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*(S. Jeschke, A.H. Razavi, J. Loos, J. Baerenfaenger)*
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## Components, Semiconductors and IC (I)

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- 759 **Enabling Fast Power Integrity Transient Analysis Through Parameterized Small-Signal Macromodels**  
*(T. Bradde, P. Toledo, M. De Stefano, A. Zanco, S. Grivet-Talocia, P. Crovetto)*
- 765 **Electromagnetic Compatibility in Leakage Current of CMOS Integrated Circuits**  
*(Zahra Abedi, Sameer Hemmady, Thomas Antonsen, Edl Schamiloglu, Payman Zarkesh-Ha)*
- 769 **Analysis of Re-Radiated RF Harmonic Disturbance Caused by Integrated Circuit Input Pin Nonlinearity**  
*(Marko Magerl, Christian Stockreiter, Adrijan Barić)*
- 774 **Modifying Noise Source Amplitude Modulation Technique to Estimate Magnitude and Phase of Emissions from Individual Integrated Circuits**  
*(Kengo Iokibe, Shimpei Yoshino, Yusuke Yano, Yoshitaka Toyota)*
- 778 **Destructive Testing of Electronic Components Based on Absorption Cross Section RC Measurements**  
*(Niklas Wellander, Mattias Elfsberg, Hanna Sundberg, Tomas Hurtig)*
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## EMC in Physics Experiments and Particle Accelerators

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- 784 **EMC Issues in RF Stations for Particle Accelerators**  
*(C. Rivetta, L. Doolittle)*
- 790 **Susceptibility Characterization of Beam Pipe Radiated Noise for the PXD Detector in Belle II Experiment**  
*(M. Iglesias, P. Leiti, F. Müller, F.J. Arcega, H.-G. Moser, C. Kiesling, A. Pradas, I. Echeverría, F.J. Piedrafita, F. Arteché)*
- 796 **EMC Concepts Applied to the Switching Mode Power Converters Supplying the Superconductive Magnets for the CERN LHC Accelerator**  
*(Yves Thurel, Frédéric Bordy, Alain Charoy)*
- 802 **Propagation of Laser-Driven Electromagnetic Pulses in Laser Target Areas**  
*(Massimo De Marco, Luca Volpe, Giancarlo Gatti, Mate Liszi, Istvan Drotar, Christos Kamperidis, Kwinten Nelissen)*
- 807 **EMC versus Safety in Physics Research**  
*(Friedrich Szoncsó, Daniel Valuch)*

## Numerical Simulation Techniques for EMC Problems (I)

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- 812 **S-EHRFEM — Substrate Extraction Using Highly Reduced FEM-Meshes for Transient SPICE-Simulation with Iterative Linear Solvers**  
*(Alexander Schade, Frank Klotz, Stefan Jahn, Robert Weigel)*
- 820 **Transport of Power Through Networks of Cables Using Quantum Graph Theory**  
*(Mubarak Ahmed, Gabriele Gradoni, Stephen Creagh, Chris Smartt, Steve Greedy, Gregor Tanner)*
- 825 **Stabilized Explicit Isogeometric Analysis (SE-IGA) for Efficient Modeling and Analysis of 2-D Curved Structures**  
*(Hayato Naojima, Tadatoshi Sekine)*
- 831 **Analysis of Induced Currents and Voltages During an Air-to-Air Refueling Operation Due to On-Board High Frequency Radio Transmissions Using Advanced Simulations in Time Domain**  
*(Enrique Pascual Gil, David Garcia Gomez)*
- 837 **Low Frequency Extrapolation for the FDTD Method**  
*(Camille Bastard, Marc Meyer, Christophe Guiffaut, Alain Reineix)*
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## Automotive (II)

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- 842 **Simultaneous EMI Suppression of the Input and Output Terminals of a DC/DC Converter by Injecting Multiple Synthesized Cancellation Signals**  
*(Andreas Bendicks, Marvin Rübartsch, Stephan Frei)*
- 848 **Noise Reduction in Periodically Switching MOSFET Circuits Using Iteratively Found Synthesized Control Signals**  
*(Tobias Dörlemann, Andreas Bendicks, Caroline Krause, Stephan Frei)*
- 854 **Ground Bridge Effect on Reduction of Conducted Emission from Three-Phase Motor Drive System**  
*(Yuandong Guo, Srinath Penugonda, Minho Kim, Junesang Lee, Jungrae Ha, Sangwon Yun, Jun Fan, Hongseok Kim)*
- 860 **Uncertainty of CAN RF Emission Test Results Due to Common Mode Choke Asymmetry**  
*(Sergey Miropolsky, Marlon Roehl, Frank Klotz)*
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## Components, Semiconductors and IC (II)

