

2016 IEEE Conference on Electromagnetic Field Computation (CEFC 2016)

**Miami, Florida, USA
13-16 November 2016**



**IEEE Catalog Number: CFP16COE-POD
ISBN: 978-1-5090-1033-2**

**Copyright © 2016 by the Institute of Electrical and Electronics Engineers, Inc
All Rights Reserved**

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

****** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP16COE-POD
ISBN (Print-On-Demand):	978-1-5090-1033-2
ISBN (Online):	978-1-5090-1032-5

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com

TABLE OF CONTENTS

DESIGN EVALUATION OF CONVENTIONAL AND TOOTHLESS STATOR WIND POWER AXIAL-FLUX PM GENERATOR.....	1
<i>T. M. Hijazi ; B. El-Masri ; A. A. Arkadan</i>	
ELECTROMECHANICAL ANALYSIS OF A NEW PMS BEARING	2
<i>Sami Barmada ; Antonino Musolino ; Marco Raugi ; Rocco Rizzo ; Ernesto Tiipodi</i>	
PARTICULAR ELECTROMAGNETIC SHIELDING ANALYSIS OF CABLES FOR ELECTRIC VEHICLE APPLICATIONS.....	3
<i>Tatiana Damatopoulou ; Vasilios Lazaris ; Antonios Kladas</i>	
IMPACT OF INTER-TURN SHORT-CIRCUIT LOCATION ON INDUCTION MACHINES PARAMETERS THROUGH FE COMPUTATIONS.....	4
<i>A. Berzoy ; A. A. S. Mohamed ; O. Mohammed</i>	
POWER GENERATION PERFORMANCE ANALYSIS OF A HUB DYNAMO CONSIDERING A MAGNETIC HYSTERESIS.....	5
<i>Noboru Niguchi ; Katsuhiro Hirata ; Shugo Nobuhara ; Kazuya Morita</i>	
TEMPERATURE AND ELECTROMAGNETIC FORCE ANALYSIS OF GIB PLUG-IN CONNECTOR WITH DIFFERENT CONTACT STATUS UNDER SHORT CIRCUIT FAULT	6
<i>Xiangyu Guan ; Naiqiu Shu ; Xiao Jin ; Yuanchao Wu ; Hui Peng</i>	
THREE-DIMENSIONAL SHAPE OPTIMIZATION OF CLAW-POLE MOTORS	7
<i>Yuki Hidaka ; Hajime Igarashi</i>	
DOUBLE-LAYER BEM FOR GENERIC ELECTROSTATICS.....	8
<i>Zoran Andjelic ; Kazuhisa Ishibashi</i>	
TOPOLOGY OPTIMIZATION OF ROTATING MACHINE ROTORS CONSIDERING LOCALIZED MAGNETIC DEGRADATION CAUSED IN MANUFACTURING PROCESS	9
<i>Yuki Hidaka ; Hajime Igarashi</i>	
3D ANALYSIS OF INSPECTION METHOD OF OPPOSITE SIDE DEFECT IN STEEL USING AC SQUARE WAVE MAGNETIC FIELD WITH DC BIAS TAKING ACCOUNT OF MINOR LOOP	10
<i>S. Yoshioka ; R. Naganoma ; E. Kuboyama ; Y. Gotoh</i>	
SHIELDING EFFECTIVENESS OF CABINET USED IN NUCLEAR POWER PLANTS.....	11
<i>Jaeyul Choo ; Hyung Tae Kim ; Daehee Kim ; Hyun Shin Park ; Youngsik Cho</i>	
A FERROFLUID MOTION ANALYSIS WITH PARTICLE METHOD AND MAGNETIC MOMENT METHOD	12
<i>Kenta Mitsufuji ; Shuhei Matsuawa ; Katsuhiro Hirata ; Fumikazu Miyasaka</i>	
COMPARATIVE STUDY OF METAL OBSTACLE VARIATIONS IN DISTURBING WIRELESS POWER TRANSMISSION SYSTEM	13
<i>Pengcheng Zhang ; Qingxin Yang ; Xian Zhang ; Yang Li ; Lihua Zhu</i>	
IMPROVED ASYMPTOTIC BOUNDARY CONDITIONS FOR QUASI-STATIC MAGNETIC- FIELD PROBLEMS IN ELLIPSOIDAL DOMAINS	14
<i>Kengo Sugahara</i>	
PROPOSAL OF ELECTROMAGNETIC INSPECTION OF OPPOSITE SIDE DEFECT IN STEEL USING 3-D NONLINEAR FEM TAKING ACCOUNT OF MINOR LOOP AND RESIDUAL MAGNETIZATION	15
<i>S. Yoshioka ; T. Tujigou ; Y. Gotoh</i>	
PROPOSAL ON A NEW TYPE OF SECOND ORDER EDGE ELEMENTS IN MAGNETOSTATIC FIELD ANALYSIS.....	16
<i>Akira Ahagon ; Akihisa Kameari</i>	
MULTIPHYSICS COUPLING ANALYSIS OF TSV BY USING DISCRETE GEOMETRIC METHOD BASED ON TONTI DIAGRAM	17
<i>Zhan Gao ; Xiaoyu Xu ; Shuai Yan ; Pengfei Lyu ; Zhuoxiang Ren</i>	
HOMOGENIZATION METHOD FOR LAMINATED IRON CORE TAKING ACCOUNT OF HYSTERETIC PROPERTY	18
<i>Junji Kitao ; Yasuhito Takahashi ; Koji Fujiwara ; Akira Ahagon ; Tetsuji Matsuo ; Akihiro Daikoku</i>	
TORQUE DENSITY COMPARISON OF AXIAL AND RADIAL HALBACH COUPLINGS	19
<i>Kang Li ; Jonathan Bird</i>	
STUDY ON THE INSULATION PERFORMANCE USING THE RESPONSE SURFACE- GEOMETRIC FEATURE CHARGE SIMULATION METHOD.....	20
<i>Wu Qi ; Liu Xiaoming ; Yang Tian ; Chen Hai ; Huang Chongyang ; Zhang Xin</i>	

A NOVEL COULOMB GAUGED MAGNETIC VECTOR POTENTIAL FORMULATION FOR 3-D EDDY-CURRENT FIELD ANALYSIS USING EDGE ELEMENTS	21
<i>Yanpu Zhao ; W. N. Fu</i>	
A NEW STABLE FULL-WAVE MAXWELL SOLVER FOR ALL FREQUENCIES	22
<i>Yanpu Zhao ; W. N. Fu</i>	
A NOVEL GAUGED VECTOR POTENTIAL FORMULATION FOR 3-D MOTIONAL EDDY-CURRENT PROBLEMS USING EDGE ELEMENTS.....	23
<i>Yanpu Zhao ; W. N. Fu</i>	
A NOVEL FORMULATION WITH COULOMB GAUGE FOR 3-D MAGNETOSTATIC PROBLEMS USING EDGE ELEMENTS	24
<i>Yanpu Zhao ; W. N. Fu</i>	
A NOVEL ITERATIVE LINEAR SOLVER FOR 3-D MAGNETOSTATIC PROBLEMS USING EDGE ELEMENTS.....	25
<i>Xian-Ming Gu ; Yanpu Zhao ; W. N. Fu</i>	
DESIGN AND ANALYSIS OF A LINEAR CONTINUOUS MAGNETIC GEAR GENERATOR FOR DIRECT-DRIVE WAVE ENERGY CONVERSION.....	26
<i>Ningjun Feng ; Haitao Yu ; Minqiang Hu ; Lei Huang ; Xiaomei Liu ; Zhenchuan Shi</i>	
MULTIPLE RIGHT-HAND SIDE TECHNIQUES IN SEMI-EXPLICIT TIME INTEGRATION METHODS FOR TRANSIENT EDDY CURRENT PROBLEMS	27
<i>Jennifer Dutilleul ; Markus Clemens ; Sebastian Schöps</i>	
3D ANALYSIS OF MAGNETOHYDRODYNAMIC FLOW EMPLOYING MESHLESS METHOD BASED ON WEIGHTED LEAST SQUARE METHOD	28
<i>Shuhei Matsuzawa ; Katsuhiko Hirata ; Fumikazu Miyasaka</i>	
INTERPRETATION OF AN ENERGY BASED HYSTERESIS MODEL AS A SCALAR PREISACH OPERATOR	29
<i>Stephan Willerich ; Hans-Georg Herzog</i>	
PARAMETER SENSITIVITY ANALYSIS AND ROBUST DESIGN APPROACH FOR FLUX-SWITCHING PERMANENT MAGNET MACHINES	30
<i>Gan Zhang ; Wei Hua ; Ming Cheng ; Bangfu Zhang</i>	
DEMAGNETIZATION FAULT DETECTION IN AXIAL FLUX PM MACHINES BY USING SENSING COILS AND AN ANALYTICAL MODEL.....	31
<i>Jan De Bisschop ; Peter Sergeant ; Luc Dupré</i>	
INVESTIGATION ON NUMERICAL MODELING OF EXCESS LOSS IN SILE SHEET CONSIDERING PINNING EFFECT	32
<i>Yanhui Gao ; Weimin Guan ; Kazuhiro Muramatsu ; Cuihua Tian ; Jiaxin Yuan ; Baichao Chen</i>	
WIDE-ANGLE ELIMINATION OF TF/SF-GENERATED SPURIOUS WAVES IN THE NONSTANDARD-FDTD TECHNIQUE	33
<i>Tadao Ohtani ; Yasushi Kanai ; Nikolaos V. Kantartzis</i>	
A NEW ROBUST SURROGATE-ASSISTED MULTI-OBJECTIVE OPTIMIZATION ALGORITHM FOR AN IPMSM DESIGN.....	34
<i>Dong-Kuk Lim ; Dong-Kyun Woo ; Han-Kyeol Yeo ; Sang-Yong Jung ; Hyun-Kyo Jung</i>	
REGULARIZED TOPOLOGY OPTIMIZATION OF IPM MOTORS AND POST-PROCESSING FOR INTERPRETATION OF OPTIMAL SOLUTIONS	35
<i>Hidekazu Sasaki ; Shintaro Furui ; Hajime Igarashi ; Hiroki Sakamoto ; Takashi Abe ; Kazuya Ogura</i>	
A SIMPLE EQUIVALENT CIRCUIT MODEL FOR SHIELDING ANALYSIS OF MAGNETIC SHEETS	36
<i>Hyun Ho Park ; Jong Hwa Kwon ; Seungyoung Ahn</i>	
3D MAGNETIC-RESONANCE-COUPLING (MRC) LOCALIZATION OF WIRELESS CAPSULE ENDOSCOPY	37
<i>Yongming Xia ; Lihui Zhang ; Kaiyuan Lu ; Linlin Wu</i>	
PEEC-BASED MULTI-OBJECTIVE SYNTHESIS OF NON-UNIFORMLY SPACED LINEAR ANTENNA ARRAYS.....	38
<i>Thomas Bauernfeind ; Paul Baumgartner ; Oszkár Bíró ; Christian Magele ; Kurt Preis ; Andreas Hackl ; Piergiorgio Alotto ; Riccardo Torchio</i>	
A NOVEL SURFACE PERMANENT MAGNET VERNIER MACHINE WITH HALBACH ARRAY PERMANENT MAGNET IN STATOR SLOT OPENING	39
<i>Jing Rao ; Ronghai Qu ; Dawei Li ; Yuting Gao</i>	
UHF RFID ANTENNA IMPEDANCE CHARACTERIZATION: NUMERICAL SIMULATION OF INTERCONNECTION EFFECTS ON THE ANTENNA IMPEDANCE	40
<i>Thomas Bauernfeind ; Werner Renhart ; Piergiorgio Alotto ; Oszkár Bíró</i>	

CALCULUS OF MOVING SURFACES AND SINGULAR WAVE-FRONTS IN IDEAL MAGNETOHYDRODYNAMICS.....	41
<i>Michael Grinfeld ; Pavel Grinfeld</i>	
TRANSIENT PARAMETERS CALCULATION OF SALIENT-POLE SYNCHRONOUS MACHINE BY FINITE ELEMENT ANALYSIS	42
<i>Yang Xiao ; Libing Zhou ; Jin Wang ; Rui Yang</i>	
SECOND ENERGY VARIATION IN HETEROGENEOUS SYSTEMS WITH ELECTROSTATIC AND MAGNETOSTATIC INTERACTION.....	43
<i>Michael Grinfeld ; Pavel Grinfeld</i>	
MULTI-SLICE 2.5D MODELLING AND VALIDATION OF SKEWED ELECTRICAL MACHINES USING OPEN-SOURCE TOOLS	44
<i>Pavel Ponomarev ; Janne Keränen ; Mikko Lyly ; Jan Westerlund ; Peter Råback</i>	
VECTOR HYSTERESIS MODEL ASSOCIATED TO FEM IN A HYSTERESIS MOTOR MODELING	45
<i>Juliano Bitencourt Padilha ; Patrick Kuo-Peng ; Nelson Sadowski ; Nelson Jhoe Batistela</i>	
A STOCHASTIC METHOD FOR CHARACTERIZATION OF SOFT MAGNETIC MATERIAL WITH A DAMPED LC CIRCUIT.....	46
<i>Paulo R. Eckert ; Luiz A. Righi ; Aly F. Flores Filho ; Joao M. Kanieski</i>	
PARALLEL PERFORMANCE OF MULTI-SLICE METHOD FOR SKEWED ELECTRICAL MACHINES	47
<i>Janne Keränen ; Pavel Ponomarev ; Jenni Pippuri ; Peter Råback ; Mikko Lyly ; Jan Westerlund</i>	
EXTENDED TLM-2D NUMERICAL TECHNIQUE: AN ALGORITHM CONSIDERING NON-HOMOGENOUS MEDIA AND IONIZATION.....	48
<i>Alex B. Tronchoni ; Daniel S. Gazzana ; Arturo S. Bretas ; Roberto C. Leborgne</i>	
2-D QUASI-STATIC FOURIER SERIES SOLUTION FOR A SINGLE COIL OF A LINEAR INDUCTION MOTOR	49
<i>Majd Abdelqader ; Jordan Morelli ; Ryszard Palka ; Konrad Woronowicz</i>	
A HYBRID METHOD TO REPRESENT THE SOIL IONIZATION PHENOMENON IN IMPULSIVE GROUNDING SYSTEMS	50
<i>Daniel S. Gazzana ; Arturo S. Bretas ; Dave W. P. Thomas ; Christos Christopoulos</i>	
PERFORMANCE IMPROVEMENT AND COMPARISON OF CONCENTRATED WINDING SEGMENTAL ROTOR AND DOUBLE STATOR SWITCHED RELUCTANCE MACHINES.....	51
<i>Emine Bostanci ; Lei Gu ; Eva Cosoroaba ; Mehdi Moallem ; Babak Fahimi</i>	
EQUIVALENT CORE LENGTH CONSIDERATION OF SYNCHRONOUS MOTOR WITH RADIAL AIR-DUCTS BY USING 3D ELECTROMAGNETIC FINITE ELEMENT METHOD.....	52
<i>Jae-Myung Cha ; Rak-Won Son ; Gi-Hoon Yoo ; Moo-Jong Jeon</i>	
MODIFIED CROW SEARCH APPROACH APPLIED TO ELECTROMAGNETIC OPTIMIZATION	53
<i>Leandro Dos Santos Coelho ; Carlos Richter ; Viviana Cocco Mariani ; Alireza Askarzadeh</i>	
NUMERICAL CALCULATION OF MAGNETIC HYSTERESIS PROPERTY TAKING INTO ACCOUNT MAGNETIC ANISOTROPY OF ELECTRICAL STEEL SHEET	54
<i>Shunya Odawara ; Naofumi Kitsunozaki ; Keisuke Fujisaki ; Michihiro Nakagawa ; Nobuki Kitano ; Yoshinari Asano</i>	
STRUCTURAL SAFETY EVALUATION OF THE INNER CONDUCTORS IN GIB (GAS INSULATED BUS) USING ELECTROMAGNETIC STRUCTURAL COUPLED ANALYSIS	55
<i>Chan Park ; Taehun Song ; Taekyung Kim</i>	
COUPLED MAGNETIC-THERMAL FIELDS ANALYSIS OF WATER COOLING FLUX-SWITCHING PERMANENT MAGNET MOTORS BY AN AXIALLY SEGMENTED MODEL	56
<i>Gan Zhang ; Wei Hua ; Ming Cheng ; Bangfu Zhang</i>	
DYNAMIC RELUCTANCE MESH MODELING AND LOSSES EVALUATION OF PERMANENT MAGNET TRACTION MOTOR	57
<i>Minchen Zhu ; Youtong Fang ; Xiaoyan Huang ; Xin Yin</i>	
MOR-BASED APPROACH TO UNCERTAINTY QUANTIFICATION IN ELECTROKINETICS WITH CORRELATED RANDOM MATERIAL PARAMETERS	58
<i>Lorenzo Codecasa ; Luca Di Rienzo</i>	
NEWLY PROPOSED HYBRID TYPE MULTI-DOF OPERATION MOTOR FOR MULTI-COPTER UAV SYSTEMS	59
<i>Ho-Joon Lee ; Huai-Cong Liu ; Geochul Jeong ; Ju Lee</i>	
NONLINEAR IMPEDANCE BOUNDARY CONDITION FOR TIME-DOMAIN E-B BEM FORMULATION	60
<i>Carlo De Falco ; Luca Di Rienzo ; Nathan Ida ; Sergey Yuferev</i>	

