

**17th Conference on the
Computation of Electromagnetic
Fields 2009**

(COMPUMAG 2009)

**Florianopolis, Brazil
22-26 November 2009**

Volume 1 of 2

ISBN: 978-1-61839-413-2

TECHNICAL PROGRAM

Monday, November 23rd

Session OA1: Static and Quasi-static Fields

09:00-10:30 – Room: Plenary Session Room

OA1.1	1
(Invited) Surface-Impedance Boundary Conditions in Dual Time-Domain Finite-Element Formulations	
<i>Ruth V. Sabariego, Patrick Dular, Christophe Geuzaine, Johan Gyselinck</i>	
OA1.2	3
Kriging for eddy-current testing problems	
<i>Sandor Bilicz, Emmanuel Vazquez, Szabolcs Gyimothy, Jozsef Pavo, Marc Lambert</i>	
OA1.3	5
Adaptive Parabolic-Elliptic Time Integration Method for Electroquasistatic Problems	
<i>Zsolt Badics</i>	
OA1.4	7
Numerical experimentations on the coupling between PEEC and volume integral method	
<i>Le Duc Tung, Chadebec Olivier, Meunier Gerard, Lembeye Yves, Guichon Jean-Michel, Delinchant Benoit</i>	

Session PA1: Static and Quasi-static Fields I

10:40-12:10 – Room: Poster Session Room I

PA1.1	9
Electromagnetic Device Analysis using a Meshless Approach coupled to a Kohonen Network	
<i>Rajeev Das, David Lowther</i>	

PA1.2	.....	11
Hysteresis Phenomenon Implementation in FIT: Validation with Measurements		
<i>Julien Korecki, Abdelkader Benabou, Yvonnick Le Menach, Jean Pierre Ducreux, Francis Piriou</i>		
PA1.3	.....	13
Influence of a rough thin layer on the potential		
<i>Clair Poignard, Ronan Perrussel, Ionel Ciuperca</i>		
PA1.4	.....	15
Shell's magnetization identification from very close magnetic measurements		
<i>Yannick Vuillermet, Olivier Chadebec, Jean-Louis Coulomb, Laurent Demillier, Laure-Line Rouve, Gilles Cauffet</i>		
PA1.5	.....	17
Interaction Body Force Field and Total Force on Permanent Magnet by Virtual Air-gap Approach		
<i>Se-Hee Lee, Young-Sun Kim, Ho-Young Lee, Heung-Geun Kim, Hong-Soon Choi</i>		
PA1.6	.....	19
Block-preconditioning for hybrid discretisations in combination with Lagrange-multiplier coupling		
<i>Stephan Koch, Herbert De Gersem, Thomas Weiland</i>		
PA1.7	.....	21
MHD Convection of a Electrically Conductive Fluid with Variable Thermal Conductivity		
<i>Mohsen Pirmohammadi, Majid Ghassemi, Asghar Keshtkar</i>		
PA1.8	.....	23
Introduction of a Direct Solver at Subdomains in Non-linear Magnetostatic Analysis with HDDM		
<i>Shin-Ichiro Sugimoto, Jian Zhao, Masao Ogino, Hiroshi Kanayama, Shinobu Yoshimura</i>		
PA1.9	.....	25
A Discrete Geometric Approach to solving 2D non-linear magnetostatic problems		
<i>Paolo Bettini, Ruben Specogna, Francesco Trevisan</i>		

PA1.10	27
Optimal Selection of the Integration Surface in the Hybrid FEM-DBCI Method	
<i>Nunzio Salerno, Giovanni Aiello, Salvatore Alfonzetti</i>	
PA1.11	29
Periodic and Anti-periodic boundary conditions with the Lagrange multipliers in the FEM	
<i>Mathieu Aubertin, Thomas Henneron, Francis Piriou, Pierre Guerin, Jean Claude Mipo</i>	
PA1.12	31
Analysis of the Ionized Field under HVDC Transmission Lines Including Wind's Effect Based on Finite Element Method	
<i>Tiebing Lu, Han Feng, Xiang Cui, Zhibin Zhao, Lin Li</i>	
PA1.13	33
A new self-consistent 3D unbounded magnetic field FE computation for electron guns	
<i>Antonino Laudani, Salvatore Coco, Giuseppe Pollicino, Paola Tirrò</i>	
PA1.14	35
Using a direct field calculation method to solve magnetostatic design inverse problem	
<i>Raphael Vilamot, Carole Henaux, Bertrand Nogarede</i>	
PA1.15	37
Calculation of the Flux Linkage of a 12/8 Dual-Channel SRM Including Mutual Coupling and Saturation: From Magnetic Circuit Model to FEM Analysis	
<i>Wen Ding, Deliang Liang</i>	
PA1.16	39
Effects of Core Materials on Magnetic Bearing Parameters	
<i>Bronislaw Zbigniew Tomczuk, Jan Zimon, Andrzej Waindok</i>	
PA1.17	41
Optimization of Electrostatic Micromotor by a Non-linear Interior Point Method	
<i>Adriano Chaves Lisboa, Rodney Rezende Saldanha, Douglas Alexandre Gomes Vieira</i>	

PA1.18	.....	43
A Modified FEM-DBCI Method for Static and Quasi-Static Electromagnetic Field Problems		
<i>Nunzio Salerno, Giovanni Aiello, Salvatore Alfonzetti, Giuseppe Borzi[*], Emanuele Dilettoso</i>		
PA1.19	.....	45
Dynamic Simulation of Surge Corona with Time-dependent Upwind Difference Method		
<i>Wei Li, Bo Zhang, Jinliang He, Rong Zeng</i>		
PA1.20	.....	47
Using Neumann Series for Reduction of Computational Effort of Quasistatic EM-Simulations		
<i>Carsten Potratz, Daniel Kluess, Robert Souffrant, Hartmut Ewald, Ursula van Rienen</i>		
PA1.21	.....	49
Exposure of working population to pulsed magnetic fields		
<i>Aldo Canova, Fabio Freschi, Luca Giaccone, Maurizio Repetto</i>		

Session PA2: Static and Quasi-static Fields II

10:40-12:10 – Room: Poster Session Room I

PA2.1	.....	51
Comparative Study Applying Constant Current Source and Constant Voltage Source to Treat Cancer Using Electrochemical Therapy		
<i>Marcos Telló, Luciana Oliveira Oliveira, Rosemari Teresinha Oliveira, Orlando Parise Jr., Antonio Carlos Buzaid, Rodrigo Zanella, Helio Radke Bittencourt, Augusto Cardona</i>		
PA2.2	.....	53
Calculation of Poynting Vector and Analysis on the Energy Transfer of Transmission Line		
<i>Fan Yang, Wei He, Yuxin Yun, Dongping Xiao</i>		
PA2.3	.....	55
A Particle Trajectory Code using the FEM approach: preliminary results		
<i>César Candido Xavier, Cláudio Costa Motta</i>		