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- 866 **Evaluation of Near-Field Undesired Radio Waves from Semiconductor Switching Circuits**  
*(Makoto Nagata, Koh Watanabe, Yoshifumi Sugimoto, Noriyuki Miura, Satoshi Tanaka, Yasunori Miyazawa, Masahiro Yamaguchi)*
- 870 **Using the Embedded Ceramic Dielectric Cylinders to Improve the Signal Integrity of Via Transition**  
*(Yusheng Hu, Tongyu Ding, Qiubo Ye)*
- 875 **Chip-Level ESD Verification Using Graph-Theory Based Approach**  
*(Vlatko Galić, Aarnout Wieers, Renaud Gillon, Adrijan Barić)*
- 881 **Miniature Common-Mode Rejection Filter in Silicon-Based Integrated Passive Device Technology**  
*(Chung-Hsien Chan, Yo-Shen Lin)*

## Communications (I)

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- 885     **Applications with a Rydberg Atom-Based Radio Frequency Antenna/Receiver**  
*(Matthew T. Simons, Abdulaziz H. Haddab, Joshua A. Gordon, Christopher L. Holloway)*
- 890     **Evaluation of Electromagnetic Noise Radiated from Tube-Type LED Lamps and its Effect on Wireless Medical Telemetry Systems**  
*(Kai Ishida, Sazu Arie, Ifong Wu, Kaoru Gotoh, Yasushi Matsumoto)*
- 896     **Artificial Intelligence for Automatic Classification of Unintentional Electromagnetic Interference in Air Traffic Control Communications**  
*(Patrik Eliardsson, Peter Stenumgaard)*
- 902     **A Novel Intelligent Antenna Synthesis System Using Hybrid Machine Learning Algorithms**  
*(Mengtao Xue, Dan Shi, Yeyang He, Chaoying Li)*
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## Numerical Simulation Techniques for EMC Problems (II)

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- 908     **Probabilistic Model of the Effect of a Ground Discontinuity on the Transmission of a Microstrip Interconnect**  
*(R. Trinchero, Flavio G. Canavero)*
- 912     **HPC Simulations of a Reverberation Chamber with Nonparallel Walls**  
*(Luca Bastianelli, Franco Moglie, Valter Mariani Primiani, Gabriele Gradoni)*
- 917     **Application of Stochastic FDTD to Thin-Wire Analysis**  
*(Miguel Ruiz Cabello, Luis Diaz Angulo, Amelia Rubio Bretones, Mario Fernandez Pantoja, Salvador Gonzalez Garcia)*
- 921     **Comparison of Predictions Between Artificial Neural Networks and Gaussian Processes in EMC Investigations**  
*(Felix Burghardt, Heyno Garbe)*

