

2008 International Symposium on Electromagnetic Compatibility

(EMC Europe)

**Hamburg, Germany
08 – 12 September 2008**



IEEE Catalog Number: CFP0806F-PRT
ISBN: 978-1-4244-4097-9

TABLE OF CONTENTS

Effects of Phase Differences in GTEM Cell Measurements	1
<i>X. T. I. Ngu, A. Nothofer, D. W. P. Thomas, C. Christopoulos</i>	
Environmental 50Hz Magnetic Field Produced by a Railway Line Equipped with Autotransformers	7
<i>Giovanni Lucca, Maurizio Moro</i>	
Band-Limitation on Statistical Properties of Class-A Interference	13
<i>Yasushi Matsumoto, Kaoru Gotoh, Kia Wiklundh</i>	
Accreditation of Radiated Emission Tests Performed on Train and Complete Vehicle	18
<i>B. Audone, A. Gaggelli, P. Masini, S. Neri</i>	
Pattern Deformation of a Marine Communications Antenna on Board a Frigate During a Helicopter Approach	24
<i>Natalie Baganz, Dirk Plettemeier, Karl-Heinz Gonschorek</i>	
Simple Estimation of Average Field Strengths in Resonant Environments for Assessing Human Exposure to Electromagnetic Fields	30
<i>Alastair R. Ruddle</i>	
Attenuation Effect of the Wall Structure on the Electric Field generated by Indoor Power Line Communication System	36
<i>Ifong Wu, Shinobu Ishigami, Kaoru Gotoh, Yasushi Matsumoto</i>	
A New Approach to Immunity Testing	41
<i>Bruno Audone, Franco Amisano</i>	
Electrical Characterization of a 64 Ball Grid Array Package	47
<i>Alexandre Boyer, Etienne Sicard, Mathieu Fer, Lionel Courau</i>	
Multiple Linear Regression to Detect Shielding Effectiveness Degradations	52
<i>Bruno Audone, Gergio Giunta</i>	
The Use of Unscented Transforms for Statistical Analysis in EMC	58
<i>L. R. A. X. De Menezes, D. W. P. Thomas, C. Christopoulos, A. Ajayi, P. Sewell</i>	
Filtering Based upon the Distribution and Interleaving of Signals	63
<i>Bruno Audone, Demis Boschetti, Ilario Marziali</i>	
Fast Analysis Of Electromagnetic Field Coupling Into PCBs Based On The PEEC Method	69
<i>Volker Vahrenholt, Heinz D. Bruns, Roland Krzikalla, Hermann Singer</i>	
A New Proposal for the Uncertainty Evaluation and Reduction in Air Electrostatic Discharge Tests	75
<i>Michele Borsero, Spartaco Caniggia, Alessandro Sona, Marco Stellini, Alessandro Zuccato</i>	
Simplified Approach for the Analysis of PCB Radiated Emissions in the Near Field Region	81
<i>Matteo Bertocco, Alessandro Sona, Marco Stellini</i>	
Generalized PEEC Method Based On Dyadic Green's Functions In Time And Frequency Domain	87
<i>Sergey V. Kochetov, Marco Leone</i>	
Evaluation of Frequency and Mechanical Stirring Efficiency in a Reverberation Chamber	93
<i>Christophe Lemoine, Philippe Besnier, M'hamed Drissi</i>	