PA2.4	57
Hierarchical Block Wavelet Compression for BEM Problems of Arbitrary Dimension	
<i>Christian Scheiblich, Remus Banucu, Jan Albert, Veronika Reinauer, Wolfgang M. Rucker</i>	
PA2.5	59
A quick and efficient method to compute radial flux density distribution in the airgap of a superconducting inductor	
<i>Gaël Malé, Smail Mezani, Renaud Moulin, Jean Lévêque, Abderrezak Rezzoug</i>	
PA2.6	61
Solution of Dual Stochastic Static Formulations Using Double Orthogonal Polynomials	
<i>Stephane Clenet, Nathan Ida, Roman Gaignaire, Olivier Moreau</i>	
PA2.7	63
Nonlinear Eddy Current Analysis by BEM Minimum Order Formulation	
<i>Kazuhisa Ishibashi, Zoran Andjelic, David Pusch</i>	
PA2.8	65
A perturbation method for the \$T-\backslash Omega\$ eddy--current formulation	
<i>Ruben Specogna, Lorenzo Codecasa, Patrick Dular, Francesco Trevisan</i>	
PA2.9	67
Electromagnetic Inspection of Outer Side Defect on Steel Tube with Steel Support using 3D Nonlinear FEM Considering of Non-Uniform Permeability and Conductivity	
<i>Yuji Gotoh, Atsushi Kiya, Norio Takahashi</i>	
PA2.10	69
Discontinuous Galerkin method with T,Phi-Phi Formulation for 3D eddy current problems	
<i>Stefan Außerhofer, Oszkár Bíró</i>	
PA2.11	71
A Mesh-Free Model of Eddy-Current Losses for 2D Analysis of Ferromagnetic Laminations	
<i>Paavo Rasilo, Antero Arkkio</i>	
PA2.12	73
Boundary Element Modelling of Earth Effects on Railway Track Transmission Line Impedances	
<i>Luca Di Rienzo, Zichi Zhang</i>	

PA2.13	75
Integral Formulation and Genetic Algorithms for Defects Geometry Reconstruction using Pulse Eddy Currents	
<i>Gabriel Preda, Mihai Rebican, Florea I. Hantila</i>	
Session PA3: Coupled Problems I	
10:40-12:10 – Room: Poster Session Room II	
PA3.1	77
A Coupling Procedure for Plasma, Iron and 3D Eddy Currents in the JET Tokamak	
<i>Raffaele Fresa, Raffaele Albanese, Giovanni Artaserse, Guglielmo Rubinacci, Fabio Villone, Bruno Viola</i>	
PA3.2	79
Magnetic Saturation Modeling within Finite Volume Method	
<i>Loïc Rondot, Vincent Mazauric, Gerard Meunier</i>	
PA3.3	81
Weak Coupling between Electromagnetic and Structural Models for Electrical Machines	
<i>Siegfried Rainer, Oszkár Biró, Bernhard Weilharter</i>	
PA3.4	83
Comparing Weak and Strong PEEC-MoM Coupling	
<i>MOKHTARI Lounes, DELINCHANT Benoit, CHEVALIER Thierry, COULOMB Jean Louis</i>	
PA3.5	85
Dynamic Electro-Flow-Thermal 2D Model of a Transformer Using the CBS algorithm	
<i>Marco Arjona, R.B.B Ovando-Martínez, C Hernandez</i>	
PA3.6	87
FEM for directly coupled magneto-mechanical phenomena in electrical machines	
<i>Katarzyna Anna Fonteyn, Anouar Belahcen, Reijo Kouhia, Antero Arkkio</i>	
PA3.7	89
3D Numerical Modeling of the Thermo-Inductive Technique Using Shell Elements	
<i>Brahim Ramdane, Didier Trichet, Mohamed Belkadi, Javad Fouladgar</i>	

PA3.8	91
Coupled Mechanical-Electrical-Thermal Modeling of Electric Contacts based on the Cell Method	
<i>Federico Moro, Carmelo Majorana, Massimo Guarnieri, Mazzucco Gianluca</i>	
PA3.9	93
Improvements to convergence of coupled nonlinear circuit modelling	
<i>Simon Taylor, Nick Robertson, John Simkin</i>	
PA3.10	95
Particular Electromagnetic Field Computation for Permanent Magnet Generator Wind Turbine Analysis	
<i>Charalampos Patsios, Antonios Chaniotis, Evangelos Tsambouris, Antonios Kladas</i>	
PA3.11	97
A Fully Coupled Three-dimensional Dynamic Model of Polymeric Membranes for Fuel Cells	
<i>Massimo Guarnieri, Piergiorgio Alotto, Federico Moro</i>	
PA3.12	99
Coupled 3D Fluid Flow-Thermal FEM Model for Power Transformer Temperature Analysis	
<i>Marina Antonios Tsili, Eleftherios Ioannis Amoiralis, Antonios Kladas, Athanassios Souflaris</i>	
PA3.13	101
Inductively Heated Incompressible Flow of Electrically Conductive Liquid in Pipe	
<i>Ivo Dolezel, Lenka Dubcova, Pavel Karban, Jakub Cerveny, Pavel Solin</i>	
PA3.14	103
Equivalent stress criteria for the effect of stress on magnetic behavior	
<i>Laurent DANIEL, Olivier HUBERT</i>	
PA3.15	105
Shape Formation of Ferrofluid Droplet in Magnetic Field and Gravity by FEA coupled with LSM	
<i>Young Sun Kim, Il Han Park</i>	

Session PA4: Static and Quasi-Static Fields III

13:30-15:00 – Room: Poster Session Room I

PA4.1	107
FEM/BEM Hybrid Method for Magnetic Field Evaluation Due to Underground Power Cables	
<i>Vitor Malo Machado</i>	
PA4.2	109
Voltage and current sources for massive conductors suitable with the \$A-\chi\$ Geometric Formulation	
<i>Ruben Specogna, Paweł Dłotko, Francesco Trevisan</i>	
PA4.3	111
Efficient Computation of Eddy Current losses in SMC PM machines with 3D Time-Harmonic FEA	
<i>Ahmed Chebak, Philippe Viarouge, Jérôme Cros</i>	
PA4.4	113
Decoupling of Nonequidistant Time Steps by Fixed Point Method for Nonlinear Eddy Currents	
<i>Gergely Koczka, Oszkár Bíró</i>	
PA4.5	115
Homogenization for periodical electromagnetic structure: which formulation?	
<i>Gerard Meunier, Vincent Charmoille, Christophe Guérin, Patrice Labie</i>	
PA4.6	117
Geometric interpretation of frequency-domain surface-impedance boundary conditions	
<i>Herbert De Gersem</i>	
PA4.7	119
Field Analysis for Thin Shields in the Presence of Ferromagnetic Bodies	
<i>Ioan R. Cîrîc, Florea I. Hantila, Mihai Maricaru</i>	
PA4.8	121
Evaluating the Guidance Force Capabilities of Flat Passive Maglev Guideway Topologies Using the A-phi Formulation	
<i>Jonathan Bird</i>	

PA4.9	123
Improved Accuracy of Electro-Quasistatic Simulations of Large-Scale 3D High Voltage Equipment Including Nonlinear Field-Grading	
<i>Daniel Weida, Thorsten Steinmetz, Markus Clemens</i>	
PA4.10	125
3-D Calculation of Surface Electric Field around Conductor of UHVAC Transmission Lines	
<i>Dongping XIAO, Wei HE, Mingyou CHEN, Fan YANG</i>	
PA4.11	127
Analytical Prediction of Eddy-Current Loss in Armature Windings of Permanent Magnet Brushless AC Machines	
<i>Yacine Amara, Pascal Reghem, Georges Barakat</i>	
PA4.12	129
Complementarity of Dual Eddy Current Formulations on Dual Meshes	
<i>Zhuoxiang Ren, Hui Qu</i>	
PA4.13	131
Numerical Model of Transient Electromagnetic Field around the Grounding System by FEM	
<i>Anton Habjanic, Marko Jesenik, Mladen Trlep</i>	
PA4.14	133
A New Formulation Using Differential Permeability Based on the Source-Field Method	
<i>Nelson Sadowski, João Pedro Assumpção Bastos, Jean Viane Leite</i>	
PA4.15	135
Homogenization of Form-Wound Windings in Finite Element Modelling of Electrical Machines	
<i>Johan Gyselinck, Ruth V. Sabariego, Patrick Dular, Nelson Sadowski, Patrick Kuo-Peng</i>	
PA4.16	137
Electrokinetic Model Refinement via a Perturbation Finite Element Method – From 2-D to 3-D	
<i>Mauricio Valencia Ferreira da Luz, Patrick Dular, Ruth V. Sabariego, Patrick Kuo-Peng, Nelson Jhoe Batistela</i>	
PA4.17	139
Magneto-convection in an Enclosure with Partially Active Vertical Walls	
<i>Mohsen Pirmohammadi, Majid Ghassemi</i>	