DOUGLAS-GUNN METHOD APPLIED TO DOSIMETRIC ASSESSMENT IN MAGNETIC RESONANCE IMAGING	61
<i>Alessandro Arduino ; Oriano Bottauscio ; Mario Chiampi ; Luca Zilberti</i>	
THE RESEARCH OF SUPPRESSING MOTOR NOISE AND VIBRATION BASED ON NEGATIVE MAGNETOSTRICTIVE EFFECT	62
<i>Xin Zhang ; Lianhe Li ; Yuehua Geng ; Qingxin Yang ; Chaoqun Xie ; Lihua Zhu</i>	
THE BREAKUP OF A SPHERICAL MAGNETIC BEADS CHAIN SUSPENDED ALONG THE MAGNETIC AXIS OF A MAGNET	63
<i>G. Vinsard ; S. Dufour</i>	
EDDY CURRENTS IN CUSP SHAPED THIN SHELL	64
<i>Stéphane Dufour ; Gérard Vinsard</i>	
COAXIAL MAGNETIC GEAR DESIGN	65
<i>Mattia Filippini ; Piergiorgio Alotto</i>	
TRANSFORMER IMPULSE SURGES CALCULATION BY FEM COUPLED TO CIRCUIT	66
<i>Maxym Ostrenko ; Bogdan Andriienko</i>	
A NEURAL NETWORK BASED RECOMMENDATION SYSTEM FOR SOLVERS AND PRECONDITIONERS FOR SYSTEMS OF LINEAR EQUATIONS	67
<i>Matthias Jüttner ; Jonathan Falk ; Wolfgang M. Rucker</i>	
COUPLED MULTIPHYSICS PROBLEMS AS MARKET PLACE FOR COMPETING AUTONOMOUS SOFTWARE AGENTS	68
<i>Matthias Jüttner ; Sebastian Grabmaier ; Desirée Vögeli ; Wolfgang M. Rucker ; Peter Göhner</i>	
2D FINITE ELEMENT MODEL REDUCTION FOR COPPER LOSSES CALCULATION IN SWITCHED RELUCTANCE MACHINES	69
<i>M. Al Eit ; P. Dular ; F. Bouillault ; C. Marchand ; G. Krebs</i>	
MAGNETIC FIELD ANALYSIS USING AN ANALYTICAL METHOD IN A RADIAL MAGNETIC BEARING	70
<i>Yunlong Zhong ; Youtong Fang ; Xiaoyan Huang ; Qinfen Lu</i>	
IMPROVEMENTS OF MAGNETIC BINDING FORCES BETWEEN PERMANENT MAGNET RACK AND BACK YOKE IN LARGE-SCALE MOTORS	71
<i>Oh Gyu Kwon ; Hong Soon Choi</i>	
MULTI-OBJECTIVE ROBUST CONTROLLER DESIGN FOR ELECTROMAGNETIC SUSPENSIONS VIA LMI	72
<i>Chang Hyun Kim ; Kyoung Jin Joo ; Ju Lee</i>	
ENRICHED PERFORMANCE MEASURE APPROACH FOR EFFICIENT RELIABILITY-BASED ELECTROMAGNETIC DESIGNS	73
<i>Byungsu Kang ; Dong-Wook Kim ; K. K. Choi ; Dong-Hun Kim</i>	
HYBRID RELIABILITY ANALYSIS METHOD FOR ELECTROMAGNETIC DESIGN PROBLEMS WITH NON-GAUSSIAN PROBABILISTIC PARAMETERS	74
<i>Byungsu Kang ; Dong-Wook Kim ; Hyunkyoo Cho ; K. K. Choi ; Dong-Hun Kim</i>	
MODELING OF DENSE WINDINGS FOR RESONANT WIRELESS POWER TRANSFER BY AN INTEGRAL EQUATION FORMULATION	75
<i>Sándor Bilicz ; Zsolt Badics ; Szabolcs Gyimóthy ; Botond Bálint ; József Pávó</i>	
AN EQUIVALENT STRAIN APPROACH FOR MAGNETO-ELASTIC COUPLINGS	76
<i>Laurent Daniel ; Frédéric Bouillault</i>	
MAGNETIC FIELD AND THRUST ANALYSIS OF THE U-CHANNEL AIR-CORE PERMANENT MAGNET LINEAR SYNCHRONOUS MOTOR	77
<i>Xiao Liu ; Shoudao Huang</i>	
3D MODELING OF THE MOVEMENT OF MACHINE USING MORTAR METHOD FOR EDGE FINITE ELEMENTS OF MAGNETIC VECTOR POTENTIAL FORMULATION	78
<i>Pauline Ferroillat ; Christophe Guérin ; Gérard Meunier ; Brahim Ramdane ; Patrice Labie ; Delphine Dupuy</i>	
HANDLING SENSITIVITY IN MULTIOBJECTIVE DESIGN OPTIMIZATION OF MFH INDUCTORS	79
<i>P. Di Barba ; F. Dughiero ; M. Forzan ; E. Sieni</i>	
ANALYSIS OF THE EFFECT OF NOT-PARALLEL NEEDLES IN ELECTROPORATION	80
<i>L. G. Campana ; F. Dughiero ; M. Forzan ; Rudy Rizzo ; E. Sieni</i>	
DESIGN, MODELLING AND OPTIMIZATION OF A PSEUDO DIRECT DRIVE	81
<i>C. G. C. Neves ; A. F. F. Filho ; D. G. Dorrell</i>	
TIME DECOMPOSITION METHOD FOR THE TRANSIENT SIMULATION OF LOW-FREQUENCY ELECTROMAGNETICS	82
<i>B. He ; P. Zhou ; C. Lu ; N. Chen ; D. Lin ; M. Rosu ; B. C. Bork</i>	

COMBINED FORMULATION FOR MESHLESS-MOM HYBRID METHOD APPLIED TO 2D ELECTROMAGNETIC SCATTERING	83
<i>Ursula C. Resende ; Fernando J. S. Moreira ; Marcio M. Afonso ; Eduardo H. R. Coppoli</i>	
A SIMPLIFIED APPROACH FOR PREDICTING THE STARTING PERFORMANCE OF INDUCTION MACHINES BASED ON ROTOR DESIGN MODIFICATION.....	84
<i>Jangho Yun ; Sang Bin Lee</i>	
DESIGN AND ANALYSIS OF A OUTER-ROTOR PERMANENT-MAGNET FLUX-MODULATED MOTOR FOR ELECTRIC VEHICLES	85
<i>Yinyin Li ; Xiaoyan Huang ; Dong Yu ; Kaihe Zhang ; Jian Zhang</i>	
A NOVEL COGGING TORQUE REDUCTION METHOD FOR THE MODULAR ARC-LINEAR FLUX SWITCHING PERMANENT-MAGNET MOTOR.....	86
<i>Xiangdong Liu ; Zhongxin Gu ; Bin Li ; Jing Zhao ; Xiaochen Zhang</i>	
ANALYSIS OF THE END-EFFECTS IN DOUBLE STATOR LINEAR-ROTARY PERMANENT MAGNET MOTOR WITH LONG MOVER.....	87
<i>Lei Xu ; Mingyao Lin ; Xinghe Fu ; Kai Liu ; Baocheng Guo</i>	
MODELING OF MAGNETIC LEVITATION SYSTEMS USING FINITE ELEMENTS AND AN ANALYTICAL SOLUTION	88
<i>F. Gonzalez-Montañez ; S. Maximov ; J. Guzman ; R. Escarela-Perez ; J. C. Olivarez-Galvan</i>	
DYNAMIC CHARACTERISTICS OF LINEAR RESONANT ACTUATOR USING ELECTRICAL RESONANCE	89
<i>Masayuki Kato ; Katsuhiro Hirata</i>	
FAST VARIABLE PRECONDITIONED CONJUGATE GRADIENT METHOD USING DEFLATION TECHNIQUE	90
<i>Kota Watanabe ; Yuki Sakai</i>	
HIGH SELECTIVE METAMATERIAL RESONATOR BASED ON COMPLEMENTARY SPLIT RING RESONATOR.....	91
<i>Dawei Zhang ; Qun Wu ; Kuang Zhang ; Xumin Ding ; Xuejun Sha</i>	
HYBRID MOM/FDTD METHOD FOR THIN WIRE STRUCTURES WITH RECTANGULAR CROSS SECTION	92
<i>Y. Du ; Binghao Li ; Mingli Chen</i>	
ACCELERATION OF REFLECTION IN 2D RAY TRACING BASED ON IMAGE BY BINARY SPACE PARTITIONING	93
<i>Pengfei Lyu ; Xiaoyu Xu ; Shuai Yan ; Zhuoxiang Ren</i>	
DYNAMIC ANALYSIS OF A NEW THREE-DEGREE-OF-FREEDOM ACTUATOR FOR IMAGE STABILIZATION	94
<i>Akira Heya ; Katsuhiro Hirata ; Shota Ezaki ; Tomohiro Ota</i>	
A NOVEL FINITE INTEGRATION TECHNIQUE MODEL FOR STATIC AND DYNAMIC PIEZOELECTRIC COUPLED PROBLEMS	95
<i>Lorenzo Codecasa ; Daniele Desideri ; Alberto Doria ; Alvise Maschio ; Federico Moro</i>	
POST-PROCESSING MAGNETIC MEASUREMENT DATA OF ACCELERATOR MAGNETS BY THE BOUNDARY ELEMENT METHOD	96
<i>Alberto Cosmai ; Luca Di Rienzo ; Stephan Russenschuck</i>	
MULTI-OBJECTIVE OPTIMIZATION OF MAGNETIC ACTUATOR DESIGN USING ADAPTIVE WEIGHT DETERMINATION SCHEME.....	97
<i>Namhee Ryu ; Sunghoon Lim ; Seungjae Min ; Kazuhiro Izui ; Shinji Nishiwaki</i>	
DESIGN OPTIMIZATION OF A MAGNETIC ACTUATOR INCORPORATING THE CONCEPT OF THE HYBRID ANALYSIS METHOD	98
<i>Sunghoon Lim ; Seungjae Min ; Kazuhiro Izui ; Shinji Nishiwaki</i>	
A HIERARCHICAL GREEDY STRATEGY FOR ADAPTIVE MODEL-ORDER REDUCTION	99
<i>Alexander Sommer ; Tobias Bauer ; Rolf Baltes ; Romanus Dyczij-Edlinger</i>	
COMPACT TIME-DOMAIN MODELS INCLUDING LORENTZ MATERIALS BASED ON REDUCED-ORDER MODELS IN THE FREQUENCY-DOMAIN.....	100
<i>Rolf Baltes ; Ortwin Farle ; Romanus Dyczij-Edlinger</i>	
INVERSE THERMAL MODELLING TO DETERMINE POWER LOSSES IN INDUCTION MOTOR	101
<i>Devi Geetha Nair ; Antero Arkkio</i>	
COMPUTATION OF MAGNETIC FORCES USING DEGENERATED AIRGAP ELEMENT.....	102
<i>Sabin Sathyan ; Anouar Belahcen ; Juhani Kataja ; François Henrotte ; Abdelkader Benabou ; Yvonnick Le Menach</i>	
ENGINEERING THE SWITCHING BEHAVIOR OF NANOMAGNETS FOR LOGIC COMPUTATION USING 3-DIMENSIONAL MODELING AND SIMULATION	103
<i>W. Kaiser ; M. Kiechle ; G. Ziemys ; D. Schmitt-Landsiedel ; S. Breitkreutz-V. Gamm</i>	

POWER BALANCE APPROACH TO STUDY ELECTROMAGNETIC DAMPING IN ROTOR DYNAMICS	104
<i>Bishal Silwal ; Paavo Rasilo ; Antero Arkkio</i>	
A NEW ADAPTIVE MESHING METHOD USING NON-CONFORMING FINITE ELEMENT METHOD	105
<i>So Noguchi ; Takuto Naoe ; Hajime Igarashi ; Shinya Matsutomo ; Vlatko Cingoski</i>	
A NEW ADAPTIVE MESH REFINEMENT METHOD IN FEA BASED ON CONSERVATION OF MAGNETIC FIELD AT INTERFACE BETWEEN TWO ELEMENTS	106
<i>So Noguchi ; Takuto Naoe ; Hajime Igarashi ; Shinya Matsutomo ; Vlatko Cingoski ; Akira Ahagon ; Akihisa Kameari</i>	
SPEEDING UP MICROMAGNETIC SIMULATION BY ENERGY MINIMIZATION WITH INTERPOLATION OF MAGNETOSTATIC FIELD	107
<i>Tomohiro Tanaka ; Atsushi Furuya ; Yuji Uehara ; Koichi Shimizu ; Jun Fujisaki ; Tadashi Ataka ; Hirotaka Oshima</i>	
OPTIMAL CONFIGURATION DESIGN OF MRI REBCO MAGNET TAKING INTO ACCOUNT SUPERCONDUCTING LAYER.....	108
<i>So Noguchi ; Hiroshi Miyazaki ; Taizo Tosaka ; Shunji Nomura ; Tsutomu Kurusu ; Hiroshi Ueda ; Atsushi Ishiyama ; Shinichi Urayama ; Hidenao Fukuyama</i>	
A COMPUTATIONAL SYSTEM BASED ON FEM AND PSO TECHNIQUES FOR MAGNETIC FIELD OPTIMIZATION	109
<i>Adriano O. Pires ; Nelson Sadowski ; Walter P. Carpes ; João Pedro Assumpção Bastos</i>	
SIMULATION OF AN INDUCTION MOTOR'S ROTOR AFTER CONNECTION	110
<i>Vicente Climente-Alarcon ; Ravi Sundaria ; Jay Panchal ; Antero Arkkio</i>	
COMPARISON OF STATOR DC CURRENT EXCITED VERNIER RELUCTANCE MACHINES WITH DIFFERENT FIELD WINDING CONFIGURATIONS.....	111
<i>Shaofeng Jia ; Ronghai Qu ; Jian Li ; Dawei Li ; Hanxiao Lu</i>	
IMPROVED TORQUE AND FLUX WEAKENING CAPABILITY FOR FLUX MODULATED MACHINES BY INJECTING DC CURRENTS INTO THE ARMATURE WINDINGS.....	112
<i>Shaofeng Jia ; Ronghai Qu ; Dawei Li ; Jian Li ; Wubin Kong</i>	
A STATOR-PM CONSEQUENT-POLE VERNIER MACHINE WITH HYBRID EXCITATION AND DC-BIASED SINUSOIDAL CURRENT.....	113
<i>Shaofeng Jia ; Ronghai Qu ; Jian Li ; Dawei Li ; Wubin Kong ; Donglin Ye</i>	
PLANAR EFFICIENT METASURFACE FOR VORTEX BEAM GENERATING AND CONVERGING IN MICROWAVE REGION.....	114
<i>Yueyi Yuan ; Xumin Ding ; Kuang Zhang ; Qun Wu</i>	
MULTI-OBJECTIVE SYMBIOTIC SEARCH ALGORITHM APPROACHES FOR ELECTROMAGNETIC OPTIMIZATION	115
<i>Helon Vicente Hultmann Ayala ; Carlos Eduardo Klein ; Viviana Cocco Mariani ; Leandro Dos Santos Coelho</i>	
SHAPE AND TOPOLOGY OPTIMIZATION OF ELECTRICAL MACHINES USING LIE DERIVATIVE-BASED ANALYTICAL SENSITIVITY ANALYSIS	116
<i>Erin Kuci ; François Henrotte ; Pierre Duysinx ; Christophe Geuzaine</i>	
ANALYSIS ON SMALL PARTICLES HEATING USING ELECTROMAGNETIC EXCITATION	117
<i>Dongwon Yun ; Heechang Park</i>	
INDUCTION HEATING OF ADHESIVE FOR SHOE MANUFACTURING.....	118
<i>Dongwon Yun ; Byungin Kim ; Sangtaek Oh ; Guni Kim ; Hokyoon Jeon ; Minyoung Shon</i>	
ENHANCED FIREFLY ALGORITHM FOR OPTIMAL DESIGN OF A DISK TYPE MAGNETO-RHEOLOGIC FLUID CLUTCH.....	119
<i>Andreas Hackl ; Michael Alb ; Christian Magele ; Werner Renhart</i>	
INTERACTIVE TOOLBOX FOR THE VISUALIZATION OF TYPICAL ANTENNA ATTRIBUTES	120
<i>Paul Baumgartner ; Thomas Bauernfeind ; Kurt Preis ; Oszkár Bíró</i>	
EXPONENTIAL LOG-PERIODIC ANTENNA DESIGN USING IMPROVED PARTICLE SWARM OPTIMIZATION WITH VELOCITY MUTATION	121
<i>Zaharias D. Zaharis ; Ioannis P. Gravas ; Traianos V. Yioultsis ; Pavlos I. Lazaridis ; Ian A. Glover ; Christos Skeberis ; Thomas D. Xenos</i>	
NUMERICAL MODEL FOR QUENCH CALCULATIONS IN A 10 KA MGB2 SUPERCONDUCTING CABLE.....	122
<i>Guillaume Escamez ; Brahim Ramdane ; Gérard Meunier ; Guillaume Vega ; Pascal Tixador ; Christian-éric Bruzek</i>	
A REDUCED BASIS APPROACH FOR BROADBAND MAXWELL SIMULATIONS WITH VALIDITY IN ANY FREQUENCY	123
<i>Martin Eller ; Stefan Reitzinger ; Sebastian Schöps ; Sabine Zaglmayr</i>	

A 3D HYBRID CELL METHOD FOR INDUCTION HEATING PROBLEMS	124
<i>Federico Moro ; Lorenzo Codecasa</i>	
DISCONTINUOUS GALERKIN TIME-DOMAIN METHOD FOR 3D MODELING OF GROUND PENETRATING RADAR SCENARIOS	125
<i>X. Liu ; M. Serhir ; A. Kameni ; M. Lambert ; L. Pichon</i>	
FINITE ELEMENT MODELING OF MAGNETOELECTRIC ENERGY TRANSDUCERS WITH INTERDIGITATED ELECTRODES	126
<i>Kevin Malleron ; Hakeim Talieb ; Aurelie Gensbittel ; Zhuoxiang Ren</i>	
TOPOLOGY OPTIMISATION OF A 3D ELECTROMAGNETIC DEVICE USING THE SIMP DENSITY-BASED METHOD	127
<i>Bilquis Mohamodhosen ; Frédéric Gillon ; Abdelmounaïm Tounzi ; Loïc Chevallier ; Julien Korecki</i>	
EFFECT OF DEFORMATIONS ON CARBON-BASED TRANSISTORS IN BALLISTIC AND PARTIALLY BALLISTIC REGIMES	128
<i>Yi Zheng ; Guido Valerio ; Zhuoxiang Ren</i>	
CONDITION MONITORING OF ELECTRIC COMPONENTS USING 3-D PRINTED MULTIPLE MAGNETIC COIL ANTENNAS	129
<i>Ishiaque Zaman ; M. R. Barzegaran ; O. A. Mohammed</i>	
DYNAMIC WIRELESS POWER CHARGING OF ELECTRIC VEHICLES USING OPTIMAL PLACEMENT OF TRANSMITTERS	130
<i>Fatemeh Rahmani ; M. R. Barzegaran</i>	
PEEC-BASED ANALYSIS OF COMPLEX FUSION MAGNETS DURING FAST VOLTAGE TRANSIENTS WITH H-MATRIX COMPRESSION	131
<i>Riccardo Torchio ; Piergiorgio Alotto ; Paolo Bettini</i>	
EMI REDUCTION OF PMSM DRIVE THROUGH MATRIX CONVERTER CONTROLLED WITH WIDE BAND GAP SWITCHES	132
<i>Md Kamruzzaman ; M. R. Barzegaran ; O. A. Mohammed</i>	
T- Ω FORMULATION FOR EDDY CURRENT PROBLEMS WITH PERIODIC BOUNDARY CONDITIONS	133
<i>Paolo Bettini ; Roberto Benato ; Sebastian Dambone Sessa ; Ruben Specogna</i>	
WIRELESS POWER TRANSFER FOR ELECTRIC VEHICLE USING AN ADAPTIVE ROBOT	134
<i>M. R. Barzegaran ; Hassan Zargarzadeh ; O. A. Mohammed</i>	
EFFICIENT WIRELESS POWER CHARGING OF ELECTRIC VEHICLE BY MODIFYING THE MAGNETIC CHARACTERISTICS OF THE TRANSMITTING MEDIUM	135
<i>Md Hazzaz Mahmud ; Weam Elmahmoud ; M. R. Barzegaran ; Nicholas A. Brake</i>	
CONFORMITY EVALUATION OF RADIATED IMMUNITY STANDARDS TO MODERN TELECOMMUNICATION SERVICES USING STATISTICAL TECHNIQUES	136
<i>Artur N. De São José ; Ursula Do C. Resende ; José H. Ferreira ; Lucas D. R. De Oliveira ; Magno A. Menezes ; Juliano F. Mologni ; Jefferson C. Ribas</i>	
QUASI-3D FINITE ELEMENT MODELING OF A POWER TRANSFORMER	137
<i>V. M. Jimenez-Mondragon ; R. Escarela-Perez ; E. Melgoza ; M. A. Arjona ; J. C. Olivares-Galvan</i>	
VALIDATION OF NUMERICAL MODELS OF PORTABLE WIRELESS DEVICES FOR NEAR-FIELD SIMULATION	138
<i>Bálint Horváth ; Zsolt Badics ; József Pávó ; Péter Horváth</i>	
ROBUST OPTIMIZATION OF HIGH SPEED PM MOTOR DESIGN	139
<i>Christos T. Krasopoulos ; Minos E. Beniakar ; Antonios G. Kladas</i>	
HYBRID MULTI-OBJECTIVE OPTIMIZATION ALGORITHM FOR PM MOTOR DESIGN	140
<i>Christos T. Krasopoulos ; Ioanna P. Armouti ; Antonios G. Kladas</i>	
WIDEBAND FINITE-DIFFERENCE TIME-DOMAIN MODELING OF GRAPHENE VIA RECURSIVE FAST FOURIER TRANSFORM	141
<i>Fatemeh Afshar ; Ali Akbarzadeh-Sharbat ; Dennis D. Giannacopoulos ; Steve McFee</i>	
2D SIMULATION OF MAGNETIC FIELD GENERATION BY PULSATING AC VOLTAGE IN COLD PLASMA CHAMBER	142
<i>Jose M. Pacheco ; Minxiang Wu ; Babak Fahimi</i>	
MAGNETO-THERMAL MODELING OF BIOLOGICAL TISSUES: A STEP TOWARDS BREAST CANCER DETECTION	143
<i>Sepideh Rahmatinia ; Babak Fahimi</i>	
SIMPLE RESOLUTION TO PARAMETER-EXTRACTION AMBIGUITIES OF INHOMOGENEOUS MATERIALS	144
<i>James L. Vedral ; Randall L. Musselman</i>	
ELECTROMAGNETIC VIBRATION OF SATURABLE REACTOR CONSIDERING MAGNETOSTRICTION AND DAMPING EFFECT	145
<i>Lihua Zhu ; Yimei Yang ; Qingxing Yang ; Xin Zhang</i>	