Susceptibility of Printed Circuit Boards in Complex Electromagnetic Environment	99
<i>Hicham Tarhini, Moustafa El Haffar, Christophe Guiffaut, Guillaume Andrieu, Alain Reineix, Bernard Pecqueux, Jean Christophe Joly</i>	
IEC 61000-4-21 Testing: Selective Source-Mode Tuning with Two Orthogonal Antennas Scanning System	103
<i>M. Piette, C. Tsigros</i>	
Efficient Prediction of RF Interference in a Shielding Enclosure with PCBs Using a General Segmentation Method	109
<i>Yaojiang Zhang, Xiaopeng Dong, Zhenwei Yu, Francesco De Paulis, Gang Feng, Jason A. Mix, Daniel Hua, Kevin Slattery, James L. Drewniak, Jun Fan</i>	
Experimental Evaluation of the Induced Current by the PLC Leakage Electromagnetic Wave	113
<i>Kazuhiro Takaya, Tsutomu Abe, Tetsuya Tominaga</i>	
Integrated Circuit Position Optimization for Reduced Electromagnetic Interferences on Mobile Devices	119
<i>Tarvainen Timo, Ruokamo Tuukka, Kelander Ilkka, Kotiranta Pia, Esju Oy</i>	
Modelling Wireless Communication in Highly-Multipath Low-Loss Environments	123
<i>Mark Panitz, Christos Chritopoulos, Phillip Sewell, David Hope, John Dawson, Andy Marvin</i>	
Prospects and Limits of Common- and Differential-Mode Separation for the Filter Development Process	129
<i>Heinz Rebholz, Stefan Tenbohlen</i>	
On the Influence of Vias on a PCB Power-Bus	135
<i>Gerd Heinrich, Stefan Dickman</i>	
Evaluation of a Simple Impulsiveness Correction Factor for a Digital Communication System Subjected to Middleton Class A interference	140
<i>Karina Fors, Kia Wiklundh</i>	
Impact of UHF RFID IC Impedance on the RFID System Performances in Presence of Dielectric Materials	145
<i>Giuliano Manzi, Mauro Feliziani</i>	
Evaluating Uncertainties of Susceptibility Tests using Simulation Tools	151
<i>C. Cantaluppi, B. Audone</i>	
Transient Response Of Multiple Thin Wires Located At Different Heights Above A Dielectric Half-Space	157
<i>Dragan Poljak, Sinisa Antonijevic, Khalil Drissa, Kamal Kerroum</i>	
Efficient Description of RLC-Macromodels with a Large Number of Independent Sources for Model Order Reduction	162
<i>Stefan Ludwig, Ljubica Radic-Weissenfeld, Wolfgang Mathis, Werner John</i>	
Validation of Low-Level, High-Frequency Transient FDTD Simulation with Radiated Field Measurements	167
<i>Ricardo Jauregui, Marc Pous, Mireya Fernandez, Pere J. Riu, Ferran Silva</i>	
Electromagnetic Interference Coupling into Cardiac Pacemaker Electrodes	171
<i>Stefan Schenke, Frank Sabath, Forian Sutter, Markus Clemens, Stefan Dickmann</i>	
Determination of Mode Conversion on Differential Lines	176
<i>Johannes H. Hagmann, Stefan Dickman</i>	
Electric and Magnetic Near-Field Measurements in Industrial Environments	181
<i>Andreu Atienza, Marc Aragon, Marcos Quilez, Ferran Silva</i>	