PA4.18	141
Comparison between BEM + ACA and classical FEM for 3D low-frequency eddy-current analysis	
<i>David Pusch, Jasmin Smajic, Zoran Andjelic</i>	
PA4.19	143
An Energy-Based Error Criterion for Eddy Current Transient Analysis	
<i>Loïc Rondot, Dimitrios Ladas, Vincent Mazauric</i>	
PA4.20	145
Magneto-Mechanical effects under low fields and high stresses - Application to a ferromagnetic cylinder under pressure	
<i>Antoine Viana, Laure-Line Rouve, Gilles Cauffet, Jean-Louis Coulomb</i>	

Session PA5: Coupled Problems II

13:30-15:00 – Room: Poster Session Room I

PA5.1	147
Large-Scale Analysis of Magnetic Beads Behavior in Magnetic Field with Fast Multipole Method	
<i>Takuya Tatsuishi, Yasuhito Takahashi, Masahiko Miwa, Shinji Wakao</i>	
PA5.2	149
Dynamic Analysis Method of Linear Resonant Actuator with Multi-Movers Employing 3-D Finite Element Method	
<i>Yasuyoshi Asai, Katsuhiro Hirata, Tomohiro Ota</i>	
PA5.3	151
New FEM Approach for Multi Physics Problems Modeling in EPM Applications	
<i>Yves Du Terrail Couvat, Annie Gagnoud</i>	
PA5.4	153
Analysis of Transient Eddy Current and Conductor Motion in an Electromagnetic Repulsion Mechanism with Meshless Collocation Method	
<i>Guangyuan Yang, K.R. Shao, Youguang Guo, Jianguo Zhu</i>	
PA5.5	155
Coupled Magneto-Thermal FEM Model of Direct Heating of Ferromagnetic Bended Tubes	
<i>Michele Forzan, Alexandr Aliferov</i>	

PA5.6	.....	157
Streamer Simulation based on Discontinuous Galerkin Method and Hierarchical Reconstruction		
<i>Chjie Zhuang, Rong Zeng, Bo Zhang, Shuiming Chen, Jinliang He</i>		
PA5.7	.....	159
Buoyancy Force Evaluation on Nonmagnetic Solid Object Submerged in Magnetic Liquid Subjected to Non-uniform Magneto-static Field		
<i>Hong Soon Choi, Young Sun Kim, Il Han Park</i>		
PA5.8	.....	161
Field-circuit Co-simulation of Controllable Reactor using Integral Equation Method		
<i>Yang Xiaobo, Zoran Andjelic, Cherry Yuen</i>		
PA5.9	.....	163
Steady and Transient Electromagnetic-thermal Fields Analysis for Induction Machines Using FEM and FVM		
<i>Shuhong Wang, Qiuwang Wang, Zhe Ren, Wei Sun, Dan Liao, Jie Qiu, Limin Zhou, Youming Jiang, Jian Guo Zhu, Youguang Guo, Yi Wang, Wei Xu</i>		
PA5.10	.....	165
Electromagnetic-Structure-Acoustic Coupled Analysis Method of GMM Transducer Speaker		
<i>Katsuhiro Hirata, Byungjin Yoo, Atsuro Oonishi</i>		
PA5.11	.....	167
3D Transient Field-Circuit Modeling of Inductive Fault Current Limiters		
<i>Dalibor Cvoric, Domenico Lahaye, Sjoerd W.H. de Haan, J. Abraham Ferreira</i>		
PA5.12	.....	169
Hybrid Analytical-FEM Method for Microwave Heating Analysis in a Single Mode Cavity		
<i>Diogo Batista Oliveira, Elson Jose Silva</i>		
PA5.13	.....	171
Distributed Models for Air-Core Ethernet Transformers		
<i>Isaak Mayergoz, David Bowen, Charles Krafft</i>		
PA5.14	.....	173
Dynamic simulation of an electromechanical energy scavenging device		
<i>Aldo Canova, Elvio Bonisoli, Fabio Freschi, Sandro Moos, Maurizio Repetto, Stefano Tornincasa</i>		

PA5.15	175
Accurate Control of Position by Induction Heating-Produced Thermoelasticity	
<i>Ivo Dolezel, Pavel Karban, Petr Kropik, David Panek</i>	
PA5.16	177
Physics Based High Frequency Transformer Modeling by Finite Elements	
<i>Osama A Mohammed, Nagy Y Abed</i>	
PA5.17	179
Permanent Magnet Motor Damping Analysis by using a particular 2D FEM	
technique	
<i>Minos E. Beniakar, Themistoklis D. Kefalas, Antonios G. Kladas</i>	
PA5.18	181
Performance Investigation of Canned Induction Motor for Coolant Pump in	
Nuclear Reactor	
<i>Jian Li, Jungtae Song, Yunhyun Cho</i>	
PA5.19	183
Field-Circuit Method for the Non-Steady State Analysis in the Active Magnetic	
Bearings	
<i>Bronislaw Zbigniew Tomczuk, Jan Zimon, Andrzej Waindok</i>	
PA5.20	185
Study of a double-star synchronous machine fed by a dual Voltage Source	
Inverter	
<i>André de Andrade, Meynard, Thierry:Nelson Sadowski, Patrick Kuo-Peng</i>	
PA5.21	187
Magneto-elastic finite element modeling based on a multiscale approach	
<i>Xavier Mininger, Laurent Daniel, Laurent Santandrea, Laurent Bernard, Frédéric</i>	
<i>Bouillaudt</i>	

Session PA6: Electrical Machines and Drives I

13:30-15:00 – Room: Poster Session Room II

PA6.1	189
Novel Design Method of a Single-phase Induction Motor considering	
Magnetic Balance	
<i>Myoung-Hyun Choi, Byung-Taek Kim</i>	

