

**TUESDAY
MORNING
18 AUGUST 2009**

**PAPER
SESSIONS**

**ROOM 17A
TU-AM-1 Measurement Antennas
(TC2)**

*Chair: Don Heirman, Don HEIRMAN
Consultants, New Jersey, U.S.A.
Co-Chair: Mike Royer, Foxconn, Texas, U.S.A.*

**ROOM 17B
TU-AM-2 PCB Design (TC4)**
*Chair: Philip Keebler, EPRI, Knoxville,
Tennessee, U.S.A.*

8:30 AM – 9:00 AM

Calibration of Electric-Field Probe using Open-Ended Waveguides
S. Ishigami; I. Wu; K. Sato; K. Gotoh; and Y. Matsumoto, — NICT, Koganei, Tokyo, Japan

Calculation of Radiated Emission from Chassis Connected to PCB with Screw
H. Funato, Hitachi America, Ltd., Farmington Hills, MI, U.S.A.; and T. Suga, Hitachi, Ltd., Yokohama, Japan

9:00 AM – 9:30 AM

Optical Scanning Probe System for Electromagnetic Near Field Measurements
M. Takahashi, Taiyo Yuden Co., Ltd., Takasaki, Japan; K. Kawasaki; H. Ohba; T. Ikenaga; H. Ota; and K. I. Arai, — Sendai Research Center, NICT, Sendai, Japan; T. Orikasa, Advantest Laboratories LTD., Sendai, Japan; N. Adachi, Nagoya Institute of Technology, Tajimi, Japan; and K. Ishiyama, Tohoku University, Sendai, Japan

Lumped Models for Vias in Multilayered PCBs
G. Heinrich; and S. Dickmann, — Helmut-Schmidt-Universität / Universität der Bundeswehr Hamburg, Hamburg, Germany

9:30 AM – 10:00 AM

Active Probes for Creating H-Field Probes for Flat Frequency Response
S. Mittal; J. Zhang; D. J. Pommerenke; and J. L. Drewniak, — EMC Laboratory, Rolla, MO, U.S.A.; K. Hu, Agilent Technologies, Inc., Colorado Springs, CO, U.S.A.; and X. Dong, Intel Corporation, Hillsboro, OR, U.S.A.

On the Coupling Between the Signal Layers and the Power-Bus on Multilayered PCBs
G. Heinrich; and S. Dickmann, — Helmut-Schmidt-Universität / Universität der Bundeswehr Hamburg, Hamburg, Germany

10:00 AM – 10:30 AM

MORNING BREAK

MORNING BREAK

10:30 AM – 11:00 AM

Antenna Design and Its Application for Near Field Disturbance Measurement in Upper VHF Band
T. Omori; H. Sasaki; and H. Jingu, — Intertek Japan K. K., Yokohama, Japan; and R. Robin, Intertek Testing Services, Pudong District, China

An Investigation of the Effect of Grounding Pads on Power Bus Resonance Characteristics
K. Morishita; N. Kobayashi; and T. Harada, — NEC Corporation, Sagami-hara, Japan; X. He; and T. Hubing, — Clemson University, Clemson, SC, U.S.A.

11:00 AM – 11:30 AM

Recent Improvements To Dual Ridge Waveguide Horn Antennas: The 200 MHz to 2000 MHz and 18 GHz to 40 GHz Models
V. Rodriguez, ETS-Lindgren, Cedar Park, TX, U.S.A.

EM Emission of Differential Signals Across Connected Printed Circuit Boards in the GHz Range
X. Duan; H. D. Bruens; and C. Schuster, — Technische Universität Hamburg-Harburg, Hamburg, Germany; and B. Archambeault, IBM, Research Triangle, NC, U.S.A.

11:30 AM – 12:00 noon

Decoupling Capacitor And Low Inductance Power Distribution Strategies For Achieving EMC Compliance: An Educational Approach Using MultiSim® And Mathcad®
D. Norte, InfoPrint Solutions Company, Boulder, CO, U.S.A.

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SESSIONS**

ROOM 18B

TU-AM-3 Shielding and PCBs (TC9)
Chair: Chuck Bunting, Oklahoma State University, Oklahoma, U.S.A.
Co-Chair: Antonio Ciccomancini Scogna, CST of America, Massachusetts, U.S.A.

ROOM 19A

TU-AM-4 Nano-Technology (TC11)
Chair: Chris Holloway, NIST, Colorado, U.S.A.
Co-Chair: Maria Sabrina Sarto, Sapienza – University of Roma, Rome, Italy

8:30 AM – 9:00 AM

Hybrid MoM/FEM Modeling Of Shielding Effectiveness Of Loaded Rectangular Enclosures With Apertures
S. Yenikaya, Uludag University, Bursa, Turkey

Mechanical and Electrical Characterization of Epoxy Nanocomposites for Electromagnetic Shielding Devices in Aerospace Applications
S. Bellucci; G. De Bellis; F. Micciulla; and I. Sacco, Laboratori Nazionali di Frascati (INFN), Frascati, Italy; and G. Rinaldi, Sapienza – University of Roma, Rome, Italy

9:00 AM – 9:30 AM

Characterization and Modeling of Parasitic Emission of a 32-bit Automotive Microcontroller Mounted on Two Types of BGA
E. Rogard; B. Vrignon; and J. Shepherd, — Freescale Semiconductor, Toulouse, France; and E. Sicard, INSA, Lattis, Toulouse, France

Multiwall Carbon Nanotube Vias: An Effective TL Model for EMC Oriented Analysis
A. Tamburrano; and M. Sarto, — Sapienza – University of Rome, Roma, Italy

9:30 AM – 10:00 AM

Shielding Effectiveness of Artificial Magnetic Screens in the VHF Band
R. Araneo; S. Celozzi; and G. Lovat, Sapienza – University of Rome, Rome, Italy

Analytical Modeling for Crosstalk Noise Induced by Process Variations among CNT-based Interconnects
P. Sun; and R. Luo, — Tsinghua University, Beijing, China

10:00 AM – 10:30 AM

MORNING BREAK

MORNING BREAK

10:30 AM – 11:00 AM

Impedance of an Infinitely Large Parallel-Plane Pair and its Applications in Engineering Modeling
A. R. Chada, Missouri University of Science and Technology, Rolla, MO, U.S.A.; Y. Zhang, Institute of High Performance Computing, Singapore, Singapore; G. Feng; J. L. Drewniak; and J. Fan, — Missouri University of Science and Technology, Rolla, MO, U.S.A.

Design of Composite Materials Using a Genetic Algorithm
H. Yang; J. Shen; and J. Chen, — University of Houston, Houston, TX, U.S.A.; and C. Fuller, ATK, Plymouth, MN, U.S.A.

11:00 AM – 11:30 AM

Measurement of Electromagnetic Parameters and FDTD Modeling of Ferrite Cores
J. Xu; M. Y. Koledintseva; R. E. DuBroff; J. L. Drewniak; and A. Orlando, — Missouri University of Science and Technology, Rolla, MO, U.S.A.; Y. He; and B. Matlin, — Laird Technologies, Chattanooga, TN, U.S.A.

Measurement of Dielectric Properties of Carbon Nanotube Networks Used to Build Planar Transmission Lines
M. A. EL Sabbagh; and S. M. El-Ghazaly, — University of Arkansas, Fayetteville, AK, U.S.A.