EMI System Model for a Gearbox Electronic Control Unit	185
<i>Jurgen Hasch, Hermann Aichele, Jan Hansen, Christian Waldschmidt</i>	
Radiated Emission from Personal Computers – a Safety Risk for TETRA Systems?	189
<i>Peter Stenumgaard</i>	
High-Frequency Experimental Characterization of Impedance Bonds Used in Railway Systems	192
<i>Eugenio Fedeli, Sergio A. Pignari, Giordano Spadacini</i>	
Semiconductor Macromodeling for Power Electronic Applications	198
<i>Sven Thamm, Marco Leone</i>	
Measurement and Simulation of Near Field Emissions from Microstrip Lines	204
<i>D. W. P. Thomas, K. Biwojno, Tong Xin, A. Nothofer, P. Sewell, C. Christopoulos</i>	
Use of Reverberation Chamber to Simulate the Power Delay Profile of a Wireless Environment	210
<i>E. Genender, C. L. Holloway, K. A. Remley, J. Ladbury, G. Koepke, H. Garbe</i>	
Source Stirring Technique for Reverberation Chambers; Experimental Investigation	216
<i>Carlo Monteverde, Galen H. Koepke, Christopher L. Holloway, John M. Ladbury, David A. Hill</i>	
Multipolar Modelization of EMC Emission Tests Setup for Automotive Vehicle	222
<i>Emmanuel Aguerre, Xavier Bunlon, Marc Helier, Michel Drouin</i>	
Noise Influence in Time-to-Frequency Transformation of Radiated Emissions Data	228
<i>Diego Bellan, Sergio A. Pignari</i>	
SAR and Temperature Increase in a Thorax Model with Implanted Pace-Maker under Magnetic Resonance Imaging	232
<i>Stefano Pisa, Giovanni Calcagnini, Marta Cavagnaro, Eugenio Mattei, Emanuele Piuizzi, Paolo Bernardi</i>	
VoIP Over IEEE 802.11 Wireless Networks: Experimental Analysis of Interference Effects	236
<i>Leopoldo Angrisani, Aniello Napolitano, Alessandro Sona</i>	
Effects of RSSI Impairments on IEEE 802.15.4 Wireless Devices Performance Susceptibility to Interference	242
<i>Leopoldi Angrisani, Matteo Bertocco, Giovanni Gamba, Alessandro Sona</i>	
Extraction of Causal RLGC Models from Measurements for Signal Link Path Analysis	248
<i>Jianmin Zhang, Qinghua B. Chen, Zhiqiang Qiu, James L. Drewniak, Antonio Orlandi</i>	
Analysis of a PCB-Chassis System Including Different Sizes of Multiple Planes Based on SPICE	254
<i>Naoki Kobayashi, Todd Hubing, Takashi Karada</i>	
Visualization of Emission from Bend of a Transmission Line with Poynting Vector and Wave-Number Vector	260
<i>Hiroshi Hirayama, Hiroshi Kondo, Nobuyoshi Kikuma, Kunio Sakakibara</i>	
Modeling of Lightning Indirect Effects in CFRP Aircraft	264
<i>Marc Meyer, Franck Flourens, Jean Alain Rouquette, Alexia Delnevo</i>	
Modeling Strategy for Functional Current Return in Large CFRP Structures for Aircraft Applications	269
<i>Ivan Revel, Alexandre Piche, Gilles Peres, Franck Flourens, Christophe Lochor, Isabelle Terrasse</i>	
Simulation Test Bench for LIE and HIRF on a Communication Bus	274
<i>Richard Perraud, Alexandre Piche, Franck Flourens, Daniel Soulard, Sebastien Thibaud, Dominique Lemaire, Jean-Charles Garric</i>	
Radiated Emissions Modelling of a Power Cable	280
<i>Marc Meyer, Pascal Asfaux</i>	