ROBUST SPEED SENSORLESS CONTROL TO ESTIMATED ERROR FOR PMA-SYNRM	146
<i>Kyoung-Jin Joo ; Su Yeon Cho ; Soo-Jin Jung ; Ju Lee</i>	
DESIGN AND REALIZATION OF A CURRENT SENSOR FOR IMPULSE CURRENT WAVEFORM MEASUREMENT	147
<i>Xiaoguang Yang ; Bo Zhu ; Congcong Li ; Shuangshuang Jin ; Lijing Gao ; Shuai Zhang</i>	
A NOVEL STATOR-PERMANENT MAGNET BRUSHLESS MACHINE WITH WOUND ROTOR	148
<i>Xiang Ren ; Ronghai Qu ; Dawei Li</i>	
HEAT CAPACITY INCREASING DESIGN OF RARE EARTH IPMSM FOR TEMPERATURE RISING SUPPRESSION	149
<i>Lee Won Sik ; Jo Eul Gyu ; Gim Gyu Hwa ; Kim Gyu Tak</i>	
THE STABILIZATION OF COGGING TORQUE VARIATION BY MANUFACTURING TOLERANCES	153
<i>Gyu-Won Cho ; Won-Sik Lee ; Il-Hwan Kang ; Joong-Geun Ha ; Hee-Woon Kim ; Woo-Seung Son ; Do-Hoon Song ; Myong-Ken Song ; Gyu-Tak Kim</i>	
A STUDY ON SENSORLESS CONTROL THAT CONSIDERS THE RESPONSE OF BLDC MOTOR INSIDE THE OIL HYDRAULIC ACTUATOR FOR AWD CLUTCH CONTROL	159
<i>In-Gun Kim ; Kyoung Jin Joo ; Jong-Suk Lim ; Ju Lee</i>	
BEHAVIOR OF THE LAMINATED CORE CONSIDERING THE SPECIAL HYSTERESIS CHARACTERISTICS UNDER AC-DC HYBRID MAGNETIZATION	160
<i>Shuaibing Wang ; Lin Li ; Xiaojun Zhao ; Yuqing Xie</i>	
CONVERGENCE-PROPERTY IMPROVEMENT OF GMRES IN SHIELDING CURRENT ANALYSIS OF CRACKED SUPERCONDUCTING FILM	161
<i>Atsushi Kamitani ; Teruo Takayama ; Ayumu Saitoh ; Soichiro Ikuno</i>	
NEW ALGORITHM FOR IMPROVEMENT OF SIZING ACCURACY OF DEFECT DEPTH IN MFL TYPE NONDESTRUCTIVE TESTING	162
<i>Hui Min Kim ; Sang Hyeon Im ; Ha Jeong Lee ; Gwan Soo Park</i>	
EFFECTS OF THE INDUCED MAGNETIC FIELD ON THE DEFECT SIGNALS IN RFECT SYSTEM FOR PIPELINE INSPECTION	163
<i>Hui Min Kim ; Yu Ki Lee ; Jae Ho Ryu ; Gwan Soo Park</i>	
ANALYSIS OF RFECT SYSTEM BASED ON THE EDDY CURRENT DISTRIBUTIONS IN PIPELINE INSPECTION	164
<i>Hui Min Kim ; Yu Ki Lee ; Keon Tae Kim ; Gwan Soo Park</i>	
GENERAL INTEGRAL FORMULATION OF MAGNETIC FLUX COMPUTATION AND ITS APPLICATION IN INDUCTIVE POWER TRANSFER SYSTEM	165
<i>Limin Huang ; Gérard Meunier ; Olivier Chadebec ; Jean-Michel Guichon ; Yanling Li ; Zhengyou He</i>	
EQUIVALENT MAGNETIC NETWORK OF NOVEL DISK TRANSVERSE-FLUX PERMANENT MAGNET BRUSHLESS MACHINE BASED ON SOFT MAGNETIC COMPOSITE MATERIAL	166
<i>Yanliang Xu ; Qiaobian Wu ; Qilong Gao</i>	
STRATEGIC DUAL IMAGE METHOD FOR THREE-DIMENSIONAL MAGNETIC FIELD PROBLEMS	167
<i>Kengo Sugahara</i>	
TORQUE COMPUTATION OF NONMAGNETIC ROTOR SUBMERGED IN FERROFLUID BY MULTI-PHYSICS APPROACH	168
<i>Gui H. Kim ; Hong S. Choi</i>	
ANALYSIS AND DESIGN OF ARMATURE MAGNETIC FIELD DISTRIBUTION IN PERMANENT-MAGNET VERNIER MACHINES	169
<i>Daekyu Jang ; Junghwan Chang</i>	
PRESENTATION OF E-CORE TRANSVERSE-FLUX PERMANENT MAGNET LINEAR MOTOR AND ITS NO-LOAD MAGNETIC FIELD ANALYSIS BASED ON SCHWARZ-CHRISTOFFEL TRANSFORMATION	170
<i>Dongshan Fu ; Yanliang Xu ; Jinlin Gong</i>	
A NOVEL DESIGN METHOD FOR THE ELECTRICAL MACHINES WITH BIASED DC EXCITATION FLUX LINKAGE	171
<i>Tiantian Sheng ; Shuangxia Niu ; W. N. Fu</i>	
A NOVEL DISC MACHINE WITH AXIAL BIASED FLUX AND COMPLEMENTARY SALIENT ROTORS	172
<i>Tiantian Sheng ; Shuangxia Niu ; W. N. Fu</i>	
TOPOLOGY OPTIMIZATION METHOD FOR UNSYMMETRICAL ROTOR USING CLUSTER AND CLEANING PROCEDURE	173
<i>Takeo Ishikawa ; Shota Mizuno ; Nobuyuki Kurita</i>	

FORCE COMPUTATION OF A SYNCHRONOUS RELUCTANCE MOTOR BY MODEL ORDER REDUCTION WITH CONSTRAINT BASED UNEVEN SNAPSHOT MATRIX	174
<i>Victor Mukherjee ; Mehrnaz Farzamfar ; Floran Martin ; Anouar Belahcen</i>	
ELECTROMAGNETIC ANALYSIS ON MAGNETIC FIELD AND CURRENT DISTRIBUTION IN HIGH TEMPERATURE SUPERCONDUCTING THIN TAPE IN COIL WINDING	175
<i>Hiroshi Ueda ; Seokbeom Kim ; So Noguchi ; Atsushi Ishiyama ; Hiroshi Miyazaki ; Sadanori Iwai ; Taizo Tosaka ; Shunji Nomura ; Tsutomu Kurusu ; Shinichi Urayama ; Hidenao Fukuyama</i>	
OPTIMAL ROTOR DESIGN OF AN 150KW-CLASS IPMSM THROUGH THE 3D VOLTAGE-INDUCTANCE MAP ANALYSIS METHOD	176
<i>Tae Chul Jeong ; Dong Woo Kang ; Geo Chul Jeong ; Kyoung Jin Joo ; Ju Lee</i>	
DESIGN OF HIGH-END SYNRM BASED ON 3D PRINTING TECHNOLOGY	177
<i>Hyun-Seok Hong ; Huai-Cong Liu ; Geo-Chul Jeong ; Ju Lee</i>	
IMPEDANCE LINEARITY OF CONTACTLESS MAGNETIC TYPE POSITION SENSOR.....	178
<i>Seung-Ho Yang ; Katsuhiro Hirata ; Tomohiro Ota ; Yoshihiro Kawase</i>	
AN ACCURATE VECTOR JILES-ATHERTON MODEL FOR IMPROVING THE FEM CONVERGENCE.....	179
<i>Kleyton Hoffmann ; João P. Assumpção Bastos ; Jean V. Leite ; Nelson Sadowski ; Filoména Barbosa</i>	
PRECISE DETERMINATION OF THE OPTIMAL COIL FOR WIRELESS POWER TRANSFER SYSTEMS THROUGH POSTPROCESSING IN THE SMOOTH BOUNDARY REPRESENTATION	180
<i>Seung Beop Lee ; Changwoo Lee ; In Gwun Jang</i>	
DESIGN AND OPTIMIZATION OF INTERIOR PERMANENT MAGNET TRACTION MOTOR FOR HIGH-SPEED TRAIN CONSIDERING THE SHORT CIRCUIT CURRENT	181
<i>Dong Yu ; Jiancheng Zhang ; Xiaoyan Huang ; Youtong Fang</i>	
OPTIMIZATION OF MAGNETIC CORE STRUCTURE FOR WIRELESS CHARGING COUPLER.....	182
<i>Hao Zeng ; Zhizhen Liu ; Tong Hei ; Bo Zhou ; Yanjin Hou</i>	
IMPACT OF ROTOR DESIGN ON FLUX CONTROL CAPABILITY OF HYBRID EXCITED SYNCHRONOUS MACHINE.....	183
<i>Piotr Paplicki ; Marcin Wardach ; Michal Bonislawski ; Ryszard Palka</i>	
FAST TRANSIENT EDDY-CURRENT ANALYSIS USING ERROR CORRECTION METHOD FOR SERIES OF LINEAR SYSTEMS	184
<i>Shigeru Kawaguchi ; Takeshi Mifune ; Takeshi Iwashita ; Tetsuji Matsuo</i>	
ELECTRICAL CONDUCTIVITY TENSOR MODELLING OF STRATIFIED WOVEN-FABRIC CARBON FIBER REINFORCED POLYMER COMPOSITE MATERIALS.....	185
<i>Fiacre Senghor ; Guillaume Wasselynck ; Huu Kien Bui ; Samuel Branchu ; Didier Trichet ; Gérard Berthiau</i>	
A NOVEL DOUBLE-ROTOR PARALLEL HYBRID-EXCITATION MACHINE FOR ELECTRIC VEHICLE PROPULSION.....	186
<i>Xing Zhao ; Shuangxia Niu</i>	
A NOVEL CORELESS CONTRA-ROTATING AXIAL-FLUX MACHINE FOR WIND POWER APPLICATIONS.....	187
<i>Xing Zhao ; Shuangxia Niu</i>	
OPTIMAL FORCE RIPPLE DESIGN OF MUTUALLY COUPLED LINEAR SWITCHED RELUCTANCE MACHINES WITH TRANSVERSE FLUX BY TAGUCHI METHOD.....	188
<i>Jinhua Du ; Pan Lu</i>	
SEMI-IMPLICIT METHOD FOR FAST MAGNETIZATION ANALYSIS USING ASSEMBLED DOMAIN STRUCTURE MODEL.....	189
<i>Shogo Tejima ; Shumpei Ito ; Takeshi Mifune ; Tetsuji Matsuo</i>	
AN ACCELERATED COMPUTATION METHOD OF LEGENDRE POLYNOMIAL COEFFICIENTS FOR MRI REBCO MAGNET DESIGN	190
<i>So Noguchi ; Ryosuke Miyao ; Hajime Igarashi ; Atsushi Ishiyama</i>	
AN IMPROVED DQ-AXIS COORDINATE SYSTEM MODEL FOR INTERIOR PERMANENT MAGNET MACHINES	191
<i>Jing Rao ; Ronghai Qu ; Dawei Li ; Yuting Gao</i>	
PROPOSAL OF A RADIAL- AND AXIAL-FLUX PERMANENT MAGNET SYNCHRONOUS GENERATOR	192
<i>Takeo Ishikawa ; Soichiro Amada ; Kenta Segawa ; Nobuyuki Kurita</i>	
ARMATURE DESIGN OF AN ULTRA-HIGH SPEED PM GENERATOR	193
<i>He Zhang ; Xiaochen Zhang ; Chris Gerada ; Michael Galea ; David Gerada ; Jing Li</i>	
3-D COUPLED ELECTROMAGNETIC-FLUID-THERMAL ANALYSIS OF 220KV THREE-PHASE THREE-LIMB TRANSFORMER UNDER DC BIAS	194
<i>Ruo Han Gong ; Jiang Jun Ruan ; Cai Bo Liao ; Liu Chao ; Shuo Jin</i>	

CHARACTERISTICS OF MEDIUM-FREQUENCY POWER APPARATUS WITH THREAD-TYPE MAGNETIC CORE	195
<i>Kyung Sik Seo ; Il Han Park</i>	
ANALYSIS OF TRANSIENT MAGNETIC SHIELDING MADE BY CONDUCTIVE PLATES WITH A PEEC METHOD	196
<i>Y. Du ; Hongcai Chen</i>	
AN IMPROVED CONFIGURATION FOR COGGING TORQUE REDUCTION IN FLUX-REVERSAL PERMANENT MAGNET MACHINES	197
<i>Xiaofeng Zhu ; Wei Hua ; Ming Cheng ; Gan Zhang</i>	
ANALYSIS OF INDUCTANCE ACCORDING TO THE APPLIED CURRENT IN SPOKE TYPE PMSM AND SUGGESTION OF DRIVING MODE	198
<i>Sooyoung Cho ; Haui Cong Liu ; Geochul Jeong ; Ju Lee</i>	
CQICO AND MULTI-OBJECTIVE THERMAL OPTIMIZATION FOR HIGH SPEED PM GENERATOR	199
<i>Xiaochen Zhang ; Weili Li ; Chris Gerada ; He Zhang ; Jing Li ; Michael Galea ; David Gerada ; Junci Cao</i>	
DESIGN AND PERFORMANCE ANALYSIS OF OUTER ROTOR FAN-TYPE PMSM FOR POWER DENSITY IMPROVEMENT	200
<i>Sooyoung Cho ; Geochul Jeong ; Haui Cong Liu ; Sang-Hwan Ham ; Ju Lee</i>	
A VOLUME INTEGRAL FORMULATION FOR SOLVING EDDY CURRENT PROBLEMS ON POLYHEDRAL MESHES	201
<i>Paolo Bettini ; Mauro Passarotto ; Ruben Specogna</i>	
WIDE-BAND MODELING FOR DUAL-BAND COIL OF WIRELESS POWER TRANSFER SYSTEM	202
<i>Ran Li ; Lin Li</i>	
INDUCED EFFECTS IN A PACEMAKER EQUIPPED WITH WIRELESS POWER TRANSFER CHARGING SYSTEM	203
<i>S. Cruciani ; T. Campi ; F. Palandrani ; V. De Santis ; F. Maradei ; M. Feliziani</i>	
COIL DESIGN OF A WIRELESS POWER TRANSFER CHARGING SYSTEM FOR A DRONE	204
<i>T. Campi ; S. Cruciani ; G. Rodríguez ; M. Feliziani</i>	
H-MATRIX SPARSIFICATION APPLIED TO BIOELECTROMAGNETIC ANALYSIS OF LARGE SCALE HUMAN MODELS	205
<i>Piergiorgio Alotto ; Paolo Bettini ; Oriano Bottauscio ; Mario Chiampi ; Luca Zilberti</i>	
CAPACITANCE EXTRACTION OF CURRENT CARRYING CONDUCTOR USING SURFACE CHARGE AND FIELD ENERGY	206
<i>Chan Young Choi ; Il Han Park</i>	
AN IMPROVED TIME-HARMONIC 2D EDDY CURRENT FINITE ELEMENT H FORMULATION	207
<i>Manuel A. Corona-Sánchez ; Enrique Melgoza-Vázquez ; Serguei Maximov ; Rafael Escarela-Pérez</i>	
AXIAL GREEN FUNCTION METHOD FOR AXISYMMETRIC ELECTROMAGNETIC FIELD COMPUTATION	208
<i>Wanho Lee ; Hong-Kyu Kim ; Do Wan Kim</i>	
IMPACT OF FIELD APPROXIMATIONS ON MAGNETIC FIELD LINE TRACING	209
<i>Andrea Gaetano Chiariello ; Alessandro Formisano ; Francesco Ledda ; Raffaele Martone ; Francesco Pizzo</i>	
ANALYTICAL MODELING OF A NOVEL VERNIER PSEUDO-DIRECT-DRIVE PERMANENT-MAGNET MACHINE	210
<i>Xin Yin ; Youtong Fang ; Xiaoyan Huang ; Pierre-Daniel Pfister</i>	
PRECONDITIONERS FOR THE NONCONFORMING VOXEL EDGE ELEMENT METHOD	211
<i>Nizamuddin Hussain ; J. P. Webb</i>	
ELECTRICALLY TUNABLE ARRAY ANTENNA WITH BEAM STEERING FROM BACKFIRE TO ENDFIRE BASED ON LIQUID CRYSTAL MINIATURIZED PHASE SHIFTER	212
<i>Shuang Ma ; Guo-Hui Yang ; Fan-Yi Meng ; Xu-Min Ding ; Kuang Zhang ; Jia-Hui Fu ; Qun Wu</i>	
TEMPERATURE ESTIMATION OF SWITCHED RELUCTANCE MACHINES USING THERMAL IMPULSE RESPONSE TECHNIQUE	213
<i>Nasim Arbab Rahman ; Lei Gu ; Emine Bostanci ; Babak Fahimi</i>	
NOVEL ANALYSIS METHOD ON THE VIBRATION REDUCTION FOR INTERIOR PERMANENT MAGNET SYNCHRONOUS MOTOR	214
<i>Young-Chul Shin ; Zhi-Long Wang ; Ki-Chan Kim</i>	
CHARACTERISTIC ANALYSIS DUE TO TEMPERATURE RISE OF THE INTERIOR PERMANENT MAGNET SYNCHRONOUS MOTOR	215
<i>Dong-Jin Park ; Ki-Chan Kim</i>	
HEAT SOURCE ANALYSIS OF INDUCTION HEATER FOR ELECTRIC VEHICLE	216
<i>Dong-Jin Park ; Seok-Hyun Yu ; Ki-Chan Kim</i>	