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**Poster Session (III)**

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- 927 **Analysis of Availability and Safety Considerations in EM-Diverse Systems**  
*(Jonas Lannoo, Jonas Van Waes, Dries Vanoost, Jeroen Boydens, Davy Pissoort)*
- 933 **Topology-Optimization-Based EMC Design**  
*(Katsuya Nomura, Atsuhiko Takahashi, Takashi Kojima, Shintaro Yamasaki, Kentaro Yaji, Hiroki Bo, Kikuo Fujita)*
- 938 **Comparison of Voltages Induced in an Electronic Equipment During Far Field and Near Field Normative Radiated Immunity Tests**  
*(André Durier, Sonia Ben Dhia, Tristan Dubois)*
- 944 **Design of Vialess Open-Stub EBG Structure by Using Preference Set-Based Design Method**  
*(Yoshitaka Toyota, Sho Kanao, Kengo Iokibe)*
- 948 **Study of Feasibility of Building Materials Electromagnetic Characterization**  
*(Jérémy Corsi, Frédéric Puybaret, Stéphane Vauchamp, Isabelle Lachaud, Philippe Viars)*
- 953 **Phase Measurement Techniques for Detecting the Defective Elements of an Array Antenna at 28GHz**  
*(Kyungho Yoo, Tongho Chung, Namkyoung Kim, Byongsu Seol, Young-pyo Hong, Dong-joon Lee)*
- 957 **EMC “Black Box” Model for Unbalanced Power Electronic Converters**  
*(Amina Gahfif, Pierre Étienne Levy, Marwan Ali, Mounira Berkani, François Costa)*
- 963 **Coupled Inductors and Their Applications**  
*(Heinz Zenkner)*
- 968 **Radiation of Low Frequency Magnetic Field from High Voltage Powertrain Systems of Electric Vehicles**  
*(George Chiqovani, Irina Oganezova, Giga Gabriadze, Michael Kühn, Marcel Messer, Roman Jobava)*
- 972 **Interlaboratory Comparison of Radiated Immunity in Automotive EMC**  
*(Andrei-Marius Silaghi, Relu-Adrian Aipu, Aldo De Sabata, Catalin-Iulian Balan, Petre-Marian Nicolae)*
- 976 **Effects of Fabrication Processes in Power Cable Electrical Parameters**  
*(A.A. Moyses, M. Iglesias, F. Arteche, F.J. Arcega)*
- EMC Tents for Precompliance Testing and Reverberating Chambers**  
*(Alessandro Soliani Brivio, Ivano Soliani)*
- Protection of a Buried Telecommunication Cable Against Lightning Using Follow-On Earth Wire**  
*(Sabrina Mezoued, Abdelmalek Laissaoui, Bachir Nekhoul, Kamal Kerroum, Khalil El Khamlichi Drissi)*
- 992 **Study on Grounding Ways of Secondary Cable in UHVDC Converter Substation**  
*(Lei Yan, Weidong Zhang, Jianfei Ji, Zhaohua Zhang, Weidong Shi)*
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**Automotive (III)**

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- 997 **Reference Setup for RF Impedance Measurements with High DC Bias Currents**  
*(Oliver Kerfin, Martin Harm, Benjamin Willmann)*
- 1003 **An Active Common Mode EMI Filter Approach Introducing Predictive Pulsed Compensation**  
*(Denis Müller, Desirée Nadine Schweitzer, Michael Beltle, Stefan Tenbohlen)*
- 1009 **Modeling of Conducted EMI Noise in an Automotive LED Driver Module with DC/DC Converters**  
*(Chiuk Song, Hucksu Kweon, Unho Lee, Jonghyun Kim, Sieun Yang, Jonghyun Park)*
- 1014 **Analysis of Immunity Failures and Optimization Measures in Automotive Sensors**  
*(Jan Benz, Andreas Klaedtke, Jan Hansen, Stephan Frei)*



## Human Exposure & Health Protection (I)

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- 1020 **Permissible SA and Radiant Exposure for Brief Exposure in GHz Region**  
*(Sachiko Koderu, Akimasa Hirata)*
- 1025 **Assessing the Electric Field Strength in the Vicinity of Devices Emitting Signals in the IEEE 802.11ac Standard of Communication**  
*(Andrei Cristian Bechet, Robert Helbet, Simona Miclaus, Iulian Bouleanu, Annamaria Sarbu, Paul Bechet)*
- 1030 **Radiofrequency Electromagnetic Exposures During the Use of Wireless Links of Portable Computers Inside Trains Without Internal WiFi Services**  
*(Krzysztof Gryz, Jolanta Karpowicz)*
- 1034 **New Approach for Human Exposure Assessment Along a Rail Corridor**  
*(Oussama Alilou, François Grange, Nabil Abdelli, Sébastien Journet, José Ribeiro, Attibaud Kouassi, Cyril Maniscalco, Alexandre Machet)*
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## Communications (II)

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- 1039 **Comparison Between Impulsive Noise Models Considering a Time Structure of LED Noise**  
*(Kenta Agari, Kaoru Gotoh, Yasushi Matsumoto, Ryosuke Suga, Osamu Hashimoto)*
- 1044 **Interference Impact from Solar-Panel Systems on Air Traffic Control Communications**  
*(Peter Stenumgaard, Sara Linder)*
- 1049 **On the Impact of CW Interference on 5G NR**  
*(Karina Fors, Erik Axell, Sara Linder, Peter Stenumgaard)*
- 1055 **Improved Electromagnetic Compatibility Standards for the Interconnected Wireless World**  
*(Marc Pous, Marco A. Azpúrua, Ferran Silva)*
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## Numerical Simulation Techniques for EMC Problems (III)