PA6.2	191
Finite-Element Analysis for a Rolling-Rotor Electrical Machine	
<i>Antero Arkkio, Grzegorz Kaminski, Asko Niemenmaa, Paweł Staszewski</i>	
PA6.3	193
Numerical Modelling of Transformer Inrush Current	
<i>Ermanno Cardelli, Vincenzo Esposito, Antonio Faba</i>	
PA6.4	195
Gaussian Modulated Pulse Excitation for SM Parameter Estimation Using a 2D-FE Model	
<i>Marco Arjona, Concepcion Hernandez, Merit Cisneros-Gonzalez</i>	
PA6.5	197
Efficient FEA Identification of Equivalent Circuit Inductances for DFIM Design	
<i>Davide Aguglia, René Wamkeue, Philippe Viarouge, Jérôme Cros</i>	
PA6.6	199
Comparison of Analytical and Finite Element Calculation of Eddy-Current Losses in the Solid Back-Iron of PM Machines with Concentrated Fractional Pitch Windings	
<i>Anoop Jassal, Henk Polinder, Domenico Lahaye</i>	
PA6.7	201
Numerical Analysis of the Induced Current in an XY-Actuator with Soft Magnetic Composite	
<i>Nolvi Francisco Baggio Filho, Ály Ferreira Flores Filho</i>	
PA6.8	203
Least Square Support Vector Machine Network-Based Modeling for Switched Reluctance Starter/Generator	
<i>Wen Ding, Deliang Liang</i>	
PA6.9	205
An Accurate Magnetic Field analysis for Estimating Motor Characteristics Taking Account of Elasto-Plastic Deformation in the Magnetic Core	
<i>Shinichi Yamaguchi, Akihiro Daikoku, Yoshihiro Tani, Toshinori Tanaka, Chiyo Fujino</i>	
PA6.10	207
Calculation of Radial Forces in Cage Induction Motors at Start – the Effect of Rotor Differential	
<i>David George Dorrell</i>	

PA6.11	209
Eddy-current Losses and Temperature Rise in the Form-wound Stator Winding of an Inverter-fed Cage Induction Motor	
<i>Mohammad Jahirul Islam, Huynh Van Khang, Anna-Kaisa Repo, Antero Arkkio</i>	
PA6.12	211
Semi-Analytical Solution of Cogging Torque in SMPMM	
<i>Frédéric Dubas, Christophe Espanet</i>	
PA6.13	213
Interactive Postprocessing Formulations in 3D	
<i>Martin Hafner, Marc Schöning, Marcin Antczak, Andrzej Demenko, Kay Hameyer</i>	
PA6.14	215
Comprehensive Magnetic Model of Surface Mounted PM Machines Incorporating Saturation Saliency	
<i>Yi Wang, Jianguo Zhu, Youguang Guo, Shuhong Wang, Wei Xu</i>	
PA6.15	217
Magnetic Field in an Axial-Flux Permanent-Magnet Synchronous Generator	
<i>Tze-Fun Chan, Weimin Wang, Loi Lei Lai</i>	
PA6.16	219
Unified Scheme for Implementing the Fixed-Point and Newton-Raphson Methods in Finite-Element Programs of Electromagnetic Field Problems	
<i>Emad Dlala, Antero Arkkio</i>	
PA6.17	221
Parametric Design Coupled with Dynamic Equation of the BLDC Motor for Electric Vehicle	
<i>YoungKyun Kim, Se-Hyun Rhyu, Jung-Pyo Hong</i>	

Session OA2: Coupled Problems

15:20-17:10 – Room: Plenary Session Room

OA2.1	223
(Invited) Discrete Magneto-Elasticity: A geometrical approach	
<i>Alain Bossavit</i>	
OA2.2	225
Nonlinear coupled FE-circuit model for th optimization of hybrid motors	
<i>Noureddine Takorabet, Eric D. Kenmoe-Fankem, Farid Meibody-Tabar, Francois M. Sargos</i>	

OA2.3 .....	.227
Co-Simulation as Multirate Time Integration of Field/Circuit Coupled Problems	
<i>Sebastian Schoeps, Andreas Bartel, Herbert De Gersem</i>	
OA2.4 .....	.229
Efficient Numerical Modelling of Field Diffusion in High-Temperature Superconducting Wires	
<i>Igor O. Golosnoy, Jan K. Sykulski</i>	
OA2.5 .....	.231
Unipolar and Bipolar Charge Injection and Transport in Dielectric Liquid by Finite Element Method	
<i>Se-Hee Lee, Il-Han Park, Francis O'Sullivan, Markus Zahn</i>	

Tuesday, November 24th

Session OB1: Wave Propagation and Nanomagnetics

08:30-10:20 – Room: Plenary Session Room

OB1.1	233
(Invited) Masking with Generalized Cloaking <i>Andre Nicolet, Frederic Zolla, Christophe Geuzaine</i>	
OB1.2	235
Micromagnetic Analysis of a Shielded Write Head Using Symmetric Multiprocessing System <i>Yasushi Kanai, Kazuya Koyama, Manabu Ueki, Toshio Tsukamoto, Kazuetsu Yoshida, Simon Greaves, Hiroaki Muraoka</i>	
OB1.3	237
Efficient implementation of UPML in the finite integration technique using hexahedral and prismatic elements <i>Ruben Torrado, Laurent Bernard, Lionel Pichon</i>	
OB1.4	239
An Electromagnetic Field Computation Using Space-Time Grid and FIT <i>Tetsuji Matsuo</i>	
OB1.5	241
Solution of the frequency domain Maxwell equations by a high order non-conforming discontinuous Galerkin method <i>Stéphane Lanteri, Mohamed El Bouajaji, Victorita Dolean, Ronan Perrussel</i>	

Session PB1: Optimization

10:40-12:10 – Room: Poster Session Room I

PB1.1	243
Identification of Hidden Ferrous 3D Objects Using a GMR Sensor Array <i>Alice Köstinger, Michael Jaindl, Markus Kienesberger, Christian Magele, Werner Renhart, Gunter Winkler</i>	
PB1.2	245
Multiobjective Particle Swarm Approach for the Design of a Brushless DC Wheel Motor <i>Leandro dos Santos Coelho, Leandro Zavarez Barbosa, Luiz Lebensztajn</i>	

PB1.3	.....	.247
Coupling Particles Swarm Optimization for Multimodal Function Optimization		
<i>Minh-Trien Pham, Baatar Nyambayar, Chang Seop Koh</i>		
PB1.4	.....	.249
Automatic Differentiation Applied for Optimization of Dynamical Systems		
<i>Petre Enciu, Laurent Gerbaud, Frederic Wurtz</i>		
PB1.5	.....	.251
Influence of Sensor Variations on the Condition of the Magnetostatic Linear Inverse Problem		
<i>Roland Eichardt, Jens Haueisen</i>		
PB1.6	.....	.253
The application of topological gradients to defect identification in magnetic flux leakage-type NDT		
<i>Min Li, David Lowther</i>		
PB1.7	.....	.255
Grid-enabled Tabu Search for Electromagnetic Optimization Problems		
<i>Sara Carcangiu, Alessandra Fanni, Anna Mereu, Augusto Montisci</i>		
PB1.8	.....	.257
An Exact Optimization Code Combined with a Hybrid Model for Magnetic Couplings Design		
<i>Julien Fontchastagner, Frederic Messine, Yvan Lefevre</i>		
PB1.9	.....	.259
Electromagnetic Device Design Based on New Sequential Optimization Strategies		
<i>Gang Lei, Keran Shao, Youguang Guo, Jianguo Zhu, J. D. Lavers</i>		
PB1.10	.....	.261
A Metaheuristic Algorithm for Multiobjective Designs of Inverse Problems		
<i>S.L. Ho, Shiyou Yang</i>		
PB1.11	.....	.263
The Use of Feature Selection to Create a Compact Prototype for Electromagnetic Device Optimization		
<i>Jun Ouyang, David Lowther</i>		