A Thin Conducting Sheet (TCS) Model in 3D FDTD : Implementation and Validation.....	285
<i>Toufic Abboud, Fracois Bereux, Jean-Loup Lhermitte, Pierre Benjamin, Richard Perraud, Gilles Perez</i>	
Thin Conducting Sheet (TCS) in 1D FDTD : Theory and Implementation.....	291
<i>Kamal Abboud, Toufic Abboud, Francois Bereux, Gilles Peres</i>	
IC Models Accounting for Effects of EM Noise.....	297
<i>Igor S. Stievano, Flavio G. Canavero, Enrico Vialardi</i>	
Modeling Interference Coupling Between Two Orthogonal Strip Lines on Adjacent Layers	302
<i>Kenji Araki, Fengchao Xiao, Yoshio Kami, Hemant Bishnoi, James L. Drewniak</i>	
The Influence of the Electrical Characteristics of Premises Cables on the Interference Immunity of VDSL.....	308
<i>Kentaro Mokushi, Hiroshi Yoshioka, Kazuhiro Takaya, Tetsuya Tominaga</i>	
Evaluation of Sensitivity of Digital TV Receiver Subjected to Intrasystem Interference.....	314
<i>Kaoru Gotoh, Yasushi Matsumoto, Hiroshi Tsutagaya, Satoshi Kasama</i>	
Characterization of Serial Links at 5.5Gbps on FR4 Backplanes.....	318
<i>Vittorio Ricchiuti, Antonio Orlandi, James L. Drewniak, Francesco De Paulis</i>	
A Study on the Common Mode Current Generated from an AFE of a Modem and the Magnetic Field Emitted from Signal Wires Driven by the AFE	323
<i>Seiichi Saito, Yoshihiro Akeboshi, Shuichi Nitta</i>	
Irregular and Long Time Current Waveform Handling Improvement for EMC Simulation.....	329
<i>Shih-Yi Yuan, Huai-En Chung, Chiu-Kuo Chen, Shry-Sann Liao</i>	
UWB Aircraft Transfer Function Measurements in the Frequency Range from 2 to 8 GHz.....	334
<i>Ingo Schmidt, Achim Enders, Martin Schwark, Jens Schuur, Robert Geise, Martin Schirmacher, Henning Stofen</i>	
Linking a One-Dimensional Reverberation Chamber Model with Real Reverberation Chambers.....	338
<i>Ramiro Serra, Flavio Canavero</i>	
A Statistical Model of the Interaction Between Reverberation Fields and Lossy Materials	344
<i>Gabriele Gradoni, Franco Moglie, Valter Mariani Primiani</i>	
Shielding Effectiveness Evaluation of Densified-Small-Particles (DSP) Cement Composite	350
<i>Roberto De Leo, Gabriele Gradoni, Alida Mazzoli, Franco Moglie, Giacomo Moriconi, Valter Mariani Primiani</i>	
Analysis of the EMI Impact of an Array of Wind Generators on the Performances of Secondary Surveillance Radar System.....	356
<i>P. Tognolatti, A. Orlandi</i>	
Development and Validation of a Microcontroller Model for EMC.....	360
<i>Shaohua Li, Hemant Bishnoi, Jason Whiles, Pius Ng, Haixiao Weng, David Pommerenke, Daryl Beetner</i>	
Influencing Factors and Possible Improvements for Emission Measurements Above 1 GHz.....	366
<i>Sven Battermann, Heyno Garbe</i>	
Computation of Electromagnetic Field Radiated by Power Electronic Converters.....	371
<i>Mohammed Melit, Bachir Nekhoul, Nasseridine Boudjerda, Kamal Kerroum, Khalil El Khamlichi Drissa</i>	
A New Approach for the Characterization of Indirect Lightning Strike Effect on 3D Metallic Structure	377
<i>Basma Harrat, Bachir Nekhoul, Kamal Kerroum, Khalil El Khamlichi Drissi</i>	