A WIND DRIVEN OPTIMIZATION BASED METHODOLOGY FOR ROBUST OPTIMIZATIONS OF ELECTROMAGNETIC DEVICES UNDER INTERVAL UNCERTAINTY	217
<i>S. L. Ho ; Shiyong Yang ; Yanan Bai</i>	
A FAST METHODOLOGY FOR TOPOLOGY OPTIMIZATIONS OF ELECTROMAGNETIC DEVICES	218
<i>S. L. Ho ; Shiyong Yang ; Yanan Bai</i>	
A COUPLED METHOD FOR EVALUATING EDDY CURRENT LOSS OF NDFEB PERMANENT MAGNETS IN A SATURATED CORE FAULT CURRENT LIMITER.....	219
<i>Cuihua Tian ; Yongheng Zhong ; Jiaxin Yuan ; Yang Lei ; Baichao Chen ; Kazuhiro Muramatsu</i>	
INCORPORATING LIGHT BEAM SEARCH IN A VECTOR NORMAL BOUNDARY INTERSECTION METHOD FOR MULTIOBJECTIVE INVERSE PROBLEM.....	220
<i>Siguang An ; Shiyong Yang ; Zhuoxiang Ren</i>	
AN IMPROVED QUANTUM PARTICLE SWARM OPTIMIZATION APPLIED TO INVERSE PROBLEM IN ELECTROMAGNETICS	221
<i>Obaid U. Rehman ; Shiyong Yang ; Shafiqullah Khan</i>	
EXPERIMENTAL VERIFICATION AND ELECTROMAGNETIC ANALYSIS FOR FORCE PERFORMANCE OF LEVITATION AND GUIDANCE ELECTROMAGNET IN SEMI-HIGH-SPEED MAGLEV TRAIN.....	222
<i>Jae-Hoon Jeong ; Chang-Wan Ha ; Min Kim ; Jaewon Lim ; Jang-Young Choi</i>	
DESIGN AND DEVELOPMENT OF A CURRENT SENSOR WITH TEMPERATURE STABILITY AND HIGH RESOLUTION	223
<i>Xiaoguang Yang ; Congcong Li ; Bo Zhu ; Lijing Gao ; Shuangshuang Jin ; Shuai Zhang</i>	
MULTIHARMONIC RESOLUTION OF NONLINEARLY COUPLED ELECTROVIBROMECHANICAL SYSTEMS USING DOMAIN DECOMPOSITION.....	224
<i>Alexandre Halbach ; Christophe Geuzaine</i>	
A DUAL BAND CRLH LEAKY WAVE ANTENNA WITH ELECTRICALLY STEERABLE BEAM BASED ON LIQUID CRYSTALS	225
<i>Bang-Jun Che ; Fan-Yi Meng ; Jia-Hui Fu ; Kuang Zhang ; Guo-Hui Yang ; Qun Wu</i>	
ANALYSIS AND CONTROL OF ELECTROMAGNETIC COUPLING EFFECT OF LEVITATION AND GUIDANCE SYSTEMS FOR SEMI-HIGH-SPEED MAGLEV TRAIN CONSIDERING CURRENT DIRECTION.....	226
<i>Jae-Hoon Jeong ; Chang-Wan Ha ; Jaewon Lim ; Chang-Hyun Kim ; Jang-Young Choi</i>	
THRUST AND EFFICIENCY ANALYSIS OF LINEAR INDUCTION MOTORS FOR SEMI-HIGH-SPEED MAGLEV TRAINS USING 2D FINITE ELEMENT MODELS.....	227
<i>Jae-Hoon Jeong ; Jaewon Lim ; Chang-Wan Ha ; Chang-Hyun Kim ; Jang-Young Choi</i>	
DISTANCE BASED INTELLIGENT PARTICLE SWARM OPTIMIZATION FOR OPTIMAL DESIGN OF PERMANENT MAGNET SYNCHRONOUS MACHINE	228
<i>Jin-Hwan Lee ; Jun-Young Song ; Jong-Wook Kim ; Yong-Jae Kim ; Sang-Yong Jung</i>	
DESIGN AND ANALYSIS OF MAGNETIC GEARED PERMANENT MAGNET MACHINE CONSIDERING LOSS REDUCTION	229
<i>Kyung-Hun Shin ; Han-Wook Cho ; Kyung-Hun Jeong ; Jang-Young Choi</i>	
STEADY-STATE ANALYSIS OF HYSTERETIC MAGNETIC FIELD PROBLEMS USING PARALLEL TP-EEC METHOD	230
<i>Y. Takahashi ; J. Kitao ; K. Fujiwara ; A. Ahagon ; T. Matsuo ; T. Iwashita ; H. Nakashima</i>	
EXPERIMENT AND ANALYTICAL PREDICTION OF DETENT FORCE IN PERMANENT MAGNET LINEAR SYNCHRONOUS MACHINES CONSIDERING END EFFECTS	231
<i>Kyung-Hun Shin ; Kyong-Hwan Kim ; Keyyong Hong ; Jang-Young Choi</i>	
RESEARCH ON RESIDUAL FLUX PREDICTION OF THE TRANSFORMER	232
<i>Yang Wang ; Zhizhen Liu</i>	
ARMATURE REACTION FIELD AND INDUCTANCE CALCULATIONS FOR A PERMANENT MAGNET LINEAR SYNCHRONOUS MACHINE BASED ON SUBDOMAIN MODEL	233
<i>Kyung-Hun Shin ; Hyung-Il Park ; Sung-Ho Lee ; Jang-Young Choi</i>	
ARMATURE REACTION MAGNETIC FIELD AND INDUCTANCE OF TUBULAR LINEAR SYNCHRONOUS MACHINES WITH AXIALLY MAGNETIZED PERMANENT MAGNETS ACCOUNTING FOR FLUX-PASSING IRON POLE EFFECT	234
<i>Kyung-Hun Shin ; Kyong-Hwan Kim ; Keyyong Hong ; Jang-Young Choi</i>	
NONLINEAR REDUCED ORDER MODEL OF A 3-PHASE TRANSFORMER FOR ELECTRIC NETWORK SIMULATOR COUPLING	235
<i>Yannick Paquay ; Olivier Brills ; Christophe Geuzaine</i>	
A COMPUTER AIDED EDUCATION SYSTEM BASED ON AUGMENTED REALITY BY IMMERSION TO 3-D MAGNETIC FIELD.....	236
<i>Shinya Matsutomo ; Tomohisa Manabe ; Vlatko Cingoski ; So Noguchi</i>	

AN ARBITRARY-ORDER DISCONTINUOUS SKELETAL METHOD FOR SOLVING ELECTROSTATICS ON GENERAL POLYHEDRAL MESHES	237
<i>Daniele A. Di Pietro ; Bernard Kapidani ; Ruben Specogna ; Francesco Trevisan</i>	
A CO-SIMULATION SCALAR-POTENTIAL FINITE DIFFERENCE (SPFD) APPROACH FOR THE SIMULATION OF HUMAN EXPOSURE TO MAGNETO-QUASISTATIC FIELDS	238
<i>Martin Zang ; Carsten Cimala ; Markus Clemens ; Jennifer Dutiné ; Benedikt Schmuelling</i>	
EDDY CURRENT LOSS CALCULATION IN BURRED LAMINATED CORES	239
<i>Sahas Bikram Shah ; Paavo Rasilo ; Antero Arkkio</i>	
MULTIPHYSICS MODELING FOR A NEW DE-ICING TECHNOLOGY IN AERONAUTICS	240
<i>C. Melissa Estopier ; Edith Clavel ; Nicolas Galopin ; Frédéric Wurtz ; Stéphane Le Garrec ; Olivier Chadebec</i>	
INFLUENCE OF THE GEOMETRICAL UNCERTAINTIES ON THE RLC PARAMETERS OF WOUND INDUCTORS MODELED USING THE FINITE ELEMENT METHOD	241
<i>G. Lossa ; O. Deblecker ; Z. De Grève</i>	
EXPERIMENTAL VERIFICATION AND ANALYTICAL CALCULATION OF LOCAL FORCE IN PERMANENT MAGNET SYNCHRONOUS MACHINE	242
<i>Kyung-Hun Shin ; Han-Wook Cho ; Seong-Kook Cho ; Jang-Young Choi</i>	
COUPLING TRANSFORMER OPERATION OF A DYNAMIC VOLTAGE RESTORER UNDER ELECTRICAL GRID CONDITIONS	243
<i>Virginie Majchrzak ; Guillaume Parent ; Jean-François Brudny ; Valentin Costan ; Philippe Guuinic</i>	
THERMAL ANALYSIS OF SWITCHED RELUCTANCE MOTOR WITH DIRECT IN-WINDING COOLING SYSTEM	244
<i>Nasim Arbab Rahman ; Emine Bostanci ; Babak Fahimi</i>	
ELECTROMAGNETIC-FLUID-THERMAL FIELD CALCULATION AND ANALYSIS OF A PERMANENT MAGNET LINEAR MOTOR	245
<i>Xiaomei Liu ; Haitao Yu ; Zhenchuan Shi ; Lei Huang ; Ningjun Feng ; Tao Xia</i>	
LORAN-C GROUND-WAVE PROPAGATION PREDICTION BASED ON THE CALIBRATED TWO-WAY NAPE ALGORITHM	246
<i>Lili Zhou ; Yurong Pu ; Zhonglin Mu ; Dandan Wang ; Xiaoli Xi</i>	
STATOR TEMPERATURE FIELD OF LARGE-SCALE AIR-COOLED TURBINE GENERATOR CONSIDERING MAIN INSULATION SHELLING	247
<i>Li Weili ; Su Ying ; Wang Purui ; Li Dong ; Wen Yinghong ; Zhang Xiaochen</i>	
EFFECT OF MAGNETIC-VALVE DISTRIBUTION ON REACTANCE OF MAGNETIC CONTROLLED REACTOR	248
<i>Baichao Chen ; Weiqiang Qi ; Junwei Zhou ; Yongheng Zhong ; Yanhui Gao ; Kazuhiro Muramatsu ; Jiaxin Yuan</i>	
DESIGN AND ANALYSIS OF A NOVEL DUAL PM MACHINE WITH WIDE SPEED RANGE	249
<i>Yunchong Wang ; W. N. Fu ; Shuangxia Niu ; S. L. Ho</i>	
DOT SENSITIVITY ANALYSIS FOR TOPOLOGY OPTIMIZATION OF DIELECTRIC MATERIAL IN ELECTROSTATIC SYSTEM	250
<i>Kang Hyouk Lee ; Seung Geon Hong ; Il Han Park</i>	
LORAN-C GROUND-WAVE PROPAGATION PREDICTION BASED ON THE HYBRID FDTD ALGORITHM	251
<i>Pu Yurong ; Zhou Lili ; Xi Xiaoli ; Liu Jiangfan ; Gu Yan</i>	
ANALYTICAL MODELING AND EXPERIMENTAL VERIFICATION OF VEHICLE HORN CONSIDERING SKIN EFFECT USING COUPLED ELECTRIC AND MAGNETIC CIRCUITS	252
<i>Jae-Han Sim ; Jae-Sik Jeong ; Sung-Il Kim ; Jung-Pyo Hong</i>	
MODELLING THE EFFECT OF MULTIAXIAL STRESS ON MAGNETIC HYSTERESIS OF ELECTRICAL STEEL SHEETS: A COMPARISON	253
<i>U. Aydin ; P. Rasilo ; F. Martin ; D. Singh ; L. Daniel ; A. Belahcen ; R. Kouhia ; A. Arkkio</i>	
LOW ROTOR EDDY CURRENT LOSSES SPM SERVO MOTORS WITH FRACTIONAL SLOT CONCENTRATED WINDINGS AND NOVEL RETAINING CAGE	254
<i>Leilei Wu ; Ronghai Qu ; Shaofeng Jia</i>	
HUMAN EXPOSURE ASSESSMENT IN DYNAMIC INDUCTIVE POWER TRANSFER FOR AUTOMOTIVE APPLICATIONS	255
<i>Vincenzo Cirimele ; Fabio Freschi ; Luca Giaccone ; Lionel Pichon ; Maurizio Repetto</i>	
DYNAMIC SHORT-CIRCUIT ANALYSIS OF SYNCHRONOUS MACHINES	256
<i>C. Jäger ; I. Grinbaum ; J. Smajic</i>	
SYMMETRIE INVERTIBLE B-H CURVES USING PIECEWISE LINEAR RATIONAIS	257
<i>Patrick Diez</i>	
MAGNETOHYDRODYNAMICS IN THERMAL TO ELECTRIC ENERGY CONVERSION	258
<i>Eva Cosoroaba ; Babak Fahimi</i>	

ELECTRICAL FIELD EVALUATION AROUND SLENDER CONDUCTORS BY COLLOCATION BOUNDARY ELEMENT METHOD	259
<i>Yong Zhang ; Chijie Zhuang ; Rong Zeng</i>	
3-D ELECTRIC FIELD COMPUTATION WITH CHARGE SIMULATION METHOD AROUND BUILDINGS NEAR HV TRANSMISSION LINES	260
<i>Donglai Wang ; Tiebing Lu ; Qinyuan Li ; Bo Chen ; Xuebao Li</i>	
SOLVING FINITE-ELEMENT TIME-DOMAIN PROBLEMS WITH GABP	261
<i>David Fernández ; Ali Akbarzadeh-Sharbat ; Warren J. Gross ; Dennis Giannacopoulos</i>	
GPU OPTIMIZATION AND IMPLEMENTATION OF GAUSSIAN BELIEF PROPAGATION ALGORITHM	262
<i>Zahra Hosseinidoust ; Dennis Giannacopoulos ; Warren J. Gross</i>	
PROCESSING OF A CARBON FIBER REINFORCED POLYMER (CFRP) LAMINATE PART BY MICROWAVES	263
<i>Anaïs Barasinski ; Hermine Tertrais ; Chady Ghnatios ; Francisco Chinesta</i>	
HYBRID ANALYTICAL-FEM METHODOLOGY FOR LOSS EVALUATION IN TRACTION MOTORS FOR ELECTRIC VEHICLE APPLICATIONS	264
<i>Athanasios G. Sarigiannidis ; Minos E. Beniakar ; Antonios G. Kladas</i>	
AN ELECTROMAGNETIC SIMULATION METHOD CONSIDERING MICRO-EDDY-CURRENT EFFECT	265
<i>Changgeng Zhang ; Yongjian Li ; Qingxin Yang</i>	
MAGNETIC MULTI-SCALE PROBLEM OF EQUIVALENT ELECTROMAGNETIC MATERIAL CONSTANTS FOR LOCAL EDDY CURRENT FLOW	266
<i>Keisuke Fujisaki ; Atsushi Yao</i>	
COUPLED ELECTROMAGNETIC-THERMAL ANALYSIS OF A SURFACE-MOUNTED PERMANENT-MAGNET MOTOR WITH OVERHANG STRUCTURE	267
<i>Han-Kyeol Yeo ; Hyeon-Jeong Park ; Jung-Moo Seo ; Jong-Suk Ro ; Hyun-Kyo Jung</i>	
A MODULAR AND FAULT-TOLERANT LINEAR FLUX-SWITCHING PERMANENT MAGNET MACHINE WITH THIN YOKE	268
<i>Bangfu Zhang ; Ming Cheng ; Gan Zhang</i>	
A NOVEL IRON LOSS CALCULATION ALGORITHM USING VECTOR PLAY MODEL TAKING ACCOUNT OF THE ROTATING MAGNETIC FIELDS	269
<i>Lixun Zhu ; Chang-Seop Koh</i>	
UTILIZING ADAPTIVE DYNAMIC TAYLOR KRIGING ASSISTED MULTI-OBJECTIVE DE ALGORITHM FOR OPTIMIZATION DESIGN OF ELECTROMAGNETIC DEVICE	270
<i>Bin Xia ; Minh-Trien Pham ; Junmo Yeon ; Chang Seop Koh</i>	
OPTIMAL DESIGN OF WINDING TRANSPOSITION OF POWER TRANSFORMER USING ADAPTIVE CO-KRIGING SURROGATE MODEL	271
<i>Bin Xia ; Seokyeon Hong ; Kyung Choi ; Chang Seop Koh</i>	
A NOVEL SUBREGION-BASED MULTI-DIMENSIONAL OPTIMIZATION OF ELECTROMAGNETIC DEVICES ASSISTED BY KRIGING SURROGATE MODEL	272
<i>Bin Xia ; Ziyang Ren ; Kyung Choi ; Chang Seop Koh</i>	
A NOVEL RELIABILITY-BASED OPTIMAL DESIGN OF ELECTROMAGNETIC DEVICES BASED ON ADAPTIVE DYNAMIC TAYLOR KRIGING	273
<i>Bin Xia ; Ziyang Ren ; Chang Seop Koh</i>	
3D IC INTERCONNECT PARASITIC CAPACITANCE EXTRACTION WITH A REFORMULATED PGD ALGORITHM	274
<i>Yalan Li ; Shuai Yan ; Xiaoyu Xu ; Pengfei Lyu ; Zhuoxiang Ren</i>	
COMPARISON OF TWO FORMULATIONS TAKING ACCOUNT OF 3D MOTION INDUCED EDDY CURRENTS	275
<i>Gebhard J. Wallinger ; Oszkár Bíró</i>	
SIMULATION BASED DESIGN OF GIS SENSORS FOR PD MEASUREMENTS	276
<i>R. Obrist ; J. Smajic ; G. Behrmann</i>	
A KRIGING BASED OPTIMIZATION APPROACH FOR LARGE DATASETS	277
<i>Yinjiang Li ; Song Xiao ; Mihai Rotaru ; Jan K. Sykulski</i>	
EFFICIENT SIMULATION OF ELECTROMAGNETIC WAVE PROPAGATION IN COMPLEX SHAPED DOMAIN BY HYBRID METHOD OF FDTD AND MTDM BASED ON INTERPOLATING MOVING LEAST-SQUARES METHOD	278
<i>Taku Itoh ; Soichiro Ikuno</i>	
MODELING OF SELECTED 3D ELECTROHEAT COUPLED PROBLEMS WITH TIME-VARYING GEOMETRIES	279
<i>Vaclav Kotlan ; Ivo Dolezel ; Roman Hamar ; David Panek</i>	