11:30 AM – 12:00 noon

**TUESDAY
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**ROOM 18C
TU-AM-5 Special Session - EMC in
Asia**

*Chair: Leslie Bai, SIEMIC Testing and
Certification Services, San Jose, CA, U.S.A.*

**PAPER
SESSIONS**

8:30 AM – 9:00 AM

Regulatory Update in Asia Pacific Rim

*L. Bai, SIEMIC Testing and Certification Services,
San Jose, CA, U.S.A.*

9:00 AM – 9:30 AM

New VCCI Program - Kit Module Program

*S. Satake, VCCI Council, Tokyo, Japan; T.
Shimasaki, NEC Engineering, Ltd., Kawasaki-shi,
Japan; and H. Yamane, NTT, Musashino-shi,
Japan*

9:30 AM – 10:00 AM

**Understanding KCC Certification: Indispensable
Step for Korean IT Market Penetration**

B. Hur, HCT Co., Ltd., Icheon-si, Republic of Korea

10:00 AM – 10:30 AM

MORNING BREAK

10:30 AM – 11:00 AM

EMC Technology Development of China

J. He, Tsinghua University, Beijing, China

11:00 AM – 11:30 AM

**Product Certifications for Telecommunication
Equipment for China**

*L. Bai, SIEMIC Testing and Certification Services,
San Jose, CA, United States; and D. Li, SIEMIC
InfoTech (China) Ltd., Nanjing, China*

11:30 AM – 12:00 noon

Radio Product Certifications for Russia

*L. Bai, SIEMIC Testing and Certification Services,
San Jose, CA, U.S.A.*

**TUESDAY
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18 AUGUST 2009**

**PAPER
SESSIONS**

ROOM 17A

**TU-PM-1 Emission Measurements
(TC2)**

*Chair: Bob Hofmann, Hofmann EMC
Engineering, Illinois, U.S.A.
Co-Chair: Ross Carlton, National Instruments,
Austin, TX, U.S.A.*

1:30 PM – 2:00 PM

An Innovative Methodology for Evaluating Multi-Chip EMC in Advanced 3G Mobile Platforms
*S. Akue Boulougui; and E. Sicard, — LATTIS INSA
de Toulouse, Toulouse, France; C. Dupoux; N.
Bouvier; and B. Vrignon, — Freescale
Semiconductor, Toulouse, France; and S. Baffreau,
LATTIS IUT de Tarbes, Tarbes, France*

2:00 PM – 2:30 PM

Analysis of the Propagation of Electromagnetic Disturbances Inside Integrated Circuits Using Direct Power Injection and Near-Field Scanning
*A. Alaeldine; L. Bouchlouk; R. Perdriau; and M.
Ramdani, — ESEO, Angers, France*

2:30 PM – 3:00 PM

A Flexible EMI Measurement Sheet to Measure Electric and Magnetic Fields Separately with Distributed Antennas and LSI's
*N. Masunaga; K. Ishida; Z. Zhou; T. Yasufuku; and
T. Sakurai, — University of Tokyo, Institute of
Industrial Science, Meguro-ku, Japan; T. Sekitani;
and T. Someya, — University of Tokyo, Quantum-
Phase Electronics Center, Bunkyo-ku, Japan; and
M. Takamiya, University of Tokyo, VLSI Design and
Education Center, Bunkyo-ku, Japan*

3:00 PM – 3:30 PM

AFTERNOON BREAK

3:30 PM – 4:00 PM

Novel Assessment Technique for Investigating Potential Phased Array Effects of Passenger Aircraft
*I. Schmidt; A. Enders; R. Geise; and M. Schwark,
— Technische Universität Braunschweig,
Braunschweig, Germany*

4:00 PM – 4:30 PM

On-Site EMC Testing and Interference Prevention
*T. Schrader; K. Muentner; C. Jastrow; A.
Daneschnejad; and T. Kleine-Ostmann, —
Physikalisch-Technische Bundesanstalt,
Braunschweig, Germany*

4:30 PM – 5:00 PM

Bulk Current Injection Testing of Cable Noise Reduction Techniques, 50 kHz to 400 MHz
*A. T. Bradley; R. J. Hare; and M. Singh, — NASA
Langley Research Center, Hampton, VA, U.S.A.*

5:00 PM – 5:30 PM

Developing a Universal Exchange Format for Near-Field Scan Data
*J. Shepherd, Freescale Semiconductor, Toulouse,
France; A. Nakamura, Renesas Technology Corp,
Tokyo, Japan; F. Lafon, Valeo, Creteil, France; E.
Sicard, INSA, Toulouse, France; M. Ramdani,
ESEO, Angers, France; D. Pommerenke, Missouri
University of Science and Technology, Rolla, MO,
U.S.A.; G. Muchaidze, Amber Precision
Instruments, Santa Clara, CA, U.S.A.; and S.
Serpaud, Nexio, Toulouse, France*

ROOM 17B

**TU-PM-2 EM Issues and Case Studies
(TC4)**

*Chair: John Archer, retired from RCA Military
Co-Chair: Jim Knighten, Teradata Corporation,
San Diego, CA, U.S.A.*

Real World ASD Interference Case Study with Modeled Solutions

*K. O. Phipps; P. F. Keebler; and R. F. Arritt, —
EPRI, Knoxville, TN, U.S.A.*

Reduction of In-band Intermodulation Products Caused by Adjacent Channel Signals Via the Design of Linear Out-of-Band Behavior

*I. Demirkiran, Embry-Riddle Aeronautical
University, Daytona Beach, FL, U.S.A.; D. D.
Weiner, Syracuse University, Syracuse, NY,
U.S.A.; A. Drozd; and I. Kasperovich, — Andro
Computational Solutions, Rome, NY, U.S.A.*

A Multi-Fidelity Modeling Approach for Cosite Interference Analysis

*F. German; M. Young; and M. C. Miller, — Delcross
Technologies, Champaign, IL, U.S.A.*

AFTERNOON BREAK

Is Electrostatic Discharge Phenomenon A Well-Posed Problem?

T. Toh, Dell Inc., Round Rock, TX, U.S.A.

Influence of Rise Velocity of Charge Voltage on Spark Discharge from a Metal Sphere

*H. Tomita, National Institute of Occupational Safety
and Health, Kiyose, Tokyo, Japan*

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ROOM 18C

TU-PM-3 EM Transients (TC5 & TC7)

*Chair: Bill Radasky, Metatech Corporation,
Goleta, California, U.S.A.*

*Co-Chair: Mike McInerney, U.S. Army,
Champaign, Illinois, U.S.A.*

ROOM 18B

**TU-PM-4 Special Session - Modeling/
Simulation Validation Standards and
Applying the FSV Technique to
Quantify Validation Quality (TC9)**

*Chair: Bruce Archambeault, IBM, Research
Triangle Park, North Carolina, U.S.A.*

*Co-Chair: Greg Hiltz, Quality Engineering Test
Establishment, Ottawa, Canada*

1:30 PM – 2:00 PM

**On the Zero Crossing of Distant Electro-
magnetic Fields Radiated by Lightning**

*A. Shoory; and F. Rachidi, — Swiss Federal
Institute of Technology, Lausanne, Switzerland; M.
Rubinstein, Ecole d'ingénierie et de Gestion du
Canton de Vaud (HEIG-Vd), Yverdon-les-bains,
Switzerland; R. Moini; and S. Sadeghi, — Amirkabir
University of Technology, Tehran, Iran*