A New Formalism for the Analysis of Electromagnetic Coupling between the Lightning and a Complex Network of Lines or Cables	384
<i>Sabrina Mezoued, Bachir Nekhoul, Kamel Kerroum, Khalil El Khamlichi Drissi</i>	
Block Model of Microcontroller for Electromagnetic Immunity Simulation	391
<i>Tao Su, Markus Unger, Thomas Steinecke, Robert Weigel</i>	
Revealing System of GSM Mobile Phone Operations Aboard Aircraft	398
<i>Valerio De Santis, Mauro Feliziani, Giuseppe Ocera</i>	
Calculation of Emitted Magnetic Field Using Wire Grid Model Considering Dielectric Material of VVF Cable	404
<i>Keisuke Nagamoto, Nobuo Kuwabara, Masato Kawabata</i>	
Estimating Specific Absorption Rates in Pregnant Women by using Models at 12-, 20-, and 26-Weeks' Gestation for Plane Wave Exposures	410
<i>Tomoaki Nagaoka, Kazuyuki Saito, Masaharu Takahashi, Koichi Ito, Soichi Watanabe</i>	
Feasibility of Broadband Power line Communication Aboard an Aircraft	414
<i>Marcello D'Amore, Katia Gigliotti, Mauro Ricci, Maria Sabrina Sarto</i>	
Shielding Performances of ITO Transparent Windows: Theoretical and Experimental Characterization	420
<i>Sandra Greco, Maria Sabrina Sarto, Alessio Tamburrano</i>	
An Analytical 3D Model of Metal Foams for EM Shielding Applications	426
<i>Domenico Barletta, Michele Bozzetti, Vincenzo Dimiccoli, Onofrio Losito</i>	
Design Methodology for PDN Synthesis on Multilayer PCBs	431
<i>Bruce Archambeault, Matteo Cocchini, Guisepe Selli, Jun Fan, Jame L. Knighten, Samuel Connor, Antonio Orlandi, Jim Drewniak</i>	
Radiated Emission from the Slot of a Slim Cubical Enclosure with Multiple Sources Inside	437
<i>Christian Poschalko, Siegfried Selberherr, Robert Bosch</i>	
Return Via Connections for Extending Signal Link Path Bandwidth of Via Transitions	443
<i>Xin Chang, Bruce Archambeault, Matteo Cocchini, Francesco De Paulis, Vysakh Sivarajan, Yaojiang Zhang, Jun Fan, Samuel Connor, Antonio Orlandi, Jim Drewniak</i>	
Determination of the Interference Voltage in Implantable Medical Devices with Bipolar Electrodes	449
<i>Sven Hille, Karl Friedrich Eichhorn, Karl-Heinz Gonschorek</i>	
Power-Supply Instability Aware Clock Signal Modulation for Digital Integrated Circuits	454
<i>J. Semiao, J. Freijedo, M. Moraes, M. Mallmann, C. Antunes, L. Rocha, J. Benfca, F. Vargas, M. Santos, I. C. Teixeira, J. J. Rodriguez Andina, J. P. Teixeira, D. Lupi, E. Gatti, L. Garcia, F. Hernandez</i>	
A Calibration Method for Small Circular Loop Antennas using a Standard Loop Antenna and Vector Network Analyzer in Low-Frequency Band	460
<i>Masanori Ishii, Yozo Shimada</i>	
Measurements of the Radiated Electric Field and the Common Mode Current from the In-House Broadband Power Line Communications in Residential Environment	465
<i>Masahiro Kitagawa, Masatoshi Ohishi</i>	
Near-Field Investigation of the Radiated Susceptibility of Printed Circuit Boards	471
<i>Sofiane Atrous, David Baudry, Eric Gaboriaud, Anne Louis, Belahcene Mazari, Didier Blavette</i>	
Applying IEC 62132-2 to the Real World: Immunity of an Analogue to Digital Converter	477
<i>Tobias Aurand, John F. Dawson, Martin P. Robinson, Andrew C. Marvin</i>	
Analysis of Conducted Emissions in CAN Bus Systems with VHDL-AMS	481
<i>Mihriban Gursoy, Stefan Jahn, Bernd Deutschmann, George Pelz</i>	

Standardization Related to Electromagnetic Compatibility and Functional Safety	487
<i>Bernd W. Jackel</i>	
System Theoretical Analysis of the GTEM Cell in Time Domain.....	493
<i>Holger Thye, Gunnar Armbrrecht, Michael Koch</i>	
Human Exposure to Pulsed Current Waveforms Below 100 kHz	498
<i>Daniele Desideri, Alvise Maschio, Paolo Mattavelli</i>	
Multipolar Expansion Sensors for Near Field Characterization	504
<i>B. Vincent, O. Chadebec, J. L. Schanen</i>	
Emission Testing of Large Equipment – Test Wire Method – 2nd Approach.....	508
<i>Frank Schroder, Karl-Heinz Gonschorek, Hans-Georg Krauthauser</i>	
Interpolation Technique in Magnetic Near Field Scanning	513
<i>Cecile Labarre, Francois Costa</i>	
Comparison of Evaluated and Measured Performances of Common Mode Chokes	519
<i>Anne Roc'h, Hans Bergsma, Dongsheng Zhao, Braham Ferreira, Frank Leferink</i>	
Very Fast Methodology for the Simulation of CMOS Combinatorial Circuits Including Noise	524
<i>Johan Loeckx, Georges Gielen</i>	
Error of Emission Measurement of ICs Due to Imperfect Termination of TEM Cell.....	528
<i>Viki Mullerwiebus, Bernd Deuschamann, Frank Klotz</i>	
Numerical Investigation of the Induced Voltage on a Cable Placed at Random Locations Inside a Metallic Enclosure	533
<i>Luis Nuno, Christopher L. Holloway, Perry F. Wilson</i>	
Modeling the Skin Effect in the Time Domain for the Simulation of Circuit Interconnects	537
<i>Matthias Magdowski, Sergey Kochetov, Marco Leone</i>	
Measurements of an EMC Test Chip for Lower EME in CMOS Digital Circuits.....	543
<i>Junfeng Zhou, Wim Dehaene</i>	
Spread Spectrum in DC-DC Full Bridge Voltage Converter by a Dual Randomized PWM Scheme.....	549
<i>N. Boudjerda, M. Melit, B. Nekhou, K. El Khamlichi Drissi, K. Kerroum</i>	
Finding Weak Spots in Lightning Protection	555
<i>G. Bargboer, A. P. J. Van Deursen, C. V. Nguyen, H. T. Steenstra, T. Bosveld, R. Parrado Curros, J. P. M. Broekmeulen</i>	
The Use of Adaptive Filters in the Suppression of Interference on Signal Lines	561
<i>Bruno Audone, Gianluca Trosini</i>	
Automated Near-Field Scanning to Identify Resonances	567
<i>Giorgi Muchaidze, Huang Wei, Jin Min, Shao Peng, Jim Drewniak, David Pommerenke</i>	
Performance Analysis of Stripline Surface Roughness Models	572
<i>A. Ciccomancini Scogna, M. Schauer</i>	
Maximum Rates of Frequency Scanning and Mechanical or Electronic Stirring for Distortionless Signal Generation Inside Electromagnetic Reverberation Chambers	578
<i>Luk R. Arnaut</i>	
Applicability of the IEC 61000-4-20 for Transient Testing with UWB Signals	582
<i>Dirk Zamow, Holger Thye, Heyno Garbe</i>	
An Instrumentation Amplifier Input Circuit with a High Immunity to EMI.....	587
<i>Jean-Michel Redoute, Michiel Steyaert</i>	