IRON LOSS MEASUREMENT AS INVERSE HEAT SOURCE PROBLEM.....	280
<i>Lauri Perkkio</i>	
SIMPLE L AND T SHAPED BUTT JOINTS COMPOSED OF ANISOTROPIC AND ISOTROPIC BLOCK CORES IN THREE-PHASE REACTOR.....	281
<i>Yanhui Gao ; Kazuhiro Muramatsu ; Narihiro Takeda ; Daisuke Kusano ; Hiroshi Dozono ; Weimin Guan ; Jiaxin Yuan ; Cuihua Tian ; Baichao Chen ; Kenya Konishi ; Kazunobu Kanazawa</i>	
IDENTIFICATION OF THE PREISACH MODEL PARAMETERS USING ONLY THE MAJOR HYSTERESIS LOOP AND THE INITIAL MAGNETIZATION CURVE.....	282
<i>Maxime Tousignant ; Frederic Sirois ; Afef Kedous-Lebouc</i>	
A NEW TYPE OF AXIAL-FLUX MAGNETIC LEAD SCREW WITH INHERENT SPRING CHARACTERISTIC.....	283
<i>Kaiyuan Lu ; Yongming Xia ; Haipeng Pan</i>	
DISTINGUISHING THE EFFICIENCY REQUIREMENTS IN MOTORING AND GENERATING OPERATIONS OF PM MACHINES	284
<i>Alireza Fatemi ; Dan M. Ionel ; Nabeel A. O. Demerdash</i>	
SURROGATE-BASED MOEA/D FOR ELECTRIC MOTOR DESIGN WITH SCARCE FUNCTION EVALUATIONS.....	285
<i>Rodrigo C. P. Silva ; Min Li ; Tanvir Rahman ; David A. Lowther</i>	
DETERMINATION OF THE RELATIVE PERMEABILITY TO ESTIMATE THE EFFICIENCY IN ENERGY-EFFICIENT MOTORS	286
<i>Victor P. B. Aguiar ; Ricardo S. T. Pontes ; Tobias R. Fernandes Neto ; Renan H. Sousa</i>	
VARIABLE PRECONDITIONED KRYLOV SUBSPACE METHOD WITH COMMUNICATION AVOIDING TECHNIQUE FOR ELECTROMAGNETIC ANALYSIS	287
<i>Soichiro Ikuno ; Gong Chen ; Taku Itoh ; Susumu Nakata ; Kuniyoshi Abe</i>	
A COMPUTATIONAL STUDY OF EFFICIENCY MAP CALCULATION FOR SYNCHRONOUS AC MOTOR DRIVES INCLUDING CROSS COUPLING AND SATURATION EFFECTS	288
<i>Mohammad Hossain Mohammadi ; David A. Lowther</i>	
THE MODIFIED JILES-ATHERTON MODEL FOR THE ACCURATE PREDICTION OF IRON LOSSES	289
<i>Sajid Hussain ; David A. Lowther</i>	
FINDING OPTIMAL PERFORMANCE INDICES OF SYNCHRONOUS AC MOTORS.....	290
<i>Mohammad Hossain Mohammadi ; Rodrigo C. P. Silva ; David A. Lowther</i>	
MAGNETIC AND ELECTRICAL DESIGN CHALLENGES OF INVERTER-FED PERMANENT MAGNET SYNCHRONOUS MOTORS.....	291
<i>Vahid Ghorbanian ; David Lowther</i>	
A COMPUTATIONAL-ANALYTICAL APPROACH TO EFFICIENTLY LOCATE OPTIMUM OBJECTIVE SPACES OF PERMANENT MAGNET MOTORS IN TRANSIENT, RATED AND FLUX WEAKENING OPERATIONS.....	292
<i>Vahid Ghorbanian ; David Lowther</i>	
OPTIMAL SUBGRID CONNECTION FOR SPACE-TIME FINITE INTEGRATION TECHNIQUE.....	293
<i>Yuki Sakata ; Takeshi Mifune ; Tetsuji Matsuo</i>	
3D CAPACITANCE COMPUTATION USING POLYGONAL PRISM ELEMENTS THROUGH PIECEWISE INTERPOLATION	294
<i>Pengfei Lyu ; Xiaoyu Xu ; Shuai Yan ; Zhuoxiang Ren</i>	
POSTPROCESSING OF THE LINEAR SAMPLING METHOD IN INVERSE ELECTROMAGNETIC SCATTERING PROBLEM FOR OBSTACLES	295
<i>Lei Liu ; W. N. Fu ; Shuang-Xia Niu</i>	
DETERMINATION OF FLUX TUBE PORTIONS BY ADJUNCTION OF ELECTRIC OR MAGNETIC MULTIVALUED EQUIPOTENTIAL LINES	296
<i>Guillaume Parent ; Stéphane Duchesne ; Patrick Dular</i>	
A GEOMETRIC FREQUENCY-DOMAIN WAVE PROPAGATION FORMULATION FOR FAST CONVERGENCE OF ITERATIVE SOLVERS.....	297
<i>Matteo Cicuttin ; Lorenzo Codecasa ; Ruben Specogna ; Francesco Trevisan</i>	
ADAPTIVITY BASED ON THE CONSTITUTIVE ERROR FOR THE MAXWELL'S EIGENVALUE PROBLEM ON POLYHEDRAL MESHES	298
<i>Matteo Cicuttin ; Ruben Specogna ; Francesco Trevisan</i>	
A STUDY ON AN IPMSM DESIGNED TO SECURE ROTOR RELIABILITY IN VIEW OF DEMAGNETIZATION	299
<i>Geochul Jeong ; Huai-Cong Liu ; Chan-Bae Park ; Tae-Chul Jeong ; Ju Lee</i>	

PERFORMANCE OF A NONLINEAR SURFACE IMPEDANCE BOUNDARY CONDITION FOR CONDUCTING MAGNETIC MATERIALS EXPOSED TO INHOMOGENEOUS AND NONHARMONIC EXTERNAL FIELDS	300
<i>Göran Eriksson</i>	
INFLUENCE OF ROTOR STRUCTURE ON FIELD CURRENT AND ROTOR ELECTROMAGNETIC FIELD OF TURBINE GENERATOR UNDER OUT-OF-PHASE SYNCHRONIZATION	301
<i>Li Weili ; Wang Purui ; Li Yong ; Xue Yi ; Li Dong ; Zhang Xiaochen ; Zeng Jianjun</i>	
3D VOLUME INTEGRAL FORMULATION BASED ON FACET ELEMENTS FOR THE COMPUTATION OF AC LOSSES IN SUPERCONDUCTORS	302
<i>B. Ramdane ; G. Meunier ; G. Escamez ; O. Chadebec ; A. Badel ; P. Tixador</i>	
RELAXATION METHODS FOR CO-SIMULATION OF FINITE ELEMENT AND CIRCUIT SOLVERS	303
<i>Jean De Dieu Nshimiyimana ; Patrick Dular ; Johan Gyselinck ; Christophe Geuzaine</i>	
DESIGN OF NON-SINGULAR TWO-DIMENSIONAL LAYERED CLOAKS MAPPED FROM SMALL AREAS	304
<i>Fábio J. F. Gonçalves ; Elson J. Silva ; Renato C. Mesquita</i>	
A MESH-REFINEMENT METHOD BASED ON ARTIFICIAL NEURAL NETWORKS FOR ELECTRICAL IMPEDANCE TOMOGRAPHY	305
<i>Sébastien Martin ; Charles T. M. Choi</i>	
FAST NON-LINEAR MAGNETIC FIELD ANALYSIS OF INVERTER-DRIVEN MACHINES BY APPLYING POD ON LINEARIZED COEFFICIENT MATRICES	306
<i>Hassan Ebrahimi ; Yanhui Gao ; Kazuhiro Muramatsu</i>	
SYNTHESIS OF CAUER-EQUIVALENT CIRCUIT BASED ON MODEL ORDER REDUCTION CONSIDERING NONLINEAR MAGNETIC PROPERTY	307
<i>Yuki Sato ; Toshihito Shimotani ; Hajime Igarashi</i>	
WIDEBAND TUNING RANGE FREQUENCY SELECTIVE SURFACE BASED ON LIQUID CRYSTAL AND TUNABLE ABILITY ANALYSIS	308
<i>Guohui Yang ; Weidong Kong ; Meng Chang ; Xiaoxin Liu ; Qun Wu</i>	
RESEARCH ON ROTOR EDDY CURRENT FIELDS AND TEMPERATURE FIELDS OF HIGH VOLTAGE SOLID ROTOR PMSM WITH A NOVEL STATOR SLOT WEDGE	309
<i>Li Weili ; Cao Zhaobin ; Zhang Xiaochen ; Li Jinyang ; Cao Junci ; Zeng Jianjun</i>	
EFFECTS OF FLUX MODULATION POLES ON THE RADIAL MAGNETIC FORCES IN PERMANENT MAGNET VERNIER MACHINES	310
<i>Daekyu Jang ; Junghwan Chang</i>	
IMPROVEMENT OF SYSTEM QUALITY IN A GENERALIZED FINITE ELEMENT METHOD USING DISCRETE CURVELET TRANSFORM	311
<i>Naier Mahdinejad ; Hilton O. Mota ; Elson J. Silva ; Ricardo Adriano</i>	
COMPARISON OF CHARACTERISTIC OF A DOUBLE-SIDED PERMANENT MAGNET LINEAR SYNCHRONOUS GENERATOR ACCORDING TO MAGNETIZATION PATTERN	312
<i>Sung-Won Seo ; Jeong-Man Kim ; Min-Mo Koo ; Tae-Kyoung Bang ; Jang-Young Choi</i>	
OPTIMAL DESIGN AND TORQUE ANALYSIS CONSIDERING EDDY-CURRENT REDUCTION OF AXIAL-FLUX PERMANENT MAGNET COUPLINGS WITH HALBACH ARRAY BASED ON 3D-FEM	313
<i>Gang-Hyeon Jang ; Jeong-Man Kim ; Hyeon-Jae Shin ; Jang-Young Choi</i>	
OPTIMAL DESIGN AND VALIDATION OF IPMSM FOR MAXIMUM EFFICIENCY DISTRIBUTION COMPATIBLE TO ENERGY CONSUMPTION AREAS OF HD-EV	314
<i>Ho-Chang Jung ; Gyeong-Jae Park ; Deok-Jin Kim ; Sang-Yong Jung</i>	
HOMOGENIZATION METHOD BASED ON MODEL ORDER REDUCTION FOR FE ANALYSIS OF MULTI-TURN COILS	315
<i>Yuki Sato ; Hajime Igarashi</i>	
FDTD METHOD FOR WAVE PROPAGATION IN HAVRILIAK-NEGAMI MEDIA BASED ON FRACTIONAL DERIVATIVE APPROXIMATION	316
<i>Christos S. Antonopoulos ; Nikolaos V. Kantartzis ; Ioannis T. Rekanos</i>	
A NOVEL DOUBLY MAGNETIC GEARED PERMANENT MAGNET MACHINE	317
<i>Tianjie Zou ; Ronghai Qu ; Dawei Li ; Dong Jiang</i>	
TRANSFER TORQUE PERFORMANCE COMPARISON IN COAXIAL MAGNETIC GEARS WITH DIFFERENT FLUX-MODULATOR SHAPES	318
<i>Sung-Jin Kim ; Eui-Jong Park ; Sang-Yong Jung ; Yong-Jae Kim</i>	

COMPUTATIONAL AND EXPERIMENTAL INVESTIGATION OF DISTRIBUTION TRANSFORMERS UNDER DIFFERENTIAL AND COMMON MODE TRANSIENT CONDITIONS	319
<i>Angelo Limone ; Abdolhamid Shoory ; Stanislav Skibin ; Thomas Franz ; Jasmin Smajic ; Jens Tepper</i>	
A GEAR EFFICIENCY IMPROVEMENT IN MAGNETIC GEAR BY EDDY-CURRENT LOSS REDUCTION	320
<i>Sung-Jin Kim ; Eui-Jong Park ; Sung-Ho Lee ; Yong-Jae Kim</i>	
COMBINED INTEGRAL EQUATION BASED CIRCUIT MODELING OF INTERCONNECTIONS IN ELECTRONIC PACKAGING	321
<i>Ki Jin Han ; Madhavan Swaminathan</i>	
ANALYTICAL MODELING OF MANUFACTURING IMPERFECTIONS IN DOUBLE ROTOR AXIAL FLUX PM MACHINES: EFFECTS ON BACK EMF	322
<i>Baocheng Guo ; Yunkai Huang ; Youguang Guo ; Jianguo Zhu</i>	
DESIGN AND ANALYSIS OF A LINEAR OSCILLATORY SINGLE-PHASE PERMANENT MAGNET GENERATOR FOR FREE-PISTON STIRLING ENGINE SYSTEMS.....	323
<i>Jeong-Man Kim ; Jae-Hoon Jeong ; Kyu-Seok Lee ; Sung-Ho Lee ; Jang-Young Choi</i>	
FULL-WAVE CORRECTION OF QUASI-STATIC MODELS USING FINITE ELEMENT SUBPROBLEMS: APPLICATION TO HIGH FREQUENCY WOUND INDUCTORS	324
<i>Zacharie De Grève ; Patrick Dular</i>	
3D MAGNETIC DEVICES ANALYSIS USING FACET FEM FORMULATION COUPLED WITH RELUCTANCE NETWORK METHOD	325
<i>Anderson S. Nunes ; Olivier Chadebec ; Patrick Kuo-Peng ; Patrick Dular ; Gérard Meunier</i>	
SURFACE IMPEDANCE BOUNDARY CONDITION WITH CIRCUIT COUPLING FOR THE 3D FINITE ELEMENT MODELING OF WIRELESS POWER TRANSFER.....	326
<i>Alexis Desmoort ; Zacharie De Grève ; Patrick Dular ; Christophe Geuzaine ; Olivier Deblecker</i>	
COMPARING PARTIAL ELEMENT EQUIVALENT CIRCUIT AND FINITE ELEMENT METHODS FOR THE RESONANT WIRELESS POWER TRANSFER 3D MODELING	327
<i>A. Desmoort ; Z. De Grève ; J. Siau ; G. Meunier ; J. -M. Guichon ; O. Chadebec ; O. Deblecker</i>	
METHOD FOR CURRENT/VOLTAGE POST-CORRECTION FOR EFFICIENT HYSTERETIC MAGNETIC FIELD ANALYSIS.....	328
<i>Masaki Sakashita ; Kazuya Nishi ; Shumpei Ito ; Takeshi Mifune ; Tetsuji Matsuo</i>	
DESIGN AND COMPARISON OF NOVEL FLUX REVERSAL MACHINES WITH LARGE STATOR SLOT OPENING.....	329
<i>Yuting Gao ; Ronghai Qu ; Dawei Li ; Jian Li</i>	
FORCE RIPPLE MINIMIZATION OF A LINEAR VERNIER PERMANENT MAGNET MACHINE FOR DIRECT-DRIVE SERVO APPLICATIONS	330
<i>Yuting Gao ; Ronghai Qu ; Dawei Li ; Fengxiang Chen</i>	
ELECTROMAGNETISM-LIKE MECHANISM ALGORITHM AND LEAST SQUARE SUPPORT VECTOR MACHINE FOR ESTIMATION THE DEFECT IN NONDESTRUCTIVE EVALUATION.....	331
<i>M. Chelabi ; T. Hacib ; Y. Le Bihan ; H. Boughedda</i>	
CONVERGENCE INVESTIGATION OF FINITE ELEMENT FIXED-POINT TECHNIQUES APPLIED TO 3D NONLINEAR PERIODIC EDDY CURRENT PROBLEMS INVOLVING VOLTAGE-DRIVEN COILS.....	332
<i>René Plasser ; Gergely Koczka ; Oszkár Bíró</i>	
GPU ACCELERATED EXPLICIT TIME INTEGRATION METHODS FOR ELECTRO-QUASISTATIC FIELDS	333
<i>Christian Richter ; Sebastian Schöps ; Markus Clemens</i>	
STRAY LOAD LOSSES ANALYSIS OF CAGE INDUCTION MOTOR USING 3-D FINITE ELEMENT METHOD WITH EXTERNAL CIRCUIT COUPLING.....	334
<i>J. Cheaytani ; A. Benabou ; A. Tounzi ; M. Dessoude</i>	
COOPERATIVE OPERATING MODE FEATURING TIGHT-STRONG COUPLING FOR WIRELESS POWER TRANSMISSION.....	335
<i>Xian Zhang ; Zhaoyang Yuan ; Qingxin Yang ; Lihua Zhu ; Xin Zhang</i>	
DEMAGNETIZATION FIELD IN A UNIFORMLY MAGNETIZED ELLIPSOID EMBEDDED IN AN INFINITE ANISOTROPIC MEDIA.....	336
<i>Floran Martin ; Ugur Aydin ; Deepak Singh ; Laurent Daniel ; Paavo Rasilo ; Anouar Belahcen</i>	
PROJECTION-BASED OBJECTIVE SPACE REDUCTION FOR MANY-OBJECTIVE OPTIMIZATION PROBLEMS: APPLICATION TO AN INDUCTION MOTOR DESIGN	337
<i>Armin Salimi ; David A. Lowther</i>	
DESIGN AND OPTIMIZATION OF A FIELD-MODULATING PERMANENT MAGNET TUBULAR LINEAR GENERATOR FOR DIRECT-DRIVE WAVE ENERGY CONVERSION	338
<i>Tao Xia ; Haitao Yu ; Lei Huang ; Chunyuan Liu ; Xiaomei Liu</i>	

FEATURE SELECTION FOR FACILITATION OF EVOLUTIONARY MULTI-OBJECTIVE DESIGN OPTIMIZATION: APPLICATION TO IPM MOTOR DESIGN PROBLEMS	339
<i>Armin Salimi ; David A. Lowther</i>	
A NEW SUB-GRIDDING TECHNIQUE FOR HELMHOLTZ EQUATION	340
<i>Lianyou Sun ; Yanbo Li ; Rui Fan ; Wei Hong</i>	
LEVEL-SET-FUNCTION-BASED TOPOLOGY OPTIMIZATION SUPPORTED BY THE METHOD OF MOVING ASYMPTOTES IN A MAGNETIC FIELD PROBLEM.....	341
<i>Yoshifumi Okamoto ; Shinji Wakao</i>	
TRANSIENT CHARACTERISTICS ANALYSIS OF A 380V/30KVAR SUPERCONDUCTING CONTROLLED REACTOR	342
<i>Bo Chen ; Xiang Li ; Cuihua Tian ; Zhiye Du ; Weimin Guan ; Yanhui Gao ; Kazuhiro Muramatsu ; Jiaxin Yuan</i>	
ANALYSIS AND MODELING OF VARIABLE FLUX MEMORY MOTOR USING A LUMPED MAGNETIC CIRCUIT METHOD.....	343
<i>Jun-Young Song ; Jin Hwan Lee ; Dae-Woo Kim ; Yong-Jae Kim ; Sang-Yong Jung</i>	
DESIGN CHARACTERISTICS AND ANALYSIS OF HIGH POWER DENSITY TUBULAR LINEAR SWITCH RELUCTANCE GENERATOR FOR DIRECT DRIVE WEC	344
<i>Dao-Han Wang ; Chun-Lei Shao ; Xiu-He Wang</i>	
OPTIMAL GEAR CAPACITY DESIGN OF 380V/30KVAR SUPERCONDUCTING CONTROLLABLE REACTOR BASED ON ANSYS-IMMUNE ALGORITHM.....	345
<i>Baichao Chen ; Lei Liu ; Xuanyao Luo ; Cuihua Tian ; Zhiye Du ; Weimin Guan ; Yanhui Gao ; Kazuhiro Muramatsu ; Jiaxin Yuan</i>	
PERFORMANCE EVALUATION AND DESIGN OF LOW COST AND HIGH POWER DENSITY SINGLE PHASE FLUX SWITCHING RELUCTANCE MACHINE FOR VENTILATION BASED ON 3D INDUCTANCE FUNCTION	346
<i>Dao-Han Wang ; Xiu-He Wang ; Hyun-Kyo Jung ; Sang-Yong Jung</i>	
THE NATURAL ELEMENT METHOD APPLIED TO SOLVE AN ELECTRICAL MACHINE PROBLEM.....	347
<i>Bárbara M. F. Gonçalves ; Márcio M. Afonso ; Eduardo H. R. Coppoli ; Marco Aurélio O. Schroeder ; Rafael S. Alípio ; Brahim Ramdane ; Yves Marechal</i>	
2D INTEGRAL FORMULATIONS FOR NONLINEAR MAGNETO-STATIC FIELD COMPUTATION AND ROTATING MACHINES PRE-DESIGN	348
<i>Q. Debray ; G. Meunier ; O. Chadebec ; J. L. Coulomb ; A. Carpentier</i>	
FROM THE MAGNETIC FIELD MEASUREMENT TO THE NUMERICAL EVALUATION OF THE HUMAN EXPOSURE.....	349
<i>Aldo Canova ; Vincenzo Cirimele ; Fabio Freschi ; Luca Giaccone</i>	
DESIGN AND CONTROL CHARACTERISTICS OF GUIDANCE SYSTEM FOR PASSIVE MAGLEV TRANSPORT SYSTEM.....	350
<i>Younghak Lee ; Jin-Woo Park ; Chang-Wan Ha ; Jaewon Lim ; Chang-Hyun Kim</i>	
PMSG DESIGN FOR USAGE OF VTOL UAV IN CONSIDERATION OF OCCURRENCE OF HEAT ACCORDING TO THE CHANGE OF INPUT CURRENT	351
<i>Sooyoung Cho ; Sunghong Won ; Jeong-Gyu Bak ; Geochul Jeong ; Ju Lee</i>	
A NEW METHOD FOR PARAMETERS OBTAINING OF JILES-ATHERTON HYSTERESIS SCALAR MODEL.....	352
<i>Filoména Barbosa R. Mendes ; Jean V. Leite ; Nelson J. Batistela ; Nelson Sadowski ; Fredy M. S. Suárez</i>	
CHANNEL INTERACTION IN COCHLEAR IMPLANT ACOUSTIC MODELS	353
<i>Charles T. M. Choi ; Shang-Yi Huang ; Yi-Hsuan Lee</i>	
A SIMPLIFIED METHOD FOR ACQUISITION OF THE PARAMETERS OF JILES-ATHERTON HYSTERESIS SCALAR MODEL WITHOUT USE OF DERIVATIVES.....	354
<i>Filoména Barbosa R. Mendes ; Jean V. Leite ; Nelson J. Batistela ; Nelson Sadowski ; Fredy M. S. Suárez</i>	
INSERTION OF A SIXTH PARAMETER IN JILES-ATHERTON HYSTERESIS SCALAR MODEL AND THE METHOD FOR PARAMETERS IDENTIFICATION	355
<i>Filoména Barbosa R. Mendes ; Jean V. Leite ; Nelson J. Batistela ; Nelson Sadowski ; Fredy M. S. Suárez</i>	
TOPOPROCESSOR: AN EFFICIENT COMPUTATIONAL TOPOLOGY TOOLBOX FOR H-ORIENTED EDDY CURRENT FORMULATIONS	356
<i>Paweł Diotko ; Bernard Kapidani ; Ruben Specogna</i>	
MULTIOBJECTIVE CROSS ENTROPY FOR ELECTROMAGNETIC OPTIMIZATION	357
<i>Teodora Cardoso Bora ; Viviana Cocco Mariani ; Leandro Dos Santos Coelho ; Piergiorgio Alotto</i>	
E-B EIGENMODE FORMULATION FOR THE ANALYSIS OF LOSSY AND EVANESCENT MODES IN PERIODIC STRUCTURES AND METAMATERIALS	358
<i>M. Nitas ; C. S. Antonopoulos ; T. V. Yioultsis</i>	