2:00 PM – 2:30 PM

**Electrode Speed Effect on Discharge Properties
in Short Gap Electrostatic Discharge**

*F. Ruan; and Z. Song, — Guizhou Normal
University, Guiyang, China; D. Shi; and Y. Gao, —
Beijing University of Post & Telecommunication,
Beijing, China*

2:30 PM – 3:00 PM

**HEMP Field Coupling With Buried Power
Distribution Cables**

*S. K; and J. T. Meledath, — Indian Institute of
Science, Bangalore, India*

3:00 PM – 3:30 PM

AFTERNOON BREAK

3:30 PM – 4:00 PM

Risk Potential of Radiated HPEM Environments

*F. Sabath, Bundeswehr Research Institute for
Protective Technologies and NBC-Protection,
Munster, Germany; and H. Garbe, Leibniz
Universität Hannover, Hannover, Germany*

4:00 PM – 4:30 PM

**Automated Measurement of Intermittent Signals
using a Time Domain EMI Measurement System**

*H. H. Slim; S. M. Braun; E. Gülten; A. Frech; and P.
Russer, — Munich University of Technology,
Munich, Germany*

4:30 PM – 5:00 PM

**A Novel (Non Sinusoidal) Signal Delay and
Attenuation Measurement of Long RF Cables
with Variable Insertion Loss**

*M. A. Royer; and R. H. Flake, — University of
Texas at Austin, Austin, TX, U.S.A.*

5:00 PM – 5:30 PM

**Using the Feature Selective Validation
Technique to Compare CEM Code Predictions
and Measurements of Field Distributions for
Cavity Problems**

*A. L. Drozd; I. Kasperovich; and C. E. Carroll, —
ANDRO Computational Solutions, LLC, Rome, NY,
U.S.A.*

**Using the Feature Selective Validation
Technique to Compare Data Sets**

*B. R. Archambeault, IBM, Durham, NC, U.S.A.; A.
P. Duffy, De Montfort University, Leicester, UK; and
A. Orlandi, University of L'Aquila, L'Aquila, Italy*

**Application of the Feature Selective Validation
Method to Test Site Evaluation**

*C. E. Brench, Southwest Research Institute, San
Antonio, TX, U.S.A.; and B. L. Brench, DJR EMC
Engineering, Stow, MA, U.S.A.*

AFTERNOON BREAK

**FSV Validation of Radio Path Loss
Measurements**

*R. Johnk; and P. McKenna, — Institute for
Telecommunication Sciences, Boulder, CO, U.S.A.;
B. Archambeault; and Z. Wu, — IBM, Research
Triangle Park, NC, U.S.A.*

**Comparison among Different Via Models Based
on Feature Selective Validation Technique**

*S. Pan; H. Wang; and J. Fan, — Missouri
University of Science and Technology, Rolla, MO,
U.S.A.*

**Characterization Study of the Feature Selective
Validation (FSV) Technique on Simple and
Complex Waveforms**

*G. Hiltz, Quality Engineering Test Establishment,
Ottawa, Canada*

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**ROOM 19B
TU-PM-5 Open Forum #1**
*Chair: Richard Worley, Dell Computers, Austin,
Texas, U.S.A.*

**PAPER
SESSIONS**

- 1:30 PM – 3:00 PM** **Simulation and Time-Frequency Domain Analysis of Microburst Caused by Disconnect Switch Operation in AIS**
J. Tao; and S. Chen, — Wuhan University, Wuhan, China; and Z. Wang, University of Manchester, Manchester, United Kingdom
- 1:30 PM – 3:00 PM** **Calibration of Double-Ridged Guide Horn Antenna Using Phase Center**
K. Harima, National Institute of Information and Communications Technology, Koganei, Japan
- 1:30 PM – 3:00 PM** **Increasing the Quiet Zone Performance in an Anechoic Chamber**
D. Song, Huazhong University of Science and Technology, Wuhan, China; C. Fang; Q. Zhang; D. Wen; and J. Yu, — China Ship development and Design Center, Wuhan, China
- 1:30 PM – 3:00 PM** **EMC Issues of Power Electronic Converters**
P. Drabek; and V. Kus, — West Bohemia University in Pilsen, Plzen, Czech Republic
- 1:30 PM – 3:00 PM** **An Analytical Study on the Relationship between the Surface Conditions of the Rotary Slide Contacts and the Noise Waveforms**
A. Mutoh, Tokyo Fuji University, Shinjuku, Japan; S. Nitta, Salesian Polytechnic, Machida, Japan; and R. Koyama, Tokyo University of Agriculture & Technology, Koganei, Japan
- 1:30 PM – 3:00 PM** **Finite Element Method Model Improvement for the Conducted Emission Analysis of a Lighting Fixture**
Y. Namba, Osaka University, Suita, Japan; T. Kida, Panasonic Electric Works Analysis Center Co., Ltd, Kadoma, Japan; K. Hirata; S. Ikejiri; and F. Obayashi, — Osaka University, Suita, Japan
- 1:30 PM – 3:00 PM** **On the Study of Electromagnetic Environment Simulation for Shipboard Cabin**
D. G. Xie; J. Yu; and D. Y. Hou, — China Ship Development and Design Center, Wuhan, China
- 1:30 PM – 3:00 PM** **Novel Methodology for Optimal On-board Decoupling Capacitors Selection and Placement**
G. Han, Marvell Tech. Inc., Shanghai, China
- 1:30 PM – 3:00 PM** **Far Field Radiated Emission Prediction from Magnetic Near Field Magnitude-only Measurements of PCBs by Genetic Algorithm**
H. Fan, ZTE Corporation, Shanghai, China
- 1:30 PM – 3:00 PM** **The EMC Education at the Czech Republic in Consideration of Low Frequency Interference**
V. Kus; P. Drabek; and M. Pittermann, — West Bohemia University in Pilsen, Plzen, Czech Republic

**WEDNESDAY
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ROOM 17A
**WE-AM-1 Test sites, GTEM, and
Regulations (TC2)**
*Chair: Don Heirman, Don HEIRMAN
Consultants, New Jersey, U.S.A.*
Co-Chair: Mike Royer, Foxconn, Texas, U.S.A.

ROOM 17B
WE-AM-2 PCB Design, 2 (TC4)
*Chair: John Kraemer, Rockwell Collins,
Rockwell Collins, Iowa, U.S.A.*
*Co-Chair: Ross Carlton, National Instruments,
Austin, TX, U.S.A.*

8:30 AM – 9:00 AM

FDTD Analysis of Site Free Space VSWR in Test Site Used for Disturbance Measurement above 1 GHz
N. Kuwabara; and M. Midori, — Kyushu Institute of Technology, Kitakyushu, Japan; and M. Kawabata, Fukuoka Industrial Technology Center, Kitakyushu, Japan

Electrostatic Discharge Analysis of Multi Layer Ceramic Capacitors
C. Rostamzadeh, Bosch, Farmington Hills, MI, U.S.A.; H. Dadgostar, University of Stuttgart, Stuttgart, Germany; and F. Canavero, Politecnico di Torino, Torino, Italy

9:00 AM – 9:30 AM

Searching for the Elusive Correction Factor between 3m and 10m Radiated Emission Tests
E. Blankenship; D. Arnett; and S. Chan, — Hewlett-Packard Company, Vancouver, WA, U.S.A.