PB1.12	265
Optimization of Electromagnetic and Magnetic Shielding using ON/OFF Method	
<i>Norio Takahashi, Shunsuke Nakazaki, Daisuke Miyagi</i>	
PB1.13	267
Reducing the Design Space of Standard Electromagnetic Devices using Bayesian Response Surfaces	
<i>Linda Wang, David A. Lowther</i>	
PB1.14	269
Nonlinear Filtering on Mesh Discretization Errors by Neural Networks	
<i>Douglas Alexandre Gomes Vieira, Adriano Chaves Lisboa, Vasile Palade, Rodney R. Saldanha</i>	
PB1.15	271
Particle Swarm Optimization of Coupled Electromagnetic-Electromechanical Systems	
<i>Nizar F. Al-Aawar, Toufic M. Hijazi, Abdul Rahman A. Arkadan</i>	
PB1.16	273
Self-Adjoint Material Sensitivity Analysis for Solving Inverse Problems in RF Domain	
<i>Dong-Hun Kim, Jin-Kyu Byun, Hyang-Beom Lee, Hyeong-Seok Kim</i>	
PB1.17	275
Spatio-temporal reconstruction of magnetic nanoparticle distributions	
<i>Daniel Baumgarten, Jens Haueisen</i>	
PB1.18	277
Non-Iterative Methods for Locating Inclusions in Electrical Impedance Tomography	
<i>Flavio Calvano, Guglielmo Rubinacci, Antonello Tamburrino</i>	
PB1.19	279
A Research of PTP MRAM about Shape Optimization for High Gb/Chip	
<i>Hyuk Won, Gwan Soo Park, Dong Sok Kim, Jae Min Kim</i>	
PB1.20	281
Brain source localization: a MILP approach	
<i>Fabio Freschi</i>	

PB1.21	283
A Hybrid Design of Distribution Transformers Using 2D-FE and a Conventional Method	
<i>Marco Arjona, Concepcion Hernandez</i>	
PB1.22	285
Inverse Magnetic Field Calculation For Underground Grid Condition Monitoring	
<i>Sheppard Salon, MVK Chari, J. Braunstein, J. Selvaggi</i>	
PB1.23	287
A Practical Approach to Robust Design of an RFID Triple-Band PIFA Structure	
<i>Jae-Hyeong Ko, Dong-Hun Kim, Hyang-Beom Lee, Hyeong-Seok Kim</i>	
PB1.24	289
Parameter Extraction and Optimal Design of Spiral Inductor Using Evolution Strategy and Sensitivity	
<i>Jae-Hyeong Ko, Jin-Kyu Byun, Hyeong-Seok Kim</i>	

Session PB2: Optimization II

10:40-12:10 – Room: Poster Session Room I

PB2.1	291
Optimization of perfectly matched layer parameters for finite element modeling of grounding systems	
<i>Luiz Lebensztajn, Viviane Cristine Silva, Lucas Blattner Martinho</i>	
PB2.2	293
Corrosion diagnosis of a ship mock-up from near electric field measurements	
<i>Arnaud Guibert, Jean-Louis Coulomb, Olivier Chadebec, Corinne Rannou</i>	
PB2.3	295
Dynamic Multiobjective Clonal Selection Algorithm for Engineering Design	
<i>Lucas de Souza Batista, Diogo Oliveira, Frederico Gadelha Guimaraes, Elson Jose Silva, Jaime Arturo Ramirez</i>	
PB2.4	297
Stochastic uncertainty quantification of the conductivity in EEG source analysis by using polynomial chaos decomposition	
<i>Roman Gaignaire, Guillaume Crevecoeur, Luc Dupré, Christophe Geuzaine, Patrick Dular</i>	

PB2.5	299
The EMC Method Applied to the Design of Local and Asymmetric Gradient Coils for MRI	
<i>Hector Sanchez Lopez, Michael Poole, Feng Liu, Stuart Crozier</i>	
PB2.6	301
Two complementary methods to face with convexity issues in topology optimization problems	
<i>Thibaut Labb�, Fran�ois Glineur, Bruno Dehez</i>	
PB2.7	303
A Multiobjective Gaussian Particle Swarm Approach Applied to Electromagnetic Optimization	
<i>Piergiorgio Alotto, Leandro dos Santos Coelho, Helon Vicente Hultmann Ayala</i>	
PB2.8	305
Magnetic Field Synthesis in the Design of Inductors for Magnetic Fluid Hyperthermia	
<i>Fabrizio Dughiero, Paolo Di Barba, Elisabetta Sieni</i>	
PB2.9	308
Stochastic Finite Element Analysis for Parasitic Extraction of Interconnects with Material Parameter Variations	
<i>Xiaoyu Xu, Hui Qu, Li Kong, Zhuoxiang Ren</i>	
PB2.10	310
Kriging assisted design of a synchronous superconducting generator with YBCO windings	
<i>Bartosz Lukasik, Kevin Goddard, Mihai Rotaru, Jan K. Sykulski</i>	
PB2.11	312
Multiobjective Efficient Global Optimization – A Win-win Approach to Optimal Design and Model Development	
<i>Alexandru Claudiu Berbecea, Sangkla Kreuawan, Fr�d�ric Gillon, Pascal Brochet</i>	
PB2.12	314
Parallel hybrid algorithms based on Artificial Life for Multimodal Optimization	
<i>Francesco Riganti Fulginei, Alessandro Salvini, Antonino Laudani, Salvatore Coco</i>	
PB2.13	316
Two-level refined direct method for electromagnetic optimization and inverse problems	
<i>Guillaume Crevecoeur, Ahmed Abou-Elyazied Abdallh, Luc Dupr�</i>	

PB2.14	318
Application of Response Surface Methodology to Electric Machine Design with Multivariate Adaptive Regression Splines	
<i>Kenta Takayasu, Asuka Otake, Masahiko Miwa, Shinji Wakao, Tamio Okutani, Yasuhito Takahashi, Masahiro Tanai, Kazuhiko Onda</i>	
PB2.15	320
A Research on the Optimm Design of Magnet Structure for Improving Measurement Accuracy in the Dual Magnetic Float Type Level Gauge	
<i>Dong Sok Kim, Jae Min Kim, Gwan Soo Park</i>	
PB2.16	322
Examination of Optimal Design of IPM Motor using ON/OFF Method	
<i>Norio Takahashi, Takaya Yamada, Daisuke Miyagi</i>	
PB2.17	324
Optimization of Inductors Using Evolutionary Algorithms and Its Experimental Validation	
<i>Kota Watanabe, Felipe Campelo, Yosuke Iijima, Kenji Kawano, Tetsuji Matsuo, Takeshi Mifune, Hajime Igarashi</i>	
PB2.18	326
Multiobjective Optimization of Electrooptic Modulators with Floating Electrodes	
<i>Ademar Muraro Jr, André Cortes, Angelo Passaro, Nancy Mieko Abe, Airam J. Preto, Stephan Stephany</i>	
PB2.19	328
A Multi-frequency Strategy for Reconstruction of Deep Stress Corrosion Cracks from ECT Signals of Multiple Liftoffs	
<i>Li Wang, Zhenmao Chen</i>	
PB2.20	330
Accelerating Evolution Algorithm Using Kriging Metamodel	
<i>Dong-kung Woo, Jang-Ho Seo, Chany Lee, Hyun-Kyo Jung</i>	
PB2.21	332
Topology Optimization of Electrostatic Actuator Using Level Set Method and Shape Design Sensitivity	
<i>Young Sun Kim, Il Han Park</i>	

PB2.22	334
Electromagnetic Characterization of Biological Tissues with Particle Swarm Optimization	
<i>Nicolas Siauve, Corine Lormel, Romain Marion, Julien Dardenne, Fabien Sixdenier</i>	