Introduction to EMC simulations of Analog ICs	593
<i>Pavel Baros, Pavel Horsky, Petr Kamenicky</i>	
Measurement and Visualization of the Radiation Patterns of Portable Electronic Devices	599
<i>Oliver Doring, Bjorn Rohrsen, Sven Battermann, Heyno Garbe, Thiermo Stadtler, Robert Kebel</i>	
Correlation Between Unbalance and Radiated Fields in BPL Structures	603
<i>Johan Catrysse</i>	
Effects of Shielding Enclosures on the Breakdown Failure Rate of Electronic Equipment	608
<i>Helge Herlemann, Sven Fisahn, Michael Koch, Heyno Garbe</i>	
Modelling Electromagnetic Properties of Typical Building Materials	613
<i>Timo Frenzel, Michael Koch</i>	
Sensors for In-Flight Lightning Detection on Aircraft	619
<i>Vitaliy Stelmashuk, A. P. J. Van Deursen, Matt Webster</i>	
Scaleable Equivalent Circuit Modelling of the E-Field Coupling to Microstrips in the TEM Cell	624
<i>Filip Vanhee, Johan Catrysse, Renaud Gillon, Georges Gielen</i>	
EMC Filters in High Voltage Traction Drive Systems	630
<i>Thomas Weber</i>	
High Power Ultra Wide Band and Vircator Source-Victim Experiments	636
<i>Denny Aberg, Fredrik Olsson, Mats Jansson, Claes Lindskog</i>	
Numerical Analysis of Electromagnetic Field Distributions in a Typical Aircraft	641
<i>Takashi Hikage, Toshio Nojima, Manabu Omiya, Kazuo Yamamoto</i>	
Study of Electric Field Radiated by Wifi Sources Inside an Aircraft – 3D Computations and Real Tests	645
<i>Emmanuel Perrin, Fabrice Tristant, Stephane Gouverneur, Rene Fayat, Christophe Guiffaut, Alain Reineix, Jean-Patrick Moreau</i>	
Prediction of the BER on the GSM-R Communications Provided by the EM Transient Disturbances in the Railway Environment	650
<i>Ricardo Adriano, Nedim Ben Slimen, Virginie Deniau, Marion Berbineau, Philippe Massy</i>	
Experiments for Educating Electromagnetic Effects	655
<i>Frank Leferink, Istvan Knijff, Anne Roc'h</i>	
Evaluation of the Disturbing Potential of IEMI Using Mathematical Norms and Analytical Calculations	660
<i>Sven Korte, Heyno Garbe</i>	
Classification of Electromagnetic Effects at System Level	666
<i>Frank Sabath</i>	
Localization of Defects on Buried Grid by Magnetic Field Radiation	671
<i>Moussa Lefouili, Kamel Kerroum, Khalil El. Khamlichi Drissi</i>	
MoM-Based Analysis of the Immunity of Marine Equipment in a Control Cabinet of Cruise and Container Vessels against 2.4-GHz WLAN Application	677
<i>Miguel Astner, Tobias Pilsak, Heinz-D. Bruns, Jan Luiken Ter Haseborg, Hermann Singer</i>	
Experimental Evaluation of the Conversion of Emission Results Obtained From a Reverberation Chamber Measurement and a SAR Measurement	683
<i>Nico Van Dijk, Konika Banerjee</i>	
TEM Horn Antenna for Detection of Impulsive Noise	689
<i>Qingshan Shan, I. A. Glover, P. J. Moore, I. E. Portugues, M. Judd, R. Rutherford, R. J. Watson</i>	