Transient-to-Digital Converter for Protection Design in CMOS Integrated Circuits against Electrical Fast Transient
C. Yen; and C. Liao, — National Chiao-Tung University, Hsin-Chu, Taiwan; M. Ker, I-Shou University, Kaohsiung, Taiwan; T. Chen; and C. Tsai, — Himax Technologies, Inc., Tainan, Taiwan

9:30 AM – 10:00 AM

On the Role of Essential Higher Order Modes in a GTEM Cell
D. Pouh'e; and G. Mönich, — Technische Universität Berlin, Berlin, Germany

Predicting Noise Voltage from Trace Crossing Split Planes on Printed Circuit Boards
W. Pan, Missouri University Science & Technology, Rolla, MO, U.S.A.; S. Connor; and B. Archambeault, — IBM, Research Triangle Park, NC, U.S.A.

10:00 AM – 10:30 AM

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10:30 AM – 11:00 AM

Transient UWB Antenna Characterization in GTEM Cells
H. Thye; S. Sczyslo; G. Armbrecht; S. Dortmund; and H. Garbe, — Leibniz Universität Hannover, Hannover, Germany

EM Radiation from Interconnected Surface Microstrip Line Structures by a Coaxial Cable
Y. Kayano; and H. Inoue, — Akita University, Akita, Japan

11:00 AM – 11:30 AM

Characterization and Concept for Optimization of Planar Spiral High Power High Frequency Coils
I. Schmidt; and A. Enders, — Technische Universität Braunschweig, Braunschweig, Germany

Radiation Characteristics of Short Un-terminated Transmission Lines
D. Moongilan, Alcatel-Lucent, Murray Hill, NJ, U.S.A.

11:30 AM – 12:00 noon

Radio Approval in Japan
G. Lin, Crestron Electronics Inc., Rockleigh, NJ, U.S.A.; and D. Schramm, Intertek Testing Services NA Inc., Duluth, MN, U.S.A.

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Frequency Dependent Via Inductances for Accurate Power Distribution Network Modeling
L. Ren; G. Feng; J. L. Drewniak; and J. Fan, — Missouri University of Science and Technology, Rolla, MO, U.S.A.; B. Archambeault, IBM, Research Triangle Park, NC, U.S.A.; and J. L. Knighten, Teradata Corporation, San Diego, CA, U.S.A.

9:00 AM – 9:30 AM

Analytical Modeling of Power Distribution Network with Embedded Electromagnetic Bandgap Structure
C. Hwang; J. Kim; Y. Shim; and J. Kim, — KAIST, Daejeon, Republic of Korea

9:30 AM – 10:00 AM

Equivalent Mixed-mode Characteristic Impedances for Differential Signal Vias
S. Pan; and J. Fan, — Missouri University of Science and Technology, Rolla, MO, U.S.A.

10:00 AM – 10:30 AM

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10:30 AM – 11:00 AM

Impact of Photonic Crystal Power/Ground Layer Density on Power Integrity Performance of High-Speed Power Buses
A. Ciccomancini Scogna, CST of America, Framingham, MA, U.S.A.; A. Orlandi, University of L'Aquila, L'Aquila, Italy; V. Ricchiuti, Technolabs, L'Aquila, Italy; and T. Wu, National Taiwan University, Taipei, Taiwan

11:00 AM – 11:30 AM

Common Mode Filtering Performances of Planar EBG Structures
F. De Paulis; A. Orlandi; and L. Raimondo, — University of L'Aquila, L'Aquila, Italy; B. Archambeault; and S. Connor, — IBM, Research Triangle Park, NC, U.S.A.

11:30 AM – 12:00 noon

A GHz Common-mode Filter Using Negative Permittivity Metamaterial on Low Temperature Co-fire Ceramic (LTCC) Substrate
C. Tsai; T. Wu, — National Taiwan University, Taipei, Taiwan

ROOM 18B

WE-AM-3 Power Integrity (TC10)
Chair: Jim Knighten, Teradata Corporation, San Diego, CA, U.S.A.
Co-Chair: Antonio Ciccomancini Scogna, CST of America, Framingham, MA, U.S.A.

ROOM 18C

WE-AM-4 Special Session - Spectrum Engineering; Evolving Trends (TC3)
Chair: Larry Cohen, Naval Research Laboratory, Gaithersburg, Maryland, U.S.A.

Electrothermal Nonlinear FET Modeling for Spectral Prediction

C. P. Baylis, Baylor University, Waco, TX, U.S.A.; and L. P. Dunleavy, Modelithics, Inc., Tampa, FL, U.S.A.

Sub-Octave-Tunable Microstrip Notch Filter

D. R. Jachowski; and A. C. Guyette, — Naval Research Laboratory, Washington, D.C., U.S.A.

A Mobile Propagation Measurement System

R. T. Johnk; P. M. McKenna; N. DeMinco; P. P. Papazian; G. A. Sanders; and H. E. Ottke, — Institute for Telecommunication Sciences (NTIA/ITS), Boulder, CO, U.S.A.

END

**WEDNESDAY
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**ROOM 19B
WE-AM-5 Open Forum #2
Chair: Michael Foegelle, ETS-Lindgren,
Cedar Park, Texas, U.S.A.**

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- 8:30 AM – 10:00 AM** **EMC Protections for High Voltage and High Power on a Wide Facility, the Mégajoule Laser**
D. Rubin De Cervens; J. Raimbourg; J. Baggio; and J. L. Faure, — CEA DAM / DIF, Arpajon, France; J. C. Gomme; and J. P. Sceaux, — CEA DAM / CESTA, Le Barp, France; P. Bauer; and P. Trochet, — EADS / Nucleudes, Les Ulis, France
- 8:30 AM – 10:00 AM** **3-Antenna Height-Scanning-Average Method of EMI Antenna Calibration**
J. Park; D. Jeong; H. Youn; M. Seo; D. Yu; and J. Ryoo, — Radio Research Agency of Korea Communication Commissions, Icheon, Rep. of Korea
- 8:30 AM – 10:00 AM** **Electromagnetic Topology Combined with Mode Matching for Electromagnetic Field Penetration Analysis of an Aperture Backed Cavity**
Y. Park, Seoul National University, Rep. of Korea; Y. Lee, Kwangwoon University, Seoul, Rep. of Korea; J. So, Agency for Defense Development, Daejeon, Rep. of Korea; C. Cheon, University of Seoul, Rep. of Korea; Y. Chung, Kwangwoon University, Seoul, Rep. of Korea; and H. Jung, Seoul National University, Rep. of Korea
- 8:30 AM – 10:00 AM** **Hybrid Simulation Method to Analyze Anti-Jamming Receiver**
H. Xiaomu; C. Wenqing; M. Qinhua; L. Jiantao; Z. Chaoxian; and B. Feng, — Navy Arm Academy of China, Beijing, China
- 8:30 AM – 10:00 AM** **On the Signal Processing for an Exposure Assessment of Superimposed Magnetic Fields**
C. Rueckerl; and K. Eichhorn, — University of Applied Sciences, Leipzig, Germany; and H. Bauer, University of Technology, Dresden, Germany
- 8:30 AM – 10:00 AM** **Characterization of the Electromagnetic Environment in a Hospital and Propagation Study**
N. J. LaSorte; W. J. Barnes; and H. H. Refai, — University of Oklahoma-Tulsa, Tulsa, OK, U.S.A.
- 8:30 AM – 10:00 AM** **On the Quantification of the State-of-the-Art Models for Skin-Effect in Conductors, Including Those with Non-Rectangular Cross-Sections**
B. Curran; and I. Ndip, — Fraunhofer Institute - IZM, Berlin, Germany,
- 8:30 AM – 10:00 AM** **Interference Voltage and Interference Threshold in Pacemakers with Unipolar and Bipolar Electrodes**
S. Hille; and K. F. Eichhorn, — HTWK Leipzig, Leipzig, Germany; and K. H. Gonschorek, Dresden University of Technology, Dresden, Germany
- 8:30 AM – 10:00 AM** **Developing an SI Tool Set for Engineering Design Discovery, Physical Insight, and Education**
A. Koul; A. Conrad; and J. L. Drewniak, — Missouri University of Science and Technology, Rolla, MO, U.S.A.; R. Jackson; A. Packard; J. Song; and E. Wheeler, — Rose-Hulman Institute of Technology, Terre Haute, IN, U.S.A.