HYBRID NATURAL ELEMENT — BOUNDARY ELEMENT METHOD APPLIED TO SOLVE ELECTROMAGNETIC SCATTERING PROBLEM	359
<i>Márcio M. Afonso ; João A. Vasconcelos ; Renato C. Mesquita ; Brahim Ramdane ; Yves Marechal ; Christian Vollaire ; Laurent Krahenbuhl</i>	
HISTORY BASED LEARNING ARTIFICIAL BEE COLONY ALGORITHM FOR ELECTROMAGNETIC INVERSE PROBLEMS.....	360
<i>Xiu Zhang ; Xin Zhang ; W. N. Fu ; S. X. Nu</i>	
MESHLESS VECTOR RADIAL BASIS FUNCTIONS WITH WEAK FORMS.....	361
<i>Naisses Zoia Lima ; Renato Cardoso Mesquita</i>	
EDGE MESHLESS METHOD APPLIED TO VECTOR ELECTROMAGNETIC PROBLEMS.....	362
<i>Naisses Zoia Lima ; Renato Cardoso Mesquita</i>	
PROPOSAL OF A KRIGING OUTPUT SPACE MAPPING TECHNIQUE FOR ELECTROMAGNETIC DESIGN OPTIMIZATION.....	363
<i>Jinlin Gong ; Frédéric Gillon ; Julien Truong Canh ; Yanliang Xu</i>	
INFLUENCE OF MAGNETIC SLOT WEDGE ON ELECTROMAGNETIC PARAMETERS AND MAGNETIC FIELD DISTRIBUTION OF TURBO-GENERATOR	364
<i>Xue Yi ; Li Weili ; Wang Purui ; Zhang Xiaochen</i>	
A STUDY ON CORRECTING THE NONLINEARITY BETWEEN STACK LENGTH AND BACK ELECTROMOTIVE FORCE IN SPOKE TYPE FERRITE MAGNET MOTORS	365
<i>Sung Gu Lee ; Ju Lee ; Geochul Jeong ; Won-Ho Kim</i>	
A NOVEL TOPOLOGY OF HYBRID SATURATED CORE FAULT CURRENT LIMITER CONSIDERING PERMANENT MAGNETS STABILITY PERFORMANCE.....	366
<i>Jiaxin Yuan ; Yongheng Zhong ; Yang Lei ; Cuihua Tian ; Liangliang Wei ; Weimin Guan ; Yanhui Gao ; Kazuhiro Muramatsu ; Baichao Chen</i>	
COMPARISON OF THE CHARACTERISTICS OF COAXIAL MAGNETIC GEARS WITH PM AND AC EXCITATION	367
<i>Homin Shin ; Junghwan Chang</i>	
STATIONARY ELECTRO-THERMAL COUPLING ANALYSIS CONSIDERING DUAL FINITE ELEMENT FORMULATIONS OF STEADY CURRENT FIELD	368
<i>Xiaoyu Xu ; Pengfei Lyu ; Shuai Yan ; Zhuoxiang Ren</i>	
SIMULATION ANALYSIS AND DESIGN OF THE ELECTROMAGNETIC REPULSION MECHANISM BASED ON FINITE ELEMENT METHOD	369
<i>Gong Ruilei ; Wang Shuhong ; Xie Wengang</i>	
STRESS-BASED VARIABLE PHASE-SHIFTING REACTOR FOR THE MULTI-PHASE RECTIFIER SYSTEM.....	370
<i>Dongsheng Yuan ; Shuhong Wang ; Hailin Li ; Haijun Zhang</i>	
ANALYSIS OF THE VIBRATION CHARACTERISTICS OF COAXIAL MAGNETIC GEAR	371
<i>Jiyoung Lee ; Junghwan Chang</i>	
MITOSIS INTERFERENCE OF K-RAS DRIVEN LUNG CANCER CELLS BY MAGNETIC STIMULATION	372
<i>Naming Zhang ; Shuhong Wang ; Chunyu Zhang ; Song Wang</i>	
3D MAGNETIC FIELD ANALYTICAL CALCULATION OF FLUX REVERSAL LINEAR-ROTARY PERMANENT MAGNET ACTUATOR.....	373
<i>Kaikai Guo ; Shuhua Fang ; Heyun Lin ; Keyi Wang ; Yunkai Huang ; Hui Yang</i>	
A NONLINEAR DYNAMIC MAGNETIC NETWORK MODEL FOR FLUX-REVERSAL LINEAR-ROTARY PERMANENT MAGNET ACTUATOR CONSIDERING LOCAL SATURATION	374
<i>Kaikai Guo ; Shuhua Fang ; Heyun Lin ; Yujing Guo ; Hui Yang ; Yibo Li</i>	
A DOMAIN DECOMPOSITION METHOD BASED ON AN ALGORITHM OF THE MINRES METHOD FOR HIGH-FREQUENCY ELECTROMAGNETIC FIELD ANALYSIS	375
<i>Masao Ogino ; Amane Takei ; Shin-Ichiro Sugimoto</i>	
SPLIT RATIO DESIGN TECHNIQUE OF THE MAGNETIC-GEAR DUAL-ROTOR MOTOR	376
<i>Le Sun ; Ming Cheng ; Wei Hua ; Gan Zhang ; Bangfu Zhang</i>	
COMPLEX-VALUED FORMULATION OF NONLINEAR TIME-HARMONIC MAGNETIC FIELD ANALYSIS AND NEW KRYLOV-LIKE SOLVERS	377
<i>Takeshi Mifune ; Yasuhito Takahashi ; Koji Fujiwara</i>	
COMPARISON OF DEIM AND BPIM TO SPEED UP A POD-BASED NONLINEAR MAGNETOSTATIC MODEL	378
<i>Thomas Henneron ; Laurent Montier ; Antoine Pierquin ; Stéphane Clénet</i>	
STRUCTURE PRESERVING MODEL REDUCTION OF LOW FREQUENCY ELECTROMAGNETIC PROBLEM BASED ON POD AND DEIM	379
<i>Laurent Montier ; Antoine Pierquin ; Thomas Henneron ; Stéphane Clénet</i>	

UTILIZATION OF ADVANCED OPTIMIZATION AND PENALIZATION TECHNIQUES FOR CALIBRATION OF NUMERICAL MODELS	380
<i>David Pánek ; Pavel Karban ; František Mach ; Doležel Ivo</i>	
ANALYSIS AND OPTIMIZATION OF BACK-EMF WAVEFORM OF A NOVEL OUTER-ROTOR-PERMANENT-MAGNET FLUX-SWITCHING MACHINE	381
<i>Hengliang Zhang ; Wei Hua ; Gan Zhang</i>	
DESIGN OPTIMIZATION AND COMPARATIVE STUDY OF NOVEL MAGNETIC-GEARED PERMANENT MAGNET MACHINES	382
<i>Qingsong Wang ; Shuangxia Niu</i>	
RESEARCH ON PRECONDITIONED CONJUGATE GRADIENT METHOD BASED ON EBE-FEM AND THE APPLICATION IN ELECTROMAGNETIC FIELD ANALYSIS	383
<i>Xiuke Yan ; Xiaoyu Han ; Dongyang Wu ; Dexin Xie ; Baodong Bai</i>	
DESIGN OPTIMIZATION AND COMPARATIVE ANALYSIS OF DUAL-STATOR FLUX-MODULATED MACHINES	384
<i>Qingsong Wang ; Shuangxia Niu</i>	
RADIATED EMI SIMULATION FOR HIGH-POWER ULTRA-PRECISION PMSM SYSTEM DRIVEN BY PWM CONVERTER.....	385
<i>Youpeng Huangfu ; Shuhong Wang</i>	
FEM-BASED COMPUTATION OF CIRCUIT PARAMETERS FOR TESTING FAST TRANSIENTS FOR EMC PROBLEMS	386
<i>Susanne Bauer ; Werner Renhart ; Oszkár Bíró</i>	
HYBRID MODEL: PERMEANCE NETWORK + 3D FINITE ELEMENT FOR MODELING CLAW-POLE SYNCHRONOUS MACHINES	387
<i>Geoffrey Devornique ; Julien Fontchastagner ; Nouredine Takorabet</i>	
FAST NUMERICAL METHOD FOR COMPUTING RESONANT CHARACTERISTICS OF ELECTROMAGNETIC DEVICES BASED ON FINITE ELEMENT METHOD	388
<i>Xiu Zhang ; W. N. Fu ; S. X. Niu</i>	
RESEARCH ON A DIRECT-DRIVE WAVE ENERGY CONVERTER USING OUTER-PM LINEAR TUBULAR GENERATOR.....	389
<i>Lei Huang ; Minqiang Hu ; Jian Yang ; Minshuo Chen</i>	
A NOVEL STRUCTURE OF METAMATERIAL WITH HIGH BANDWIDTH FOR WIRELESS POWER TRANSFER SYSTEMS	390
<i>Cheng Gu ; Xiu Zhang ; W. N. Fu ; S. X. Niu</i>	
DESIGN AND ANALYSIS OF A SUPERCONDUCTING INDUCTION MAGNETIC LEVITATION DEVICE FOR HYDRAULIC TURBO-GENERATOR	391
<i>Jing Liu ; Hongzhong Ma ; Ping Ju ; Lei Huang</i>	
A COUPLED CIRCUIT-AMBIPOLAR DIFFUSION EQUATION MODEL AND ITS SOLUTION METHODOLOGY FOR INSULATED GATE BIPOLAR TRANSISTORS	392
<i>Jiajia Chen ; Shiyu Yang</i>	
A PARTICLE SWARM OPTIMIZATION METHOD APPLIED TO GLOBAL OPTIMIZATION OF INVERSE PROBLEM.....	393
<i>Shafiqullah Khan ; Shiyu Yang ; Obaid U. Rehman ; Luyu Wang</i>	
SYNTHESIS OF THE COOLING PATHWAYS OPTIMAL LAYOUT FOR MRI GRADIENT COILS.....	394
<i>Elliot Smith ; Fabio Freschi ; Maurizio Repetto ; Stuart Crozier</i>	
WELDING LOSS MODELING AND EVALUATION OF ELECTRIC MOTORS USING LAMINATED CORES.....	395
<i>Dong-Gyun Ahn ; Myung-Hwan Yoon ; Sung-Il Kim ; Jung-Pyo Hong</i>	
DESIGN AND VERIFICATION OF 200KW INTERIOR PERMANENT MAGNET SYNCHRONOUS MOTOR FOR SHIP PROPULSION	396
<i>Yang-Uk Cho ; Sun-Kwon Lee ; Gyu-Hong Kang ; Byoung-Woo Kim</i>	
DETERMINATION OF WINDING LUMPED PARAMETER EQUIVALENT CIRCUIT BY MEANS OF FINITE ELEMENT METHOD	398
<i>Mustapha Toudji ; Guillaume Parent ; Stéphane Duchesne ; Patrick Dular</i>	
NUMERICAL ANALYSIS OF ION BEHAVIOR CONSIDERING CHARGING EFFECT OF A DIELECTRIC BODY	399
<i>Takeshi Yamamoto ; Shuhei Matsuzawa ; Tomohiro Ota ; Katsuhiro Hirata</i>	
PERFORMANCE COMPARISON OF DUAL AIRGAP AND SINGLE AIRGAP SPOKE-TYPE VERNIER PERMANENT MAGNET MACHINES.....	400
<i>Mudassir Raza ; Wenliang Zhao ; Thomas A. Lipo ; Byung-Il Kwon</i>	

IMPROVED QUASI-3D FINITE ELEMENT METHOD FOR AN AXIAL FLUX PERMANENT MAGNET MOTOR.....	401
<i>Hyeon-Jeong Park ; Jae-Gil Lee ; Hyun-Kyo Jung ; Dong-Kyun Woo</i>	
ROTOR DESIGN OPTIMIZATION FOR PERFORMANCE IMPROVEMENT OF IPM MOTOR.....	402
<i>Ho-Jin An ; Sun-Kwon Lee ; Gyu-Hong Kang ; Byoung-Woo Kim</i>	
INVESTIGATION ON A MODIFIED HYBRID COMPACT SATURATED-CORE FAULT CURRENT LIMITER BASED ON PERMANENT MAGNETS	403
<i>Baichao Chen ; Liangliang Wei ; Yang Lei ; Yongheng Zhong ; Cuihua Tian ; Weimin Guan ; Yanhui Gao ; Kazuhiro Muramatsu ; Jiaxin Yuan</i>	
COMPARISON OF HYSTERESIS MODELING METHODS USING PLAY MODEL AND FREE ENERGY MODEL	404
<i>Yoshitaka Mine ; Yanhui Gao ; Kazuhiro Muramatsu ; Weimin Guan ; Cuihua Tian ; Jiaxin Yuan ; Baichao Chen</i>	
SPARSE GRID OF METAL STRIPS DESCRIPTION IMPLEMENTED INTO FINITE ELEMENT FORMULATION	405
<i>W. Renhart ; T. Bauernfeind ; K. Preis ; C. A. Magele ; C. Tuerk</i>	
ACOUSTIC NOISE AND VIBRATION REDUCTION OF FLUX-SWITCHING PERMANENT MAGNET MACHINE FOR ELEVATOR DOOR APPLICATION.....	406
<i>Gyujong Jeong ; Hongsik Hwang ; Dongjae Kim ; Taeyun Kim ; Cheewoo Lee</i>	
FAST THREE-DIMENSIONAL ANALYSIS OF EDDY CURRENTS IN LITZ WIRE USING INTEGRAL EQUATION	407
<i>Shingo Hiruma ; Hajime Igarashi</i>	
OPTIMIZATION STUDY OF A NOVEL SMALL-SECTION PERMANENT-MAGNET-BIASED FAULT CURRENT LIMITER WITH LEAKAGE FLUX EFFECT	408
<i>Baichao Chen Liangliang Wei ; Cuihua Tian ; Yanhui Gao ; Kazuhiro Muramatsu ; Jiaxin Yuan</i>	
STUDY ON THE PROTECTION AND ENERGY TRANSMISSION MODES OF ONE PHASE SHORT CIRCUIT TO GROUND IN INVERTERS	409
<i>Dezhi Chen ; Baodong Bai ; Weiqi Yuan</i>	
MULTISCALE AND HARMONIC BALANCE FEM FOR THE EDDY CURRENT PROBLEM IN LAMINATED IRON CORES	410
<i>Karl Hollaus</i>	
MULTI-OBJECTIVE DESIGN OPTIMIZATION OF PRIMARY CORE IN INDUCTION HEATING ROLL BY LEVEL-SET METHOD	411
<i>Kazuki Hirono ; Reona Hoshino ; Shinji Wakao ; Yoshifumi Okamoto ; W. Jeon</i>	
EDDY-CURRENT-EFFECT HOMOGENIZATION OF WINDINGS IN HARMONIC BALANCE FINITE ELEMENT MODELS	412
<i>Ruth V. Sabariego ; Johan Gyselinck</i>	
A COMPARATIVE PERFORMANCE ANALYSIS OF TIME-DOMAIN FORMULATIONS FOR WAVE PROPAGATION PROBLEMS.....	413
<i>Matteo Cicuttin ; Lorenzo Codecasa ; Bernard Kapidani ; Ruben Specogna ; Francesco Trevisan</i>	
COMPOSITE FIELD-ORIENTED CONTROL FOR LINEAR INDUCTION MOTOR BASED SUPER-TWISTING SLIDING MODE OBSERVERS	414
<i>Yajie Jiang ; Wei Xu ; Caiyong Ye</i>	
MODEL ORDER REDUCTION OF LARGE-SCALE STATE-SPACE MODELS IN FUSION MACHINES VIA KRYLOV METHODS	415
<i>Matteo Bonotto ; Paolo Bettini ; Angelo Cenedese</i>	
MULTI-OBJECTIVE OPTIMIZATION OF MAGNETIC SENSOR WITH CONDUCTOR PLATE FOR RAIL WHEEL DETECTION	416
<i>Hiroyuki Kuwahara ; Yuya Maruyama ; Shinji Wakao ; Masahide Takahashi ; Makoto Yagi ; Tamio Okutani ; Yoshifumi Okamoto</i>	
COMBINATION APPROACH OF DOMAIN-TYPE AND BOUNDARY-TYPE MESHLESS METHODS FOR SOLVING HYBRID BOUNDARY-VALUE PROBLEM OF HOMOGENEOUS AND INHOMOGENEOUS ELLIPTIC PDES	417
<i>Ayumu Saitoh ; Teruou Takayama ; Atsushi Kamitani</i>	
RESEARCHING MAGNETIC SUSPENSION FOR 1000MW HYDRAULIC GENERATOR SET	418
<i>Jing Liu ; Hongzhong Ma ; Lei Huang ; Ping Ju</i>	
NOVEL SINGLE PHASE DOUBLY SALIENT PERMANENT MAGNET MACHINE WITH ASYMMETRIC STATOR POLES.....	419
<i>Mingjie He ; Wei Xu ; Caiyong Ye</i>	
THE DOMAIN STRUCTURE MODEL INCLUDING PINNING EFFECT BASED ON THE STATISTICAL DISTRIBUTION FUNCTION	420
<i>S. Ito ; T. Mifune ; T. Matsuo ; C. Kaido ; Y. Takahashi ; K. Fujiwara</i>	