Session PB3: Waves Propagation I

10:40-12:10 – Room: Poster Session Room II

PB3.1	336
Analysing the Relevant Features of GPR Scattered Waves in Time- and Frequency-Domain	
<i>Lucas Travassos, D. A. G. Vieira, V. Palade, N. Ida</i>	
PB3.2	338
Recent developments on a DGTD method for time domain electromagnetics	
<i>Stéphane Lanteri, Hassan Fahs, Loula Fezoui, Victorita Dolean, Francesca Rapetti</i>	
PB3.3	340
Detection of Defects in Wiring Networks using Time Domain Reflectometry	
<i>Smail Mostafa Kamel, Pichon Lionel, Olivas Marc, Auzanneau Fabrice, Lambert Marc</i>	
PB3.4	342
Finite Element Multiharmonic Modelling for Nonlinear Optics	
<i>Pierre Godard, Frederic Zolla, Andre Nicolet</i>	
PB3.5	344
An Amplitude Finite Element Formulation for Multiple-Scattering by a Collection of Convex Obstacles	
<i>Christophe Geuzaine, Patrick Dular, Roman Gaignaire, Ruth Sabariego</i>	
PB3.6	346
Finnite element analysis of electromagnetic scattering using p-adaption and an Iterative absorbing boundary condition	
<i>Prakash Paul, Jon Webb</i>	
PB3.7	348
Investigation on the shading effect of reinforced concrete construction to lightning radiation field based on TDIE method	
<i>Zhibin Zhao, Mingxia Zhang, Xiang Cui, Lin Li, Tiebing Lu</i>	

PB3.8	350
2D Scattering Integral Field Equation Solution through a IMLS Meshless-Based Approach	
<i>Williams Lara Nicomedes, Renato Cardoso Mesquita, Fernando José da Silva Moreira</i>	
PB3.9	352
Numerical Techniques for Multi-Objective Synthesis of an Inverted-S Antenna	
<i>Lei Liu, Junwei Lu, Shiyou Yang, Guangzheng Ni</i>	
PB3.10	354
Blending PSO and ANN for Optimal Design of FSS Filters with Koch Island Patch Elements	
<i>Rossana M. S. Cruz, Paulo H. da F. Silva, Adaildo Gomes d'Assunção</i>	
PB3.11	356
Coefficients of Finite Difference Operator for Rectangular Cell NS-FDTD Method	
<i>Tadao Ohtani, Kenji Taguchi, Tatsuya Kashiwa, Yasushi Kanai</i>	
PB3.12	358
Investigation of UHF Circular Loop Antennas for RFID	
<i>Kurt Preis, Thomas Bauernfeind, Oszkar Biro, Igor Ticar</i>	
PB3.13	360
Full Wave Analyses of Electromagnetic Fields with an Iterative Domain Decomposition Method	
<i>Amane Takei, Shin-ichiro Sugimoto, Masao Ogino, Shinobu Yoshimura, Hiroshi Kanayama</i>	
PB3.14	362
A New Waveguide Design Based in Thin Films of Niobium and Tantalum	
<i>Marcílio Nunes Freire, José Patrocínio da Silva</i>	
PB3.15	364
Analysis of Simple FSS Cascading With Dual Band Response	
<i>Antonio Luiz Pereira de Siqueira Campos, Robson Hebraico Cipriano Manicoba, Lincoln Machado de Araújo, Adaildo Gomes d'Assunção</i>	
PB3.16	366
A broadband symmetric surface integral equation based on Calderón projector	
<i>Annalisa Buffa, Guglielmo Rubinacci, Antonello Tamburrino</i>	

PB3.17	368
Local Timestepping Techniques Using Taylor Expansion for Modeling Electromagnetic Wave Propagation with Discontinuous Galerkin - FEM	
<i>Steffen Schomann</i>	
PB3.18	370
Safety Assessment of UWB Radio Systems for Body Area Network by the FDTD Method	
<i>Valerio De Santis, Mauro Feliziani, Francescaromana Maradei</i>	

Session PB4: Numerical Techniques I

10:40-12:10 – Room: Poster Session Room II

PB4.1	372
Computation Method for Transients in Underground Cables with Lossy Earth Return Path	
<i>Xose M. Lopez-Fernandez, Casimiro Alvarez-Mariño, Vitor Malo Machado</i>	
PB4.2	374
FDTD Analysis of a Metamaterial with Particles Having Oh Point Group Symmetry	
<i>Tiago Carvalho Martins, Victor Dmitriev</i>	
PB4.3	376
Discrete Constitutive Relations for the Discrete Geometric Approach over Hexahedral Grids	
<i>Ruben Specogna, Lorenzo Codecasa, Francesco Trevisan</i>	
PB4.4	378
Domain Decomposition Methods with Second Order Transmission Conditions for Solving Multiscale Electromagnetic Wave Problems	
<i>Zhen Peng, Vineet Rawart, Jin-Fa Lee</i>	
PB4.5	380
Improving the Mixed Formulation for Meshless Local Petrov–Galerkin Method	
<i>Alexandre Ramos Fonseca, Bruno Carvalho Corrêa, Elson José da Silva, Renato Cardoso Mesquita</i>	
PB4.6	382
Effectiveness of Higher Order Time Integration in Time Domain Finite Element Analysis	
<i>Yoshifumi Okamoto, Koji Fujiwara, Yoshiyuki Ishihara</i>	

PB4.7	384
Extended Meshfree Point Collocation Method for Electromagnetic Problems with Layered Singularity	
<i>Young-Cheol Yoon, Do Wan Kim</i>	
PB4.8	386
Strategies for accelerating non-linear convergence for T- Ω formulation	
<i>Ping Zhou, Dingsheng Lin, Bo He, Sameer Kher, Zoltan Cendes</i>	
PB4.9	388
Shape Optimization of Rotating Machines Using Time-Stepping Adaptive Finite-Element Method	
<i>Katsumi Yamazaki, Yuji Kanou</i>	
PB4.10	390
Algorithmically Efficient Ray Tracing for the Simulation of Wall Heating in Particle Accelerator Structures	
<i>Eike Michael Scholz, Markus Clemens, Martin Dohlus</i>	
PB4.11	392
Hierarchical Sparsified Models for the Substrate of Integrated Circuits	
<i>Daniel Ioan, Gabriela Ciuprina</i>	
PB4.12	394
SUPG 3D vector potential formulation for electromagnetic braking simulations	
<i>François Henrotte, Enno Lange, Holger Heumann, Kay Hameyer</i>	
PB4.13	396
Robust FEM-BEM Coupling for Magnetostatics on multi-connected Domains	
<i>David Pusch, Joerg Ostrowski</i>	
PB4.14	398
Edge element multigrid solution of time-harmonic 3-D non-linear eddy- current problems	
<i>Chao Chen, Oszkár Bíró</i>	
PB4.15	400
FE Analysis of Magnetic Particle Dynamics on Fixed Mesh with Level Set Function	
<i>Young Sun Kim, Myung Ki Baek, Il Han Park</i>	

PB4.16	402
A Step Forward in Wavelet-Based Algebraic Multigrid Method Using the Lifting Technique	
<i>Fabio Henrique Pereira, Silvio Ikuyo Nabet</i>	
PB4.17	404
Solution of Static Field Problems with Random Domains	
<i>Stephane Clenet, Duy Hung Mac, Jean-Claude Mipo, Olivier Moreau</i>	
PB4.18	406
Quality Evaluation of Automatically Generated Hexahedral Mesh for FEA	
<i>Yuichiro Motoooka, So Noguchi, Hajime Igarashi</i>	
PB4.19	408
Parallel Sparse Matrix Solver on the GPU Applied to Simulation of Electrical Machines	
<i>Wendell O. Rodrigues, Frédéric Guyomarc'h, Jean-Luc Dekeyser, Yvonnick Le Menach</i>	