**WEDNESDAY
AFTERNOON
19 AUGUST 2009**

**PAPER
SESSIONS**

**ROOM 17A
WE-PM-1 Reverberation
Measurements (TC2)**

*Chair: Tom Fagan, Raytheon, Arizona, U.S.A.
Co-Chair: Chris Holloway, NIST, Boulder,
Colorado, U.S.A.*

**ROOM 17B
WE-PM-2 Shielding (TC4)**
*Chair: Mike McInerney, U.S. Army,
Champaign, Illinois, U.S.A.
Co-Chair: Ali E. Yilmaz, University of Texas,
Austin, Texas, U.S.A.*

1:30 PM – 2:00 PM

**Directive Wavefronts Inside a Time Reversal
Electromagnetic Chamber**
*H. Moussa; A. Cozza; and M. Cauterman, —
Supelec, Gif-Sur-Yvette, France*

**A Novel Method of Mitigating EMI on
Implantable Medical Devices: Experimental
Validation for UHF RFID Reader/Writers**
*Y. Kawamura; S. Futatsumori; T. Hikage; and T.
Nojima, — Hokkaido University, Sapporo, Japan; B.
Koike, Japan Automatic Identification Systems
Association, Tokyo, Japan; H. Fujimoto; and T.
Toyoshima, — Medtronic Japan Co., Ltd., Tokyo,
Japan*

2:00 PM – 2:30 PM

**A Describing Function Method for Evaluating
the Statistics of the Harmonics Scattered from a
Non-Linear Device in a Mode Stirred Chamber**
*A. C. Marvin; C. Jiaqi; I. D. Flintoft; and J. F.
Dawson, — University of York, York, United
Kingdom*

**Predicting Multimode Chassis Resonance of
Single or Nested Rectangular Computer
Enclosures**
*T. W. Steigerwald, Dell, Inc., Round Rock, TX,
U.S.A.*

2:30 PM – 3:00 PM

**Aspects of Field Statistics inside Nested
Frequency-Stirred Reverberation Chambers**
*Y. He; and A. Marvin, — University of York, York,
United Kingdom*

**Relationship between Connector Contact Points
and Common-Mode Current on a Coaxial
Transmission Line**
*Y. Hayashi; T. Mizuki; and H. Sone, — Tohoku
University, Sendai, Japan*

3:00 PM – 3:30 PM

AFTERNOON BREAK

AFTERNOON BREAK

3:30 PM – 4:00 PM

**Numerical and Experimental Investigation of
Unstirred Frequencies in Reverberation
Chambers**
*V. Mariani Primiani; F. Moglie; and V. Paoletta, —
Universita' Politecnica delle Marche, Ancona, Italy*

**Achieving EMI Compliance with DVI and HDMI
on Defense/Aerospace Platforms**
*J. G. Kraemer; and J. A. Shaw, — Rockwell Collins,
Inc., Cedar Rapids, Iowa, U.S.A.*

4:00 PM – 4:30 PM

**Quantifying Stirred and Unstirred Components
in Reverberation Chamber with Appropriate
Statistics**
*G. Leriche; E. Amador; C. Lemoine; and P.
Besnier, — Institute of Electronics and
Telecommunications of Rennes (IETR), Rennes,
France*

**Shielding Effectiveness and Coupling of Cavity
Connection Excited by UWB Pulse**
*Q. Wu; S. Zhang; L. Jin; and Y. Wang, — Harbin
Institute of Technology, Harbin, Afghanistan*

4:30 PM – 5:00 PM

**Time-Domain Pulsed Measurements of the
NASA Space Power Facility**
*R. Johnk; J. Ewan; P. McKenna; and N. DeMinco,
— Institute for Telecommunication Sciences
(NTIA/ITS), Boulder, CO, U.S.A.; and K.
Shalkhauser, NASA Glenn Research Center,
Cleveland, OH, U.S.A.*

**Effectiveness of Shield Termination Techniques
Tested with TEM Cell and Bulk Current Injection**
*R. J. Hare; and A. T. Bradley, — NASA Langley
Research Center, Hampton, VA, U.S.A.*

5:00 PM – 5:30 PM

**Source-Stirring and Mechanical-Stirring
Reverberation Chamber Measurement
Comparison for 900 MHz and 1800 MHz**
*J. Kunthong; and C. F. Bunting, — Oklahoma State
University, Stillwater, Oklahoma, U.S.A.*

**Shielding Effectiveness Analysis of Enclosure
with Aperture by High-order Mode Transmission
Line Model**
*D. Shi; Y. Shen; F. Ruan; and Y. Gao, — Beijing
University of Posts & Telecommunications, Beijing,
China*

**WEDNESDAY
AFTERNOON
19 AUGUST 2009**

**PAPER
SESSIONS**

ROOM 18C

**WE-PM-3 Novel Methods in Modeling/
Simulation (TC9)**

*Chair: Marina Koledintseva, Missouri University
of Science & Technology, Rolla, MO, U.S.A.
Co-Chair: Chuck Bunting, Oklahoma State
University, Oklahoma, U.S.A.*

1:30 PM – 2:00 PM

Effect on Electric Field of Foam Block in GTEM Cell
*I. Wu; S. Ishigami; K. Gotoh; and Y. Matsumoto, —
National Institute of Information and
Communications Technology, Koganei, Japan*

2:00 PM – 2:30 PM

**A Technique for Representing Lightning
Arresters in the FDTD Method**
*A. Tatematsu; and T. Noda, — Central Research
Institute of Electric Power Industry, Yokosuka,
Japan*

2:30 PM – 3:00 PM

**A Method to Decrease Computation Time of
FDTD Calculations for Low Frequency
Excitations**
*E. Perrin; C. Guiffaut; and A. Reineix, — XLIM,
Limoges, France; and F. Tristant, Dassault
Aviation, Saint-Cloud, France*

3:00 PM – 3:30 PM

AFTERNOON BREAK

3:30 PM – 4:00 PM

**Efficient Wide-Band Interpolation of MoM-
derived Frequency Responses Using Stoer-
Bulirsch Algorithm**
*A. Karwowski, Silesian University of Technology,
Gliwice, Poland*

4:00 PM – 4:30 PM

**Block Latency Insertion Method (Block-LIM) for
Fast Transient Simulation of Tightly Coupled
Transmission Lines**
*T. Sekine; and H. Asai, — Shizuoka University,
Hamamatsu, Japan*