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- 1061 **Shielding Effectiveness Assessment of a Coaxial Cable Design with a Combination of Numerical and Analytical Solutions**  
*(Clement Pornin, Tan Phu Vuong, Pascal Xavier, Gilbert Angenieux)*
- 1066 **Electromagnetic Pulse Propagation Over Large Area Simulation Through Massively Parallel Adaptive Mesh Refinement FDTD**  
*(Hanyu Li, Xianfeng Bao, Haijing Zhou)*
- 1071 **Recent Advances to the Feko Integrated Cable Harness Modeling Tool**  
*(Marlize Schoeman, Elia A. Attardo, Jordi Soler Castany)*
- A Simplified Modeling of Transient Electromagnetic Coupling in Air Insulation Substation**  
*(B. Khelifi, Bachir Nekhoul, Kamal Kerroum)*



## Automotive (IV)

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- 1082 **Experimental Validation of Electromagnetic Models for a Simple Multi-Cell , Multi-Module Battery**  
*(Yu Xian Teo, Jiaqi Chen, Alastair R. Ruddle)*
- 1088 **Simulation and Measurement of Narrowband Susceptibilities of Digital Automotive Sensors**  
*(Jan Benz, Jan Hansen, Stephan Frei)*
- 1094 **Experimental Study of the Effect of High DC Bias Currents on the Measurement Performance of Impedance and Current Probes**  
*(Martin Harm, Oliver Kerfin)*
- 1100 **Investigation of Possible EMC Interferences Between Multi-Gig Communication Link and RF Applications in Vehicle**  
*(Sanaz Mortazavi, Detlef Schleicher, Diana Eremyan, Anna Gheonjian, Roman Jobava, Ali Sinai, Friedel Gerfers)*
- 1106 **Vehicle Electromagnetic Emissions: Challenges and Considerations**  
*(Konstantinos Pliakostathis, Marco Zanni, Germana Trentadue, Harald Scholz)*
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## Human Exposure & Health Protection (II)

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- 1112 **Study of Body Position Dependence on Human Exposure in the 2.4GHz Band**  
*(Silvia de Miguel-Bilbao, Juan Blas, Jolanta Karpowicz, Victoria Ramos)*
- 1116 **Wireless Charging of Electric Vehicles: Planar Secondary Coil Position vs. Magnetic Field**  
*(T. Campi, S. Cruciani, F. Maradei, Mauro Feliziani)*
- 1122 **The Height Scan Method Accuracy in Rural and Suburban Areas**  
*(Georgij Leontjev)*
- 1128 **A Radiation-Based Drive-Level ESD Test Method in Solid-State Drives**  
*(Jungho Jin, Byungjin Kwon, Jaeyoung Heo, Choongpyo Jeon, Jungki Kim, Kangyong Cho)*
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## Intentional EMI

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- 1132 **IEMI Resilience Assessment of Critical Infrastructures**  
*(Thorsten Pusch, Marian Lanzrath, Michael Suhrke)*
- 1138 **LTE Physical Layer Vulnerability Test to Different Types of Jamming Signals**  
*(Grecia Romero, Virginie Deniau, Olivier Stienne)*
- 1144 **Electromagnetic Watermarking: Exploiting IEMI Effects for Forensic Tracking of UAVs**  
*(José Lopes Esteves)*
- 1150 **Validation of Electromagnetic Model for an Aircraft Under HIRF Condition with the Non-Intrusive Polynomial Chaos Methods**  
*(Yueqian Wu, Haijing Zhou, Hanyu Li, Xianfeng Bao, Longquan Zhong)*
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## Education on EMC

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- On the Limits to Measure Small Leakage Currents with Current Clamps**  
*(Avinash V. Nayak, Chiel Ton, Alexander P.J. van Deursen)*
- 1159 **Experiment to Educate ESD Phenomena to Engineers**  
*(Frits Buesink, Robert Vogt-Ardatjew, Frank Leferink)*
- 1165 **Co-Design and Co-Analysis for Noise Optimization of Switching Mode Power Supply Circuit Board**  
*(Narimasa Takahashi, Masato Shobayashi, Masato Higashi, Eriko Yamato, Robert Carter, Yoshi Fukawa)*