Session PB5: Optimization III

13:30-15:00 – Room: Poster Session Room I

PB5.1	410
Design of Conventional C-core Magnets Using a Multi-Step Optimization Procedure	
<i>Felipe Campelo, Jaime Arturo Ramirez, Hajime Igarashi</i>	
PB5.2	412
Self-consistent Optimization of Multi-Quantum Well Structures by a Genetic Algorithm	
<i>Angelo Passaro, Roberto Yuji Tanaka, Ademar Muraro Jr., Gustavo S. Vieira, Nancy Mieko Abe</i>	
PB5.3	414
Impact of Wave Propagation Effects in Electrical Tomography	
<i>Markus Neumayer, Gerald Steiner</i>	
PB5.4	416
Optimal Design of Electromagnetic Valve Actuator using Generic Algorithm	
<i>Jinho Kim, Junghwan Chang, Kyuyoung Han</i>	

PB5.5	418
Niched Pareto-Archived Evolutionary Programming for Multi-Objective Electromagnetic Optimization	
<i>Nunzio Salerno, Emanuele Dilettoso, Santi Agatino Rizzo</i>	
PB5.6	420
Optimization of Vibratory Behavior of Electromagnetic Devices through Material Properties Evaluation	
<i>Ferkha Nassira, Mekideche Mohamed Rachid, Miraoui Abdellatif, Djerdir Abdesslem</i>	
PB5.7	422
An Improved Continuous Genetic Algorithm for Electromagnetic Optimization	
<i>Paulo H. da F. Silva, Rossana M. S. Cruz, Adaildo Gomes d'Assunção</i>	
PB5.8	424
Differential Evolution-based Technique for Thermal Parameters Identification of a Transformer FEM model	
<i>Adnan Glotic, Joze Pihler, Nermin Sarajlic, Mensur Kasumovic, Majda Tesanovic</i>	
PB5.9	426
Multi-objective Optimization of an Axial Flux Wind Generator	
<i>João Antônio Vasconcelos, Selênia Rocha Silva, Lais Martins Araújo, Claret Laurente Sabioni, Jonas Alves de Almeida Pereira, Moisés Ferber de Vieira Lessa, Bruno Marciano Lopes</i>	
PB5.10	428
GA-based optimized design of the novel compact transversal-type UWB bandpass filter	
<i>Sungtek Kahng, Eunchul Shin, Koon-Tae Kim, Hyeong-Seok Kim</i>	
PB5.11	430
Software Methodology for Optimization of Weakly Coupled Multiphysical Problems using Object Oriented Programming	
<i>Michael Jaindl, Alice Köstinger, Ralph Kutschera, Christian Magele, Werner Renhart</i>	
PB5.12	432
Sensitivity based generation of optimized data set for ECT inversion	
<i>Szabolcs Gyimothy, Imre Kiss, Jozsef Pavo, Sandor Bilicz</i>	

PB5.13	434
Dynamic Multilevel Optimization of Machine Design and Control Parameters for PMSM Drive System Based on Correlation Analysis	
<i>Shuhong Wang, Xiangjun Meng, Jie Qiu, Jian Guo Zhu, Yi Wang, Youguang Guo, Dikai Liu, Wei Xu</i>	
PB5.14	436
Variational Level Set Methods in the Roentgen Images Segmentation	
<i>Tomasz Rymarczyk, Stefan Franciszek Filipowicz, Jan Sikora, Marek Tymburski</i>	
PB5.15	438
Numerical tool for the design of magnetic sensors based on GMI effect	
<i>Lena ABI RACHED, Francisco ALVES, Yann LE BIHAN</i>	
PB5.16	440
Harmony Search with Cauchy Operator Applied to the Hysteresis Modeling of a Transformer	
<i>Leandro dos Santos Coelho, Viviana Cocco Mariani</i>	
PB5.17	442
Automatic Design of Insulation Structure of Power Transformer Based on Sensitivity Analysis	
<i>Liu Yang</i>	
PB5.18	444
The Use of Case-Based Reasoning in Creating a Prototype for Electromagnetic Device Optimization	
<i>Jun Ouyang, David Lowther</i>	
PB5.19	446
Slot Shape Optimization for Permanent Magnet Synchronous Machines by Evolution Strategy and Time-Stepped Finite Element Analysis	
<i>Yang Zhan, Andrew M. Knight</i>	
PB5.20	448
Numerical-analytical coupled optimization of a echatronic system with particular attention to the embedded linear machine	
<i>Alexander Thomas Oswald</i>	
PB5.21	450
3-D Optimal Design of Laminated Yoke of Billet Heater for Rolling Wire Rod using ON/OFF	
<i>Norio Takahashi, Shunsuke Nakazaki, Daisuke Miyagi, Naoki Uchida, Keiji Kawanaka, Hideyuki Namba</i>	

PB5.22	452
Multiobjective Differential Evolution Approach for the TEAM Workshop Problem 25	
<i>Luiz Lebensztajn, Leandro dos Santos Coelho</i>	
PB5.23	454
A Populational Particle Collision Algorithm Applied to Electromagnetic Optimization	
<i>Piergiorgio Alotto, Leandro Dos Santos Coelho</i>	

**Session PB6: Waves Propagation II, Nanomagnetics,
Photonics and Optoelectronics**

13:30-15:00 – Room: Poster Session Room I

PB6.1	456
Microstrip Ring Antennas on Double-Layered Ferrimagnetic Substrates <i>Christianne F. L. Vasconcelos, Sandro Gonçalves Silva, Maria Rosa M. L. Albuquerque, José de Ribamar S. Oliveira, Adaildo Gomes d'Assunção</i>	
PB6.2	458
CFL Conditions for Finite Integration Methods Using Parallelogram and Parallelepiped Grids <i>Tetsuji Matsuo</i>	
PB6.3	460
A hybrid model for path loss calculation in urban environment <i>Leandro Carísio Fernandes, Antonio José Martins Soares</i>	
PB6.4	462
Temperature Dependence of Optical Fiber <i>Jose Patrocíno da Silva, Vitaly Felix Rodriguez Esquerre, Diego Souza Bezerra, Hugo Enrique Hernandez Figueroa</i>	
PB6.5	464
Analysis of the Effects of Irregular Terrain on Radio Wave Propagation Based on a Three-dimensional Parabolic Equation <i>Marco Aurélio Nunes da Silva, Emanoel Costa, Markus Liniger</i>	
PB6.6	466
Determination of Electromagnetic Sources Through Field Measurements <i>Ibrahim Akduman, Hulya Sahinturk, Ali Yapar</i>	
PB6.7	468
Improved FE-mesh truncation by surface operator implementation to speed up antenna design <i>Werner Renhart, Christian Magele, Christian Tuerk</i>	
PB6.8	470
Application of Method of Moments for Near Field Optics with Metal Nanoparticles <i>Karlo Queiroz Costa, Victor Dmitriev</i>	