4:30 PM – 5:00 PM

**Electromagnetic Field Coupling into Cardiac
Pacemaker Systems - Numerical Simulation
Using Body Models With Dispersive Dielectric
Tissues**
*S. Schenke; L. Fichte; F. Sutter; M. Clemens; and
S. Dickmann, — Helmut-Schmidt-Universitaet,
Hamburg, Germany; F. Sabath; and M.
Schaarschmidt, — Wehrwissenschaftliche Institut
für Schutztechnologien, Munster, Germany*

5:00 PM – 5:30 PM

**Fast Memory-Efficient Full-Wave 3D Simulation
of Power Planes**
*T. V. Narayanan; K. Srinivasan; and M.
Swaminathan, — Georgia Institute of Technology,
Atlanta, GA, United States*

ROOM 18B

**WE-PM-4 Special Session - Multi-
Gbps Interconnect Simulation and
Measurement for Signal Integrity
(TC10)**

*Chair: Xiaoning Ye, Intel, Hillsboro, OR, U.S.A.
Co-Chair: Jun Fan, Missouri University of
Science and Technology, MO, U.S.A.*

**Mode Conversion Effects in Multi-Gbps
Telecommunications Blade System**

*G. Pitner; D. N. de Araujo; and M. Mi, — Ansoft
LLC, ANSYS, Austin, TX, U.S.A.; B. Mutnury; M.
Cases; and N. Pham, — IBM, Austin, TX, U.S.A.*

**Efficient Methodologies to Study the Signal
Integrity of Multi Gb/s Interconnects and Full
System EMC Analysis**

*A. S. Ciccomancini Scogna; and D. Johns, — CST
of America, Framingham, MA, U.S.A.*

**Material Parameter Extraction Using Time
Domain TRL (t-TRL) Measurements**

*A. Rajagopal; and B. Achkir, — Cisco Systems Inc.,
San Jose, CA, U.S.A.; M. Koledintseva; and J.
Drewniak, — Missouri University Of Science &
Technology, Rolla, MO, U.S.A.*

AFTERNOON BREAK

**Serial Link Engineering: A Novel Jitter/Noise
Metric to Qualify Channel Components**

*K. Keshavan; and T. Abou-Jeyab, — Sigrity, Inc.,
Santa Clara, CA, U.S.A.*

**Building Accurate Spice Models for Multi-Gbps
Interconnect in Computer Systems**

*X. Ye; and C. Huang, — Intel, Hillsboro, OR,
U.S.A.; and K. Xiao, Intel, DuPont, WA, U.S.A.*

**WEDNESDAY
AFTERNOON
19 AUGUST 2009**

**ROOM 19B
WE-PM-5 Open Forum #3**
*Chair: Jason Anderson,
Professional Testing,
Round Rock, Texas, U.S.A.*

**PAPER
SESSIONS**

- 1:30 PM – 3:00 PM** **Effect of the Mutual Inductances among Grounding Conductors on the Transient Performance of Grounding Grids**
B. Zhang; J. He; R. Zeng; J. Hu; and Z. Yu, — Tsinghua University, Beijing, China
- 1:30 PM – 3:00 PM** **Study on the Electromagnetic Influence of DC Bias on the Power Transformer**
Y. Chen; T. Lu; L. Li; and Z. Zhao, — North China Electric Power University, Baoding, China
- 1:30 PM – 3:00 PM** **Assessment of the Power Balance Method for E Field Calculations in Complex Cavities**
A. Schaffar; and Y. Herlem, — Astrium Space Transportation, Les Mureaux, France
- 1:30 PM – 3:00 PM** **Comparison of Shielding Effectiveness Approximations to Measurements for Perforated Shields**
J. C. Hailey, Dell, Inc., Round Rock, TX, U.S.A.
- 1:30 PM – 3:00 PM** **Electromagnetic Field Measurement Using Circular Wire Scatterers**
T. Morioka, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan
- 1:30 PM – 3:00 PM** **Relevant Parameters of SPICE3 MOSFET Model for EMC Analysis**
J. Ben Hadj Slama; and S. Hrigua, — LSE - INSAT, Tunis, Tunisia; F. Costa; C. Gauthier; and B. Revol, — SATIE, Cachan, France
- 1:30 PM – 3:00 PM** **A Near Field 3-Antenna Method for Short Monopole Antennas in Low Frequency Bands**
M. Ishii; and Y. Shimada, — National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan
- 1:30 PM – 3:00 PM** **A Novel Interconnected Patch-Ring (IPR) Structure for Noise Isolation**
I. Ndip; S. Guttowski; and H. Reichl, Fraunhofer Institute - IZM, Berlin, Germany
- 1:30 PM – 3:00 PM** **Full Wave Model for Simulating a Noiseken ESD Generator**
D. Liu; A. Nandy; and D. Pommerenke, — Missouri University of Science and Technology, Rolla, MO, U.S.A.; S. Kwon; and K. Kim, — Advanced CAE Lab, Telecommunication R&D Center, Seoul, Republic of Korea
- 1:30 PM – 3:00 PM** **Electromagnetic Compatibility Learning Process Experience in Argentina**
C. M. Munoz; R. Saint-Nom; and B. Alvarez Ovide, — Buenos Aires Institute of Technology, Buenos Aires, Argentina

**THURSDAY
MORNING
20 AUGUST 2009**

**PAPER
SESSIONS**

ROOM 17A

**TH-AM-1 Immunity Measurements
(TC2)**

*Chair: Cliff Hauser, Raytheon Missile Systems,
Tucson, Arizona, U.S.A.*

*Co-Chair: Richard Georgerian, NewsFlex Ltd.,
Colorado, U.S.A.*

ROOM 17B

**TH-AM-2 EMC and Modern Power
Electronics Systems (TC4)**

*Chair: Philip Keebler, EPRI, Knoxville,
Tennessee, U.S.A.*

*Co-Chair: Ali E. Yilmaz, University of Texas,
Austin, Texas, U.S.A.*

8:30 AM – 9:00 AM

**Electromagnetic Field Immunity Test System
applying Array Antenna Technology**
*U. Takeshi; C. Miyazaki; N. Oka; K. Misu; and Y.
Konishi, — Mitsubishi Electric Corporation,
Kamakura-City, Japan*

**Effects of CAN Filter on EMI Performance of
Switching Power Supplies**
*E. N. Chikando; S. R. Connor; and B.
Archambeault, — IBM Corporation, Research
Triangle Park, NC, U.S.A.*

9:00 AM – 9:30 AM

**Examinations of Higher Order Mode Cutoff
Frequencies in Symmetrical TEM Cells**
Z. Chen, ETS-Lindgren, Cedar Park, TX, U.S.A.