DEVELOPMENT OF LOCAL EXPANSION EDGE ELEMENT FOR MAGNETIC FIELD ANALYSIS	421
<i>Yuki Wakayama ; Yuichiro Hosobuchi ; Ryunosuke Shimoyama ; Shinji Wakao ; Tadashi Tokumasu ; Yasuhiro Takahashi ; Koji Fujiwara</i>	
NUMERICAL SIMULATION OF INRUSH CURRENTS IN SINGLE-PHASE TRANSFORMERS USING THE JILES-ATHERTON MODEL AND THE FINITE ELEMENT METHOD	422
<i>V. Oiring De Castro Cezar ; P. Lombard ; A. Charnacé ; O. Chadebec ; L-L. Rouve ; J-L. Coulomb ; F-X. Zgainski ; B. Caillault</i>	
INFLUENCE OF VARYING BUNDLE STRUCTURES ON POWER ELECTRONIC SYSTEMS SIMULATED BY A COUPLED APPROACH OF FEM AND PEEC	423
<i>Andreas Rosskopf ; Simone Schuster ; Achim Endruschat ; Eberhard Bär</i>	
TIME-DOMAIN ANALYSIS OF SOFT MAGNETIC COMPOSITE USING EQUIVALENT CIRCUIT OBTAINED VIA HOMOGENIZATION	424
<i>Yuki Sato ; Hajime Igarashi</i>	
THERMAL MODELLING OF TOTALLY ENCLOSED FAN-COOLED MOTORS VIA CONJUGATE HEAT TRANSFER ANALYSIS AND AIR-FLOW MEASUREMENTS	425
<i>K. K. Rönnerberg ; M. E. Beniakar</i>	
AN APPROACH TO MODEL SHAFT VOLTAGE OF WOUND ROTOR SYNCHRONOUS MACHINES	426
<i>K. Darques ; A. Tounzi ; Y. Le Menach ; K. Beddek ; M. Biet-Evrard</i>	
FAST GLOBAL TERMINAL SLIDING MODE CONTROL METHOD FOR TORQUE REGULATION ON DISC CORELESS PERMANENT MAGNET SYNCHRONOUS MOTOR	427
<i>Xiaoguang Wang ; Wei Xu ; Caiyong Ye</i>	
ROTATION MOVEMENT BASED ON THE SPATIAL FOURIER INTERPOLATION METHOD (SFIM)	428
<i>L. Montier ; S. Clénet ; T. Henneron ; B. Goursaud</i>	
MULTIPHYSICS TOPOLOGY OPTIMIZATION FOR LAMINATED BUSBARS	429
<i>Oriol Puigdemívol ; Yvonnick Le Menach ; Souad Harmand ; Damien Méresse ; Jean-François Wecksteen</i>	
A STUDY ON THE EDDY CURRENT FORMATION BY LEAKAGE MAGNETIC FLUX ON THE PMSM ROTOR RETAINING PLATE AND REDUCTION METHOD	430
<i>Hyun-Woo Jun ; Geo-Chul Jeong ; Jong-Seak Lim ; Ju Lee</i>	
IN-WHEEL OUTER ROTOR FLUX SWITCHING PERMANENT MAGNET MACHINE WITH FRACTIONAL-SLOT CONCENTRATED WINDINGS FOR ELECTRICAL VEHICLES	431
<i>Ziyue Wang ; Wei Xu ; Caiyong Ye</i>	
A NEURAL NETWORK BASED SURROGATE MODEL FOR PREDICTING NOISE IN SYNCHRONOUS RELUCTANCE MOTORS	432
<i>Bofan Wang ; Tanvir Rahman ; Kang Chang ; Mohammad Hossain Mohammadi ; David A. Lowther</i>	
MULTI-SIMPLEX ALGORITHM APPLIED TO FEM BASED OPTIMAL DESIGN OF ELECTRIC MACHINE	433
<i>Wonseok Han ; Dae-Woo Kim ; Jong-Wook Kim ; Yong-Jae Kim ; Sang-Yong Jung</i>	
APPLICATION OF A HYBRID GENETIC ALGORITHM FOR OPTIMAL DESIGN OF INTERIOR PERMANENT MAGNET SYNCHRONOUS MACHINES	434
<i>Aimeng Wang ; Yun Wen ; Wen L. Soong ; Huiqi Li</i>	
DESIGN OF A DUAL-STATOR SUPERCONDUCTING PERMANENT MAGNET WIND POWER GENERATOR WITH DIFFERENT ROTOR CONFIGURATION	435
<i>Kaihe Zhang ; Youtong Fang ; Xiaoyan Huang ; Qinfen Lu</i>	
FIELD RECONSTRUCTION METHOD IN AXIAL FLUX PERMANENT MAGNET MOTOR WITH OVERHANG STRUCTURE	436
<i>Hyeon-Jeong Park ; Han-Kyeol Yeo ; Hyun-Kyo Jung ; Sang-Yong Jung ; Dong-Kyun Woo</i>	
PROPOSED OF NOVEL LINEAR OSCILLATING ACTUATOR'S STRUCTURE USING TOPOLOGY OPTIMIZATION	437
<i>Yasuyoshi Asai ; Tomohiro Ota ; Takeshi Yamamoto ; Katsuhiro Hirata</i>	
MODEL PREDICTIVE CONTROL FOR LINEAR INDUCTION MACHINES WITH LESS COMPUTATIONAL BURDEN	438
<i>Jianqiao Zou ; Wei Xu ; Caiyong Ye</i>	
MODELING OF INDUCTIVE BLOCKING DEVICES FOR THE MITIGATION OF INDIRECT LIGHTNING EFFECTS	439
<i>E. Cardelli ; A. Faba ; S. Gaiotto ; A. Laudani ; F. Riganti Fulginei ; A. Salvini ; F. Tissi</i>	
OPTIMAL FLUX TRAJECTORY ANALYSIS OF LINEAR INDUCTION MACHINE CONSIDERING THRUST TRANSIENT	440
<i>Dong Hu ; Wei Xu ; Renjun Dian ; Caiyong Ye</i>	

OPTIMAL DESIGN OF A SPOKE-TYPE PERMANENT MAGNET MOTOR WITH PHASE-GROUP CONCENTRATED-COIL WINDINGS TO MINIMIZE TORQUE PULSATIONS.....	441
<i>Wenliang Zhao ; Thomas A. Lipo ; Byung-Il Kwon</i>	
MADS USING COST PATTERNS ANALYSIS FOR THE OPTIMAL DESIGN OF ELECTRIC MACHINE	442
<i>Byoungsoo Ko ; Dongsu Lee ; Sang-Yong Jung</i>	
PRINCIPAL COMPONENT OPTIMIZATION WITH MESH ADAPTIVE DIRECT SEARCH FOR OPTIMAL DESIGN OF PERMANENT MAGNET SYNCHRONOUS MACHINE	443
<i>Myung-Ki Seo ; Tae-Yong Lee ; Jong-Wook Kim ; Yong-Jae Kim ; Sang-Yong Jung</i>	
ROBUST MAGNETIC FLUX-BASED FAULT DETECTION OF ELECTROMAGNETIC VALVE OPERATION UNDER UNCERTAINTY	444
<i>Mach František ; Kurfirt Martin ; Doležel Ivo</i>	
HYBRID ANALYTICAL MODEL COUPLING LAPLACE'S EQUATION AND RELUCTANCE NETWORK FOR ELECTRICAL MACHINES	445
<i>Sara Bazhar ; Julien Fontchastagner ; Noureddine Takorabet ; Nicolas Labbe</i>	
TITANIUM DROPLET FORMATION IN ELECTROMAGNETIC LEVITATION MELTING PROCESS.....	446
<i>Hailin Li ; Shuhong Wang ; Dongsheng Yuan ; Nana Duan ; Song Wang ; Jianguo Zhu</i>	
FLUX BARRIER EFFECT OF SPOKE-ARRAY MAGNETS IN FLUX-MODULATION MACHINES	447
<i>Tianjie Zou ; Ronghai Qu ; Dawei Li ; Dong Jiang</i>	
MAGNETIC MODELLING FOR THE TEXTURE ANALYSIS OF FE-SI ALLOYS	448
<i>Ermanno Cardelli ; Antonio Faba ; Antonino Laudani ; Simone Quondam Antonio ; Francesco Riganti Fulginei ; Antonio Salvini</i>	
LOSS AND AIR-GAP FORCE ANALYSIS OF CAGE INDUCTION MOTORS WITH NON-SKEWED ASYMMETRICAL ROTOR BARS BASED ON FEM	449
<i>Zhao Haisen ; Wang Yilong ; Zhan Yang ; Xu Guorui ; Liu Xiaofang</i>	
BAYESIAN APPROACH TO DESIGN OPTIMIZATION OF ELECTROMAGNETIC SYSTEMS UNDER UNCERTAINTY	450
<i>Mach František</i>	
SIMULATION OF INDUCTIVE POWER TRANSFER SYSTEMS EXPOSING A HUMAN BODY WITH A COUPLED SCALED-FREQUENCY APPROACH	451
<i>Carsten Cimala ; Markus Clemens ; Joachim Streckert ; Benedikt Schmuelling</i>	
CALCULATION OF ION FLOW FIELD AT THE CROSSING OF HVDC TRANSMISSION LINES BY METHOD OF CHARACTERISTICS.....	452
<i>Fengnv Xiao ; Bo Zhang ; Jianghua Mo ; Jinliang He</i>	
DESIGN AND ANALYSIS OF A HYBRID PERMANENT MAGNET AXIAL FIELD FLUX-SWITCHING MEMORY MACHINE	453
<i>Nian Li ; Mingyao Lin ; Gongde Yang ; Lei Xu</i>	
ELECTRICAL IMPEDANCE TOMOGRAPHY RECONSTRUCTION USING HYBRID VARIATION REGULARIZATION ALGORITHM.....	454
<i>Shuai Zhang ; Yunge Guo ; Xueying Zhang ; Guizhi Xu</i>	
DESIGN AND ANALYSIS OF A NOVEL PM-ASSISTED SYNCHRONOUS RELUCTANCE MACHINE WITH AXIALLY INTEGRATED MAGNETS BY FINITE ELEMENT METHOD	455
<i>Wenliang Zhao ; Thomas A. Lipo ; Byung-Il Kwon</i>	
LOW-DIMENSIONAL STOCHASTIC MODELING OF THE ELECTRICAL PROPERTIES OF BIOLOGICAL TISSUES	456
<i>Ulrich Römer ; Christian Schmidt ; Ursula Van Rienen ; Sebastian Schöps</i>	
STUDY ON POWER TRANSMISSION METHOD OF DUAL-STAGE TYPE MAGNETIC GEAR FOR HIGH GEAR RATIO	457
<i>Eui-Jong Park ; Sung-Jin Kim ; Sang-Yong Jung ; Yong-Jae Kim</i>	
HIGH EFFICIENCY WIRELESS POWER AND FORCE TRANSFER FOR MICRO-ROBOT USING 3-AXIS AC/DC MAGNETIC COIL	458
<i>Dongwook Kim ; Karam Hwang ; Jaehyung Park ; Hyun Ho Park ; Seungyoung Ahn</i>	
MULTIPHYSICS SIMULATION OF PULSED COLD PLASMA ARC ROTATION IN THE FIELD OF A RING PERMANENT MAGNET	459
<i>Minxiang Wu ; Babak Fahimi</i>	
PARALLELIZATION PERFORMANCE OF ROBUST INCOMPLETE FACTORIZATION PRECONDITIONER FOR REAL SYMMETRIC LINEAR SYSTEMS ARISING IN MAGNETIC FIELD ANALYSES.....	460
<i>Tomonori Tsuburaya ; Yoshifumi Okamoto ; Zhiqi Meng</i>	

NONLINEAR BEM-SURFACE IMPEDANCE BOUNDARY CONDITION FORMULATION FOR UNSTRUCTURED MESHES.....	461
<i>Fabio Freschi ; Luca Giaccone ; Maurizio Repetto</i>	
COMPUTATION ON RATIO OF ROTOR CORE AND FLUX BARRIER FOR TORQUE RIPPLE REDUCTION OF 240W ALA-SYNRM	462
<i>Sang Man Shin ; Jung Ho Lee ; Young Hyun Kim</i>	
PARAMETRIC ANALYSIS OF MAGNETOHARMONIC PROBLEM BASED ON PROPER GENERALIZED DECOMPOSITION	463
<i>Thomas Henneron ; Stéphane Clénet</i>	
SOLUTION OF OPEN-BOUNDARY PROBLEMS BY MEANS OF THE HYBRID FEM-GDBC1 METHOD.....	464
<i>G. Aiello ; S. Alfonzetti ; S. A. Rizzo ; N. Salerno</i>	
A TEMPERATURE-DEPENDENT HYSTERESIS MODEL FOR SOFT FERRITES BASED ON A VECTORIAL ELEMENTAL OPERATOR	465
<i>Weijie Xu ; Nana Duan ; Shuhong Wang ; Jianguo Zhu</i>	
BALANCING MODELING AND DISCRETIZATION ERRORS IN THE NUMERICAL APPROXIMATION OF MAGNETOSTATIC FIELDS WITH UNCERTAINTIES	466
<i>Ulrich Römer ; Herbert De Gersem</i>	
MODELLING OF MAGNETIC PROPERTIES IN SOFT MAGNETIC COMPOSITE MATERIAL UNDER ROTATIONAL MAGNETIZATION	467
<i>Weijie Xu ; Nana Duan ; Shuhong Wang ; Jianguo Zhu</i>	
MAGNETICALLY CONTROLLED SATURABLE REACTOR CORE VIBRATION UNDER PRACTICAL WORKING CONDITIONS.....	468
<i>Ben Tong ; Yang Qingxin ; Yan Rongge ; Zhu Lihua</i>	
NUMERICAL MODELING OF STEADY STATE OF MAGNETOSTATIC PROBLEMS COUPLED WITH NONLINEAR ELECTRIC CIRCUIT.....	469
<i>Guillaume Caron ; Thomas Henneron ; Francis Piriou ; Jean-Claude Mipo</i>	
OPTIMIZATION OF THE TEAM 22 PROBLEM USING POD-EIM REDUCED MODEL	470
<i>Antoine Pierquin ; Stéphane Brisset ; Thomas Henneron ; Stéphane Clénet</i>	
IONOSPHERIC TIME-DELAY OF SATELLITE SIGNAL PROPAGATION CALCULATION BASED ON FDTD METHOD	471
<i>Jimin Wu ; Xinyue Wang ; Yuwei Xie ; Jiangfan Liu</i>	
CURRENT DISTRIBUTION CALCULATION OF SUPERCONDUCTING LAYER IN HTS CABLE CONSIDERING MAGNETIC HYSTERESIS BY USING XFEM	472
<i>Nana Duan ; Weijie Xu ; Shuhong Wang ; Jianguo Zhu</i>	
COMPARISON OF THE NEAR FIELD COUPLING USING SPHERICAL AND SPHEROIDAL HARMONICS.....	473
<i>F. Tavernier ; Z. Li ; A. Bréard ; D. Voyer ; C. Sartori ; L. Krähenbühl</i>	
FAST IDENTIFICATION PROBLEMS IN 3D IRON CORE FUSION DEVICES.....	474
<i>Andrea G. Chiariello ; Francesco Ledda ; Raffaele Martone ; Francesco Pizzo</i>	
REDUCTION METHOD BASED ON LOOPED SLOT WEDGES FOR END TO END SHAFT VOLTAGE IN INVERTER DRIVEN IPM MOTOR	475
<i>Thusitha Wellawatta ; Jun-Kyu Park ; Sung-Jin Choi ; Jin Hur</i>	
A PARALLEL IMPLEMENTATION OF THE CORRECTION FUNCTION METHOD FOR POISSON'S EQUATION WITH IMMERSED SURFACE CHARGES	476
<i>David S. Abraham ; Dennis D. Giannacopoulos</i>	
NONLINEAR LAMINATION STACKS STUDIED WITH HARMONIC BALANCE FEM SUPPLIED BY MAGNETIC FLUX ARISING FROM PWM.....	477
<i>Smail Ziani ; Thomas Henneron ; Yvonnick Le Menach</i>	
T- Ω FORMULATION WITH HIGHER ORDER HIERARCHICAL BASIS FUNCTIONS FOR NON SIMPLY CONNECTED CONDUCTORS	478
<i>Ahmed Khebir ; Pawel Dlotko ; Bernard Kapidani ; Ammar Kouki ; Ruben Specogna</i>	
DESIGN OF A NOVEL ROTOR STRUCTURE FOR PM-ASSISTED SYNCHRONOUS RELUCTANCE MACHINES TO IMPROVE TORQUE CHARACTERISTICS	479
<i>Fuzhen Xing ; Wenliang Zhao ; Byung-Il Kwon</i>	
A GUARANTEED EQUILIBRATED ERROR ESTIMATOR FOR THE HARMONIC A — ℓ FORMULATION IN EDDY CURRENT PROBLEMS	480
<i>R. Tittarelli ; Y. Le Menach ; F. Piriou ; E. Creusé ; S. Nicaise ; J. P. Ducreux</i>	
ERROR ANALYSIS FOR NEAR-FIELD EMC PROBLEMS BASED ON MULTIPOLAR EXPANSION APPROACH	481
<i>Z. Li ; F. Tavernier ; L. Krähenbühl ; D. Voyer ; C. Sartori ; A. Bréard</i>	