RFID Transponders' RF Emissions in Aircraft Communication and Navigation Radio Bands	695
<i>Truong X. Nguyen, Jay J. Ely, Sandra V. Koppen, Mariatheresa S. Fersch</i>	
Fast and Accurate Evaluation of the Underground Lightning Electromagnetic Field	701
<i>Amedeo Andreotti, Dario Assante, Fabio Mottola, Luigi Verolino</i>	
Source Identification and Correlation Between Near Field-Far Field Tolerances When Applying a Genetic Algorithm	707
<i>Hongmei Fan, Franz Schlagenhauer</i>	
A Superficial Formulation for the Broadband Analysis of Planar Interconnects	713
<i>Dario Assante, Andrea Gaetano Chiariello, Walter Zamboni</i>	
Impact of UWB Pulses on Basic pcb Antennas for Wireless Communication Systems using the 2.4 GHz ISM Band	719
<i>Christian Klunder, Jan Luiken Ter Haseborg</i>	
Transient Grounding Performance of Metal Sheathed Power Cables	724
<i>Leonid Grcev, A. P. J. Van Deursen</i>	
Precise Investigation of Field Homogeneity Inside a GTEM Cell	729
<i>Kai Kaake, Jan Luiken Ter Haseborg</i>	
New Common Mode EMI Filter for Motor Drive using a Fourth Leg in the Inverter	733
<i>Dongsheng Zhao, Braham Ferreira, Anne Roc'h, Frank Leferink</i>	
Measurement of the Local Distribution of the Electric Field Coupled into Shielding Enclosures Via Apertures	739
<i>Tobias Dyballa, Kai Haake, Robert Kebel, Thiemo Stadler, Jan Luiken Ter Haseborg</i>	
A Concept for the Generation of Conducted Ultra Wideband Pulses with High Repetition Rates	743
<i>Florian Brauer, Roland Krzikalla, Jan Luiken Ter Haseborg</i>	
Signal Processing for Generation of Complex Multiport Transfer Functions From Medium Quality Time-Domain Measurements	749
<i>Thiemo Stadler, Jan Luiken Ter Haseborg</i>	
High Frequency and Transient Coupling to Pasive Conductors Near Grounding Systems in Layered Soil	754
<i>Vesna Arnavovski-Toseva, Leonid Grcev, Spase Petkoski, Khalil El Khamlichi Drissa</i>	
Plasma Metallization Textiles as Shields for Electromagnetic Fields	759
<i>Joanna Koprowska, Jan Ziaja, Jaroslaw Janukiewicz</i>	
Lightning Current Test on Radar System	763
<i>M. A. Blaj, F. Wagenaar, F. J. K. Buesink, G. C. Damstra, F. B. J. Leferink</i>	
Radiated Emission Measurements with an Ultra-Fast Time-Domain EMI Measurement System	767
<i>Stephan Braun, Arnd Frech, Peter Russer</i>	
Derating of Ceramic Capacitors Under ESD Stress	772
<i>Stefan Tenbohlen Ing, Franz Streibl, Jorg Hartmann, Michael Zerrer</i>	
Author Index	