**EMI Prediction in Switched Power Supplies by
Full-wave and Non-linear Circuit Co-simulation**
*A. Bhargava; D. Pommerenke; K. Kam; and X.
Chang, — Missouri University of Science and
Technology, Rolla, MO, U.S.A.; F. Centola; C. Lam;
and R. Steinfeld, — Apple Inc., Cupertino, CA,
U.S.A.*

9:30 AM – 10:00 AM

**The Time Domain Response of BCI
Transformers**
*J. S. McLean; and R. Sutton, — TDK R&D Corp.,
Cedar Park, TX, U.S.A.*

**EMC Guideline for Synchronous Buck
Converter Design**
*K. W. Kam; and D. Pommerenke, — Missouri
University of Science and Technology, Rolla, MO,
U.S.A.; C. Lam; R. Steinfeld; and F. Centola, —
Apple Inc., Cupertino, CA, U.S.A.*

10:00 AM – 10:30 AM

MORNING BREAK

MORNING BREAK

10:30 AM – 11:00 AM

**A Measurement Technique for ESD Current
Spreading on a PCB using Near Field Scanning**
*W. Huang; D. Pommerenke; J. Xiao; and D. Liu, —
Missouri University of Science and Technology,
Rolla, MO, U.S.A.; J. Min; and M. Giorgi, — Amber
Precision Instrument, Santa Clara, CA, U.S.A.; S.
Kwon; and K. Kim, — Samsung Electronics,
Suwon, Republic of Korea*

**Finding Return Current Paths via Synchronized
Measurements in a Multiphase DC-DC Buck
Converter**
*P. Shao; and D. Pommerenke, — Missouri
University of Science & Technology, Rolla, MO,
U.S.A.; F. Chang; C. Reade; and P. Ilavarasan,
NVIDIA Corporation, Beaverton, OR, U.S.A.*

11:00 AM – 11:30 AM

**Electromagnetic Penetration Studies for Three
Different Aircraft**
*C. A. Grosvenor; D. Novotny; D. Camell; and G.
Koepke, — National Institute of Standards and
Technology, Boulder, CO, U.S.A.; R. Johnk,
Institute for Telecommunication Sciences, Boulder,
CO, U.S.A.; and N. Canales, NIST-Retired,
Firestone, CO, U.S.A.*

**Solution for the Reduction of Electromagnetic
Influences from an Electric Driving System**
*P. T. Nicolae; I. V. Nicolae; and I. V. Sirbu,
University of Craiova, Craiova, Romania*

11:30 AM – 12:00 noon

**Why increasing Immunity Test Levels is Not
Sufficient for High-Reliability and Critical
Equipment**
*K. Armstrong, Cherry Clough Consultants, Stafford,
United Kingdom*

**Design of Impedance Matching Couplers for
Power Line Communications**
*R. Araneo; S. Celozzi; and G. Lovat, — Sapienza –
University of Rome, Rome, Italy*

**THURSDAY
MORNING
20 AUGUST 2009**

**PAPER
SESSIONS**

ROOM 18C

**TH-AM-3 Cavities, Reverberation
Chambers, and Statistics (TC9)**

*Chair: Jun Fan, Missouri University of Science
& Technology, Rolla, MO, U.S.A.*

*Co-Chair: Vignesh Rajamani, Oklahoma State
University, Stillwater, OK, U.S.A.*

ROOM 18B

**TH-AM-4 Special Session –
Automotive EMC**

*Chair: Roger Kuvedu-Libla, Delphi Electronics &
Safety, Bascharage, Luxembourg*

8:30 AM – 9:00 AM

**Electromagnetic Cavity Effects from
Transmitters inside a Launch Vehicle Fairing**
*D. H. Trout, NASA - Kennedy Space Center,
Kennedy Space Center, FL, U.S.A.; P. F. Wahid,
University of Central Florida, Orlando, FL, U.S.A.;
and J. E. Stanley, Florida Institute of Technology,
Melbourne, FL U.S.A.*

**The Present Status of the International
Automotive EMC Standards**

*P. H. Andersen, Poul Andersen Consulting,
Richmond, MI, U.S.A.*

9:00 AM – 9:30 AM

**Analysis of Antenna Behavior in a Multipath
Environment Generated by a Reverberation
Chamber**
*A. Cicchi; V. Mariani Primiani; and F. Moglie, —
Universita` Politecnica delle Marche, Ancona, Italy*

**Improving Monopole Radiated Emission
Measurement Accuracy; RF Chamber
Influences, Antenna Height and Counterpoise
Grounding (CISPR 25 & MIL-STD-461E vs. MIL-
STD-461F)**

*C. W. Fanning, Elite Electronic Engineering Inc,
Downers Grove, IL, U.S.A.*

9:30 AM – 10:00 AM

**SAR Numerical Analysis of the Whole Human
Body Exposed to a Random Field**
*R. De Leo; V. Mariani Primiani; F. Moglie; and A. P.
Pastore, — Universita` Politecnica delle Marche,
Ancona, Italy*

**Time Domain Measurements in Automotive
Applications**

*W. Winter; and M. Herbrig, — emv Gmbh,
Taufkirchen, Germany*

10:00 AM – 10:30 AM

MORNING BREAK

MORNING BREAK

10:30 AM – 11:00 AM

**Calibration of a Numerically Modeled
Reverberation Chamber**
*V. Rajamani; C. Bunting; and J. West, — Oklahoma
State University, Stillwater, OK, U.S.A.*

**Proposal for the Validation of Absorber-Lined
Shielded Enclosures for CISPR 25 Emission
Tests**

*F. Bongartz, Landesamt fuer Zentrale Polizeiliche
Dienste NRW, Duisburg, Germany; J. Deckers,
Mooser EMC Technik GmbH, Ludwigsburg,
Germany; M. Heina, Mooser Consulting GmbH,
Egling / Thanning, Germany; H. Hirsch, University
Duisburg-Essen, Duisburg, Germany; J. Mooser,
Mooser Consulting GmbH, Egling / Thanning,
Germany; J. Nickel, Continental Automotive GmbH,
Regensburg, Germany; and M. Seiger, EMC Test
NRW GmbH, Dortmund, Germany*

11:00 AM – 11:30 AM

Crosstalk Statistics via Collocation Method
*F. Diouf; and F. Canavero, — Politecnico di Torino,
Torino, Italy*

**Design Limitations of Powertrain Electronics -
Automotive EMC Challenges**

*J. K. Kuvedu-Libla, Delphi Electronics & Safety,
Bascharage, Luxembourg*

11:30 AM – 12:00 noon

**Analysis of Electromagnetic Resonances in The
Case of a Vehicle Using Different Sets of Field
Points**

*S. Tapigue; M. Klingler; and S. Benhassine, — PSA
Peugeot Citroen, Vélizy villacoublay, France; P.
Besnier; and M. Drissi, — IETR/INSA Rennes,
Rennes, France*

**THURSDAY
AFTERNOON
20 AUGUST 2009**

**PAPER
SESSIONS**

ROOM 17A

**TH-PM-1 EMC Measurement Test
Equipment (TC2)**

*Chair: Bob Hofmann, Hofmann EMC
Engineering, Illinois, U.S.A.
Co-Chair: Ross Carlton, National Instruments,
Austin, Texas, U.S.A.*

ROOM 17B

**TH-PM-2 Emissions and Immunity
(TC4)**

*Chair: John Archer, retired from RCA Military
Co-Chair: Michael Foegelle, ETS-Lindgren,
Cedar Park, Texas, U.S.A.*

3:00 PM – 3:30 PM

**Novel Electromagnetic Field Measuring
Instrument with Real-Time Visualization**

*J. Rioult; D. Seetharamdoo; and M. Heddebaut, —
INRETS, Villeneuve d'Ascq, France*

**Conducted EMI Simulation of Switched Mode
Power Supply**

*H. Li; D. Pommerenke; and W. Pan, — Missouri
University of Science and Technology, Rolla, MO,
U.S.A.; S. Xu; H. Ren; F. Meng; and X. Zhang, —
Huawei Technologies Co., Ltd., Shenzhen, China*

3:30 PM – 4:00 PM

**Time-Domain EMI Measurements in the
Presence of Ambient Noise**

*A. Frech; S. Braun; and P. Russer, — Technische
Universität München, Munich, Germany*