PB6.9	472
Eigenvalue analysis of lossy waveguide structures using hybrid H(curl) second order finite elements	
<i>Christian Scheiber, Oszkár Bíró</i>	
PB6.10	474
Efficient Interface Conditions for Finite Difference Time Domain Methods	
<i>Dirk Schulz</i>	
PB6.11	476
FDTD Analysis of UHF-band RFID for Metallic Objects	
<i>Yuta Watanabe, Kota Watanabe, Hajime Igarashi</i>	
PB6.12	478
The Auxiliary Problem For Transient Lossy Transmission Lines With Non-Matched Loads	
<i>Turhan Karaguler</i>	
PB6.13	480
A low cost parallel and distributed architecture for full micromagnetic numerical codes	
<i>Carlo Ragusa, Bartolomeo Montruccio, Maurizio Repetto, Vittorio Giovara, Fabio Freschi, Baochang Xie</i>	
PB6.14	482
A Research of Various MRAM Design for High Gb/Chip on Perpendicular Pole System	
<i>Hyuk Won, Gwan Soo Park, Kang Seo, Il hwan Park</i>	
PB6.15	484
Theoretical Analysis of Field Distribution and Attenuation in a Ag/GaN Periodic Plasmon Waveguide	
<i>Anderson Oliveira Silva, Victor Dmitriev</i>	
PB6.16	486
Model for Antenna Positioning in Indoor Environments Using 2-D Ray-Tracing Technique Associated to a Particle Swarm Optimizer	
<i>Stevan Grubisic, Emanuela Cabral, Walter Pereira Carpes Junior</i>	
PB6.17	488
Accurate Transmission-Path Ray-Tracing Computation for Indoor EM Field Prediction	
<i>Antonino Laudani, Salvatore Coco, Giuseppe Pollicino</i>	

Session PB7: EMC – Electromagnetic Compatibility

13:30-15:00 – Room: Poster Session Room II

PB7.1	490
Study of the Parasitic Effect Caused by Vias in High-Frequency Circuit <i>Adaildo Gomes D'Assunção Jr, Glauco Fontgalland, Henri Baudrand</i>	
PB7.2	492
A 3D PEEC Method for the prediction of radiated fields from automotive cables <i>Yahyaoui Wissem, Pichon Lionel, Duval Fabrice</i>	
PB7.3	494
Simulation of a Real Overvoltage Transient in a TLM-Modeled Grounding Mesh <i>Luiz Henrique Alves de Medeiros, Marcos T. de Melo, Fabio R. L. Silva, Andre A. Almeida, Fabio. N. Fraga</i>	
PB7.4	496
Conservativeness of the Head Tissue Equivalent Liquid for Body-Worn SAR Assessments <i>Vikass Monebhurrum</i>	
PB7.5	498
Investigation of Electronic Stirring Chamber Phase-shifting Excitation and Load Effects <i>Mario Alves dos Santos Jr, Damien Voyer, Carlos Antonio França Sartori, Djonny Weinzierl, Ronan Perrussel, Christian Vollaire, Laurent Krahenbuhl, Jose Roberto Cardoso</i>	
PB7.6	500
3D Near-field Reconstruction from PCBs by Equivalent Sources Using Legendre Functions <i>Lotfi Beghou, Lionel Pichon, Adroaldo Raizer, François Costa</i>	
PB7.7	502
Evaluation of Shielding Effectiveness within Operating Room Using TLM Method <i>Wilson Valente Jr., Luciana Firmino, Adroaldo Raizer</i>	
PB7.8	504
Full Wave Solution for Intel CPU with a Heat Sink for EMC Investigations <i>Junwei Lu, Boyuan Zhu, David Thiel</i>	

PB7.9	506
Conductor Positions Optimization of a Transmission Line Excitation Chamber	
<i>Avila Sérgio, Santos Jr Mario, Lebentsjajn Luiz, Sartori Carlos, Krähenbühl</i>	
<i>Laurent, Cardoso José, Weinzierl Djonny</i>	
PB7.10	508
Magnetic Shielding of Apertures Loaded by Resistive Coating	
<i>Marcello D'Amore, Valerio De Santis, Mauro Feliziani</i>	
PB7.11	510
Numerical FEM models for the evaluation of EM fields exposure near welding machines	
<i>Fabrizio Dughiero, Michele Forzan, Elisabetta Sieni</i>	
PB7.12	512
Identification of equivalent multipolar electromagnetic sources by space filtering	
<i>Benjamin Vincent, Olivier Chadebec, Jean-Luc Schanen, Kévin Berger, Ronan Perrussel, Laurent Krähenbühl</i>	
PB7.13	514
Pre-evaluating a SAR Measurement System Performance by Numerical Simulations	
<i>Carlos Antonio França Sartori, Marcelo Perotoni, Antonio Marini de Almeida, José Kleber Cunha Pinto, José Roberto Cardoso, Sérgio Mühlen, Alberto Lisboa Dantas, Mário Leite Pereira Filho</i>	
PB7.14	516
Computer Analysis of Electromagnetic Transients in Grounding Systems	
<i>Rafael Silva Alípio, Marco Aurélio de Oliveira Schroeder, Márcio Matias Afonso</i>	
PB7.15	518
Proposal of Computational Model Validation for EMC Automotive Tests in Vehicles	
<i>Leonardo Lopes Santos Alvarenga, Ricardo Luiz Adriano, José Osvaldo Paulino, Joao Antônio Vasconcelos, Arnaud Christophe Pierre Marie Colin, Claudio Henrique Gomes Santos</i>	
PB7.16	520
Effect of grounding system on Electromagnetic Fields around Building Struck by Lightning	
<i>Bo Zhang, Jinliang He, Rong Zeng, Shuiming Chen</i>	

PB7.17	522
Conservativeness of the SAM Phantom for the SAR Evaluation in the Child's Head	
<i>Vikass Monebhurrun</i>	
PB7.18	524
3D-Modelling of an Aperture Illuminated by HF Electromagnetic Source for EMC Application	
<i>Mohammed djennah, Françoise Rioux</i>	
PB7.19	526
The Dynamic Circuit Model of the Spark Plug for EMI Prediction	
<i>Ya-li ZHENG, Ji-hui YU, Quan-di WANG, Jin JIA</i>	
PB7.20	528
Steady-state Inductive Coupling to the Underground Pipeline Parallel to Overhead Transmission Line above Two-layer Soil	
<i>Lei Qi, Yan Wu, Xiang Cui</i>	
PB7.21	530
A New Stochastic LPP Model for studying ELF Bioelectromagnetic Interaction	
<i>Antonino Laudani, Enrica Calà, Salvatore Coco</i>	

Session OB2: Optimization

15:20-17:10 – Room: Plenary Session Room

OB2.1	532
(Invited) An Enhanced Ellipsoid Method for Electromagnetic Devices Optimisation and Design	
<i>Douglas Alexandre Gomes Vieira, Adriano Chaves Lisboa, Rodney R. Saldanha</i>	
OB2.2	534
Robust Optimization Utilizing the Second-order Design Sensitivity Information	
<i>Dong-Hun Kim, Giwoo Jeung, Dong-Wook Kim, Heung-Geun Kim, David A. Lowther, Jan K. Sykulski</i>	
OB2.3	536
Adapted Output Space-Mapping Technique for a Bi-Objective Optimization	
<i>Stephane Brisset, Tuan-Vu Tran, Pascal Brochet, Fouzia Moussoumi</i>	

OB2.4	538
Niching Evolution Strategies for Simultaneously Finding Global and Pareto Optimal Solutions	
<i>Christian Magele, Alice Koestinger, Michael Jaindl, Werner Renhart, Bogdan Cranganu-Cretu, Jasmin Smajic</i>	
OB2.5	540
Design Optimization of Waveguide Filters Using Continuum Design Sensitivity Analysis	
<i>Dong-Hun Kim, Nak-Sun Choi, Giwoo Jeung, Joon-Goo Park, Jin-Kyu Byun</i>	