirier, LNE
129936 - KUČERA, Jan | Realization of Quantum Hall Effect in Closed Cycle Refrigerators
126440 - GÖTZ, Martin | Application of Robust Control to a Cryogenic Current Comparator
128576 - KIM, Nam | 'Cutoff Frequency' of Quantum-Dot Pump
127183 - WANG, Xueshen | Development of 10kΩ Quantum Hall Array Resistor