**Potential Interference Issues between FCC Part
15 Compliant UHF ISM Emitters and Equipment
Passing Standard Immunity Testing
Requirements**

*D. R. Novotny; and J. R. Guerrieri, — NIST,
Boulder, CO, U.S.A.; and D. G. Kuester, University
of Colorado, Boulder, CO, U.S.A.*

4:00 PM – 4:30 PM

**A Realtime Time Domain EMI Measurement
System for Measurements above 1 GHz**

*S. M. Braun; C. Hoffmann; A. Frech; and P.
Russer, — Munich University of Technology,
Munich, Germany*

**Differential Mode Noise on the PCB's Signal
Traces Converted from External Common Mode
Noise**

*N. Oka; and K. Misu, — Mitsubishi Electric
Corporation, Kamakura, Japan; T. Kumamoto,
Mitsubishi Electric Engineering Company Limited,
Kamakura, Japan; and S. Nitta, Salesian
Polytechnic, Machida, Japan*

4:30 PM – 5:00 PM

**Impedance Measurements from 1 to 20 MHz
with up to 200 A (50 Hz) Bias-Current for the
Optimization of High Power High Frequency
Coils**

*I. Schmidt; and A. Enders, — Technische
Universität Braunschweig, Braunschweig, Germany*

**Bandwidth Improvement of Multilayer Common
Mode Filter by Time Domain Method**

*B. Tseng; and J. Ling, — Feng Chia University,
Taichung, Taiwan; and L. Liao, Chaoyang
University of Technology, Taichung County, Taiwan*

5:00 PM – 5:30 PM

**Impulsive Noise Measurement Methodologies
for APD Determination in M2M Environments**

*J. Chilo; C. Karlsson; and P. Angskog, — Center
for RF Measurement Technology, Gavle, Sweden;
and P. Stenumgaard, Swedish Defence Research
Agency, Linköping, Sweden*

**Ultra-Wideband and Compact Novel Combine
Filters**

*B. Mohajer-Iravani, EM Wave Dev, Fayetteville,
AR, U.S.A.; and M. A. EL Sabbagh, University of
Arkansas, Fayetteville, AR, U.S.A.*

**THURSDAY
AFTERNOON
20 AUGUST 2009**

**PAPER
SESSIONS**

ROOM 18B

TH-PM-3 Signal Integrity (TC10)
Chair: Antonio Orlandi, University of L'Aquila, L'Aquila, Italy
Co-Chair: Tzong-Lin Wu, National Taiwan University, Taipei, Taiwan

ROOM 18C

TH-PM-4 EM Environments (TC3)
Chair: Dave Southworth, SPAWARSSYSCEN (SSC) Pacific, California, U.S.A.
Co-Chair: Bill Strauss, U.S. Naval Air Warfare Center, Patuxent River, MD, U.S.A.

3:00 PM – 3:30 PM

Parameterized Models for Crosstalk Analysis in High-Speed Interconnects

F. Ferranti; T. Dhaene; and L. Knockaert, — Ghent University-IBBT, Ghent, Belgium; and G. Antonini, University of L'Aquila, L'Aquila, Italy

Electromagnetic Complex Cavity Characterization of a Fighter Aircraft Main Weapons Bay

G. Tait; and M. Hatfield, — Naval Surface Warfare Center, Dahlgren, VA, U.S.A.; O. Corder, United States Air Force, Eglin AFB, FL, U.S.A.; M. Rodriguez; and B. Bernard, — United States Air Force, Wright-Patterson AFB, OH, U.S.A.

3:30 PM – 4:00 PM

Investigation of Crosstalk among Vias

S. Wu; and J. Fan, — Missouri University of Science and Technology, Rolla, MO, U.S.A.

The Electromagnetic Characterization of the Radiated Environment in the 2.4 GHz Band

G. Lin; and X. Li, — TMC, Beijing, China; and L. Wei, MIIT, Beijing, China

4:00 PM – 4:30 PM

Improved Technique for Extracting Parameters of Low-Loss Dielectrics on Printed Circuit Boards

P. K. Anmala; A. Koul; M. Y. Koledintseva; and J. L. Drewniak, — Missouri University of Science & Technology, Rolla, MO, U.S.A.; and S. Hinaga, CISCO Systems, Inc., San Jose, CA, U.S.A.

EMI Disruptive Effects on Wireless Industrial Communication Systems in an Paper Plant

J. Chilo; C. Karlsson; and P. Angskog, — Center for RF Measurement Technology, Gavle, Sweden; and P. Stenumgaard, Swedish Defense Research Agency, Linköping, Sweden

4:30 PM – 5:00 PM

Using a Single-Ended TRL Calibration Pattern to De-embed Coupled Transmission Lines

J. Zhang; Q. B. Chen; and Z. Qiu, — Cisco Systems, Inc., San Jose, CA, U.S.A.; J. L. Drewniak, Missouri University of Science and Technology, Rolla, MO, U.S.A.; and A. Orlandi, University of L'Aquila, L'Aquila, Italy

Exposure Assessment of a Distributed Antenna System

O. H. Darwish, University of Ain Shams, Cairo, Egypt; L. Dawson; I. D. Flintoft; and A. C. Marvin, — University of York, York, United Kingdom

5:00 PM – 5:30 PM

Investigation of Mixed-mode Input Impedance of Multi-layer Differential Vias for Impedance Matching with Traces

H. Wang; J. L. Drewniak; and J. Fan, — Missouri University of Science and Technology, Rolla, MO, U.S.A.; W. Cheng; J. Zhang; J. Fisher; and L. Zhu, — Cisco Systems, San Jose, CA, U.S.A.

**THURSDAY
AFTERNOON
20 AUGUST 2009**

**PAPER
SESSIONS**

ROOM 19A

**TH-PM-5 Special Session - High-
Power UWB Interaction with
Electronic Systems (TC5 & TC7)**

*Chair: Bill Radasky, Metatech Corporation,
California, U.S.A.*

*Co-Chair: Mike McInerney, U.S. Army,
Champaign, Illinois, U.S.A.*

3:00 PM – 3:30 PM

**Special Coupling Effects of UWB Pulses to
Short Signal Traces**

*S. Fisahn; and H. Garbe, — Gottfried Wilhelm
Leibniz Universität Hannover, Hannover, Germany*

3:30 PM – 4:00 PM

**Susceptibility of IT Network Systems to
Interferences by HPEM**

*F. Brauer; and J. ter Haseborg, — Hamburg
University of Technology, Hamburg, Germany; and
F. Sabath, Bundeswehr Research Institute for
Protective Technologies and NBC-Protection,
Munster, Germany*

4:00 PM – 4:30 PM

**EMT Based Methodology for the Vulnerability
Analysis of Complex Systems to IEMI**

*R. Kanyou Nana; S. Dickmann; B. Schetelig; and J.
Keghie, — Helmut Schmidt University, Hamburg,
Germany; and F. Sabath, Bundeswehr Research
Institute for Protective Technologies and NBC-
Protection, Munster, Germany*

4:30 PM – 5:00 PM

**Classifying Facilities with respect to Intentional
EMI**

*D. Mansson, High Voltage Valley, Ludvika,
Sweden; R. Thottappillil, Uppsala University,
Uppsala, Sweden; and M. Backström, Saab
Communication, Linköping, Sweden*

5:00 PM – 5:30 PM