MODELING OF MAGNETIC INDUCED DEFORMATION USING COMPUTER CODE CHAINING AND SOURCE TENSOR PROJECTION	482
<i>Mingyong Liu ; Zuqi Tang ; Xavier Mininger ; Frédéric Bouillault ; Olivier Hubert ; Laurent Bernard</i>	
SOLVING MULTIRATE PARTIAL DIFFERENTIAL EQUATIONS USING HAT FINITE ELEMENT BASIS FUNCTIONS	483
<i>Andreas Pels ; Ruth V. Sabariego ; Sebastian Schöps</i>	
A CONVOLUTIONAL PML SCHEME FOR THE EFFICIENT MODELING OF GRAPHENE STRUCTURES THROUGH THE ADE-FDTD TECHNIQUE	484
<i>A. N. Papadimopoulos ; S. A. Amanatiadis ; N. V. Kantartzis ; I. T. Rekanos ; T. T. Zygiridis ; T. D. Tsiboukis</i>	
PM ARRANGEMENT DESIGN OF PM-ASSISTED SYNCHRONOUS RELUCTANCE MOTORS FOR MAXIMIZE BACK-EMF AND COGGING TORQUE REDUCTION	485
<i>Huai-Cong Liu ; Geochul Jeong ; Soo-Jin Jung ; Ju Lee</i>	
NUMERICAL INTEGRATION ON NATURAL ELEMENT METHOD: COMPARATIVE ANALYSES OF DIFFERENT APPROACHES	486
<i>Diego Pereira Botelho ; Yves Marechal ; Brahim Ramdane</i>	
GPU ACCELERATION OF 3D EDDY CURRENT LOSSES CALCULATION IN LARGE POWER TRANSFORMER	487
<i>Dongyang Wu ; Xiuke Yan ; Renyuan Tang ; Dexin Xie ; Ziyang Ren ; Baodong Bai</i>	
VECTOR INTERPOLATION ON NATURAL ELEMENT METHOD: MESH SENSITIVITY ANALYSIS	488
<i>Diego Pereira Botelho ; Yves Marechal ; Brahim Ramdane</i>	
ANISOTROPIC MODEL FOR VILLARI EFFECT IN NON-ORIENTED ELECTRICAL STEEL SHEETS	489
<i>S. Steentjes ; P. Rasilo ; A. Belahcen ; R. Kouhia ; K. Hameyer</i>	
DESIGN OF EQUIVALENT MAGNETIC CIRCUIT AND PARAMETER ANALYSIS FOR IMPROVING PERFORMANCE OF FUEL INJECTIONS	490
<i>Huai-Cong Liu ; Kyoung-Jin Joo ; Ho-Joon Lee ; Ju Lee</i>	
HYBRIDIZATION ALGORITHM OF FIREWORKS OPTIMIZATION AND GENERATING SET SEARCH FOR OPTIMAL DESIGN OF IPMSM	491
<i>Dae-Woo Kim ; Gyeong-Jae Park ; Jong-Wook Kim ; Yong-Jae Kim ; Sang-Yong Jung</i>	
MAGNETIC CHARACTERISTICS ANALYSIS OF CSR OF TRANSFORMER TYPE	492
<i>Guang Yang ; Lin Li ; Xile Zhang</i>	
WAVEGUIDE OPTIMIZATION FOR DIELECTRIC MEDIA VARIATION BASED ON THE FDTD METHOD AND THE MONGE-KANTOROVICH MASS TRANSFER PROBLEM	493
<i>Georgios G. Pyrialakos ; Nikolaos V. Kantartzis ; Tadao Ohtani ; Yasushi Kanai ; T. D. Tsiboukis</i>	
PARAMETRIC HOMOGENIZED MODEL FOR INCLUSION OF EDDY CURRENTS AND HYSTERESIS IN 2-D FINITE ELEMENT SIMULATION OF ELECTRICAL MACHINES	494
<i>Christian Krüttgen ; Simon Steentjes ; Gregor Glehn ; Kay Hameyer</i>	
BUBBLES AND BLISTERS IMPACT ON DIE-CASTING CAGE TO THE DESIGNS AND OPERATIONS OF LINE-START SYNCHRONOUS RELUCTANCE MOTORS	495
<i>Huai-Cong Liu ; Geochul Jeong ; Ju Lee</i>	
PRECONDITIONING OF A LOW-FREQUENCY ELECTRIC FIELD INTEGRAL EQUATION FORMULATION WITH CIRCUIT COUPLING USING H-MATRICES	496
<i>J. Siau ; O. Chadebec ; G. Meunier ; J. -M. Guichon ; R. Perrin-Bit</i>	
A FAST, SEMI-ANALYTICAL METHOD FOR FIELD COMPUTATION IN PRESENCE OF MAGNETIC AND CONDUCTIVE MATERIALS	497
<i>A. Formisano ; R. Martone</i>	
ON-LINE EVALUATION OF POWER TRANSFORMER TEMPERATURES USING MAGNETIC AND THERMODYNAMICS NUMERICAL MODELING	498
<i>Juliano R. Da Silva ; João P. A. Bastos</i>	
AXB: A COMPILER FOR SPARSE DIRECT SOLVERS	499
<i>Kazem Cheshmi ; Guanzheng Xu ; Saman A. Zonouz ; Maryam Mehri Dehnavi</i>	
EDDY CURRENT INSPECTION OF A FERROMAGNETIC MATERIAL, EFFECT OF A BIAXIAL STRESS STATE	500
<i>Laurent Santandrea ; Romain Corcolle ; Yann Le Bihan ; Laurent Daniel</i>	
EFFECT OF LOCAL SUPPORT CONFIGURATION ON THE PRECISION OF NUMERICAL SOLUTIONS OF POISSON EQUATION OBTAINED WITH DIFFERENTIAL QUADRATURE METHOD	501
<i>João Rogério Da Silva ; José Geraldo Peixoto De Faria ; Márcio Matias Afonso ; Giancarlo Queiroz Pellegrino</i>	
A STUDY ON FAULT-TOLERANT OPERATION OF A TWO-PHASE PERMANENT MAGNET SYNCHRONOUS MOTOR BASED ON STRUCTURAL ALTERATION	502
<i>Hai Lin ; Fei Zhao ; T. A. Lipo ; Byung-Il Kwon</i>	

CORELESS MULTIDISC AXIAL FLUX PM MACHINE WITH CARBON NANOTUBE WINDINGS	503
<i>Vandana Rallabandi ; Narges Taran ; Dan M. Ionel ; John F. Eastham</i>	
MULTILAYER CONCENTRATED WINDINGS FOR AXIAL FLUX PM MACHINES	504
<i>Vandana Rallabandi ; Narges Taran ; Dan M. Ionel</i>	
OPTIMAL DESIGN OF MARINE ELECTRIC PROPULSION SALIENT POLE SYNCHRONOUS MOTOR	505
<i>Angelos P. Moschoudis ; George J. Tsekouras ; Antonios G. Kladas</i>	
SIERPINSKI CARPET FRACTAL MICROSTRIP ARRAYS FOR ENERGY HARVESTING APPLICATIONS	506
<i>Ícaro V. Soares ; Úrsula C. Resende ; Sandro T. M. Gonçalves</i>	
INVESTIGATION OF THE TIME INTEGRATION METHODS ON THE PARAREAL METHOD FOR FIELD COMPUTATION OF EDDY CURRENTS PROBLEMS	507
<i>I. Niyonzima ; M. Clemens ; S. Schöps</i>	
POLYNOMIAL-CHAOS TIME-DOMAIN METHOD FOR UNCERTAINTY ANALYSIS OF AXIALLY-SYMMETRIC STRUCTURES	508
<i>T. T. Zygiridis ; A. D. Papadopoulos ; N. V. Kantartzis ; C. S. Antonopoulos ; E. N. Glytsis ; T. D. Tsiboukis</i>	
LIGHTNING INCIDENCE MODEL BASED ON THE ELECTRIC FIELD GRADIENT: 3D ELECTROSTATIC ANALYSES	509
<i>Ednardo M. Rodrigues ; Ricardo S. T. Pontes ; Tobias R. Fernandes Neto</i>	
MODEL-BASED EDDY CURRENT DETERMINATION OF THE ELECTRICAL CONDUCTIVITY OF SEMICONDUCTORS	510
<i>Yann Le Bihan ; Florent Loete ; Josué Ferreira ; Denis Mencaraglia</i>	
PERFORMANCE COMPARISON BETWEEN JILES-ATHERTON AND PLAY VECTOR HYSTERESIS MODELS ON FIELD CALCULATION	511
<i>Jean V. Leite ; Kleyton Hoffmann ; Filoména B. R. Mendes ; Nelson Sadowski ; João P. A. Bastos ; N. J. Batistela</i>	
MODELING OF LEAKAGE MAGNETIC FIELD OF ELECTRIC MACHINES USING BLOCKS WITH MAGNETIZATIONS FOR DESIGN OF MAGNETICALLY SHIELDED ROOM	512
<i>Kazuhiro Muramatsu ; Yanhui Gao ; Yusuke Moriyama ; Hiroshi Dozono ; Takaaki Nishino ; Kazuyuki Miura</i>	
AN OPTIMAL DESIGN METHOD OF DOUBLE-STATOR FLUX-SWITCHING PERMANENT MAGNET MACHINE BASED ON MAGNETIC EQUIVALENT CIRCUIT	513
<i>Dongjae Kim ; Hongsik Hwang ; Taeyun Kim ; Gyujong Jeong ; Cheewoo Lee</i>	
SOFTWARE FRAMEWORK FOR PARALLEL BEM ANALYSES WITH H-MATRICES	514
<i>Takeshi Iwashita ; Akihiro Ida ; Takeshi Mifune ; Yasuhito Takahashi</i>	
POD-VERSUS A PHYSICS-BASED PARAMETERIZED MODEL-ORDER-REDUCTION TECHNIQUE ACCOUNTING FOR MOVEMENT	515
<i>Md Rokibul Hasan ; Johan Gyselinck ; Ruth V. Sabariego</i>	
MICROWAVE CHARACTERIZATION USING PARTIAL LEAST SQUARE REGRESSION	516
<i>H. Sadou ; T. Hacib ; Y. Le Bihan ; H. Acikgoz ; O. Meyer</i>	
EMF EXPOSURE ASSESSMENT IN PROXIMITY TO METALLIC PARAPETS	517
<i>S. Grubisic ; A. Linhares ; X. L. Travassos ; W. P. Carpes ; T. B. Moura</i>	
DG-FEM FOR TIME DOMAIN H- Φ EDDY-CURRENT ANALYSIS	518
<i>Jasmin Smajic</i>	
TORQUE RIPPLE MINIMIZATION FOR INTERIOR PMSM WITH CONSIDERATION OF MAGNETIC SATURATION INCORPORATING ON-LINE PARAMETER IDENTIFICATION	519
<i>Chunyan Lai ; Guodong Feng ; Kaushik Mukherjee ; Voiko Loukanov ; Narayan C. Kar</i>	
A FORWARD SOLUTION OF ACOUSTIC INHOMOGENEITY IN MAGNETOACOUSTIC TOMOGRAPHY WITH MAGNETIC INDUCTION BASE ON GFEM	520
<i>Shuai Zhang ; Wenlong Li ; Jiawang Li ; Hongshuang Yang ; Wanjiao Hou ; Guizhi Xu ; Weili Yan</i>	
OPTIMAL DESIGN OF A COST-EFFECTIVE SPM MOTOR TO SUPPRESS TORQUE PULSATIONS USING MULTI-GRADE PERMANENT MAGNETS	521
<i>Wenliang Zhao ; Byung-Il Kwon</i>	
FAULT-TOLERANT ITERATIVE SOLVERS WITH ADAPTIVE RELIABILITY	522
<i>Aaditya Shukla ; Yue Wu ; Saman Zonouz ; Maryam Mehri Dehnavi</i>	
DESIGN AND ANALYSIS OF HIGH SPEED PERMANENT MAGNET MOTOR CONSIDERING THERMAL INFLUENCE FROM IMPELLER LOAD CHARACTERISTIC OF TURBO BLOWER SYSTEM	523
<i>Jung-Hyung Park ; Kyu-Seok Lee ; Sung-Ho Lee ; Sang-Yong Jung</i>	
PERFORMANCE EVALUATION OF PARALLEL FINITE ELEMENT ELECTROMAGNETIC FIELD ANALYSIS USING NUMERICAL HUMAN MODELS IN HPCI	524
<i>Amane Takei ; Kouhei Murotani ; Shin-Ichiro Sugimoto ; Masao Ogino ; Hiroshi Kawai</i>	

OVERHANG EFFECT IN THE AXIAL FLUX PERMANENT MAGNET MOTOR	525
<i>Young-Hoon Chae ; Dong-Kyun Woo</i>	
SHAPE AND DYNAMIC BEHAVIOR OF NONMAGNETIC MATERIAL IMMERSSED IN MAGNETIC NANOFLUID DUE TO MAGNETIC SURFACE AND BODY FORCE DENSITY	526
<i>Su-Hun Kim ; Jin-Hyun Choi ; Se-Hee Lee</i>	
EDDY CURRENT CHARACTERIZATION USING ROBUST META-HEURISTIC ALGORITHMS FOR LS-SVM HYPER-PARAMETERS OPTIMIZATION	527
<i>T. Hacib ; Y. Le Bihan ; M. Chelabi ; H. Boughedda ; M. R. Mekideche</i>	
A MULTIGRID-BALANCING PRECONDITIONER OF DOMAIN DECOMPOSITION METHODS FOR MAGNETIC FIELD PROBLEMS	528
<i>Tagami Daisuke</i>	
A NOVEL BRUSHLESS HYBRID EXCITED ADJUSTABLE-SPEED EDDY-CURRENT COUPLING.....	529
<i>Yibo Li ; Heyun Lin ; Hui Yang ; Kaikai Guo ; Shuhua Fang</i>	
LOSS AND NOISE REDUCTION OF SATURABLE MAGNETICALLY CONTROLLED REACTOR BY IMPROVING STRUCTURE OF MAGNETIC VALVES	530
<i>Yanhui Gao ; Daisuke Kusano ; Kazuhiro Muramatsu ; Weimin Guan ; Jiaxin Yuan ; Cuihua Tian ; Baichao Chen</i>	
CHARACTERISTICS OF IRREVERSIBLE DEMAGNETIZATION IN ACCORDANCE WITH PHASE ADVANCE ANGLE IN IPM-TYPE BLDC MOTOR.....	531
<i>Jong-Hun Park ; Hyung-Kyu Kim ; Seung-Tae Lee ; Jin Hur</i>	
3-D SUB-DOMAIN ANALYTICAL MODEL TO CALCULATE MAGNETIC FLUX DENSITY IN INDUCTION MACHINES WITH SEMI-CLOSED SLOTS UNDER NO-LOAD CONDITION	532
<i>Aida Mollaeian ; Eshaan Ghosh ; Himavarsha Dhulipati ; Jimi Tjong ; Narayan C. Kar</i>	
INDUCTANCE CALCULATION METHOD BASED ON INDUCED VOLTAGE	533
<i>Chouwei Ni ; Zhibin Zhao ; Xiang Cui</i>	
OPTIMAL DESIGN OF BRUSHLESS WOUND ROTOR SYNCHRONOUS MACHINE FOR TORQUE RIPPLE REDUCTION	534
<i>Ghulam Jawad Sirewal ; Qasim Ali ; Byung-Il Kwon</i>	
NOVEL DESIGN METHOD TO REDUCE INPUT CURRENT FOR MULTI-OPERATING POINT IPMSM	535
<i>Sanghyeok Seo ; Gyeong-Jae Park ; Byungkwan Son ; Yong-Jae Kim ; Sang-Yong Jung</i>	
A NEW ROBUST OPTIMIZATION APPROACH APPLIED TO PERMANENT MAGNET SYNCHRONOUS MOTOR.....	536
<i>Jae-Gil Lee ; Hyun-Kyo Jung ; Dong-Kyun Woo</i>	
OPTIMAL ROTOR STRUCTURE DESIGN OF CLAW-POLE ALTERNATOR FOR PERFORMANCE IMPROVING USING STATIC 3D FEM COUPLED-CIRCUIT MODEL	537
<i>Huai-Cong Liu ; Geochul Jeong ; Sang-Hwan Ham ; Ju Lee</i>	
IMPROVED PARABOLIC EQUATION METHOD FOR NARROW-BAND LORAN-C ASF PREDICTION OVER IRREGULAR TERRAIN	538
<i>Dandan Wang ; Xiaoli Xi ; Yurong Pu ; Yun Fang ; Zhengwei Li</i>	
DEVELOPMENT OF FLUX SWITCHING PM MACHINES WITH PHASE-GROUP CONCENTRATED-COIL WINDINGS FOR ROBOT APPLICATIONS.....	539
<i>Jung-Woo Kwon ; Wenliang Zhao ; Byung-Il Kwon</i>	
THE INFLUENCE OF OPENING SLOTS ON STATOR SURFACE-MOUNTED PERMANENT MAGNET MACHINES	540
<i>Guishu Zhao ; Wei Hua ; Gan Zhang ; Xiaofeng Zhu</i>	
ONLINE PARAMETER ESTIMATION AND LOSS CALCULATION USING DUPLEX NEURAL — LUMPED PARAMETER THERMAL NETWORK FOR FAULTY INDUCTION MOTOR	541
<i>Eshaan Ghosh ; Firoz Ahmed ; Aida Mollaeian ; J. Tjong ; Narayan C. Kar</i>	
DESIGN CHARACTERISTICS OF IPMSM WITH WIDE CONSTANT POWER SPEED RANGE FOR EV TRACTION.....	542
<i>Jung-Min Mun ; Gyeong-Jae Park ; Sanghyeok Seo ; Dae-Woo Kim ; Yong-Jae Kim ; Sang-Yong Jung</i>	
IRON LOSS OF ELECTRICAL STEEL CONSIDERING ROTATIONAL MAGNETIZATION AND LAMINATED DIRECTION MECHANICAL STRESS	543
<i>Xiaofeng Ding ; Suping Ren ; Yanwen Xiong ; Hong Guo ; Jinqian Xu</i>	
MODELING OF AN AXIAL-TYPE MAGNETIC GEAR USING A RELUCTANCE-BASED MAGNETIC EQUIVALENT CIRCUIT	544
<i>G. E. Ruiz-Ponce ; M. A. Arjona ; C. Hernández ; C. Espinoza</i>	
MODELING AND ANALYSIS OF CARRIER HARMONIC BASED EDDY CURRENT LOSSES IN INTERIOR PERMANENT MAGNET MOTORS	545
<i>Aiswarya Balamurali ; Chunyan Lai ; Voiko Loukanov ; Narayan. C Kar</i>	

MODEL ORDER REDUCTION FOR NON-LINEAR QUASI-ELECTROSTATIC PROBLEMS	546
<i>Yuqing Xie ; Lin Li ; Shuaibing Wang</i>	
GENETIC ALGORITHM ADOPTING BUILDING BLOCK IDENTIFICATION APPLIED TO OPTIMAL DESIGN OF IPMSM	547
<i>Byungkwan Son ; Dae-Woo Kim ; Jong-Wook Kim ; Yong-Jae Kim ; Sang-Yong Jung</i>	
SEPARATION OF SLIP- AND HIGH-FREQUENCY ELECTROMAGNETIC QUANTITY AND ITS APPLICATION IN ROTOR LOSS FINE ANALYSIS OF INDUCTION MOTOR	548
<i>Zhao Haisen ; Li Bing ; Zhang Dongdong ; Wang Yilong ; Zhan Yang ; Xu Guorui</i>	
ANALYSIS OF ELECTRO-MAGNETIC CIRCUIT VARIABLES' EFFECTS ON TOTAL HARMONIC DISTORTION IN A BALANCED ARMATURE DRIVER	549
<i>Dan-Ping Xu ; Han-Wen Lu ; Joong-Hak Kwon ; Sang-Moon Hwang</i>	
HBA-1: A HYBRID BI-OBJECTIVE OPTIMIZER FOR BLACK-BOX PROBLEMS	550
<i>K. Babanezhad ; J. Bigeon</i>	
STUDY ON THE OPTIMAL DESIGN OF PMA-SYNRM LOADING RATIO FOR ACHIEVEMENT OF ULTRA-PREMIUM EFFICIENCY	551
<i>Dong-Hoon Jung ; Geo-Chul Jeong ; Kyoung-Jin Joo ; Ju Lee</i>	
CHARACTERISTICS ANALYSIS METHOD OF AXIAL FLUX PERMANENT MAGNET MOTOR BASED ON 2-D FINITE ELEMENT ANALYSIS	552
<i>Jin-Seok Kim ; Jin-Hwan Lee ; Yong-Jae Kim ; Sang-Yong Jung</i>	
METHOD OF PARAMETERS CALCULATION OF SINGLE-PHASE FLUX-SWITCHING PERMANENT MAGNET MACHINE	553
<i>Taeyun Kim ; Hongsik Hwang ; Dongjae Kim ; Gyujong Jeong ; Cheewoo Lee</i>	
ON-LOAD MAGNETIZATION CHARACTERISTIC ANALYSIS OF A NOVEL PARTITIONED STATOR HYBRID MAGNET MEMORY MACHINE	554
<i>Hui Yang ; Z. Q. Zhu ; Heyun Lin ; Kaikai Guo ; Shuhua Fang ; Yunkai Huang</i>	
MODEL REDUCTION & MANIFOLD LEARNING — BASED PARAMETRIC COMPUTATIONAL ELECTROMAGNETISM: FUNDAMENTALS & APPLICATIONS	555
<i>Francisco Chinesta ; Jose Vicente Aguado ; Emmanuelle Abisset-Chavanne ; Anais Barasinski</i>	
APPLICATION OF MONTE CARLO METHOD FOR MAGNETIC CLUSTERS INTRODUCED THERMAL DISTRIBUTIONS	556
<i>Kenich Terashima ; Naomichi Sakamoto ; Katsuhiko Yamaguchi ; Tetsuya Uchimoto ; Toshiyuki Takagi</i>	
A COUPLED 3DFE/ELECTROCHEMICAL MODEL FOR THE ANALYSIS OF VOLTAGE BEHAVIOR IN BATTERIES UNDER LOADING AND CHARGING CONDITIONS	557
<i>Christopher R. Lashway ; Osama A. Mohammed</i>	
NOVEL DESIGN OF A VARIABLE RELUCTANCE PERMANENT MAGNET MACHINE WITH BIPOLAR COIL FLUX-LINKAGE	558
<i>Hui Yang ; Heyun Lin ; Z. Q. Zhu ; Kaikai Guo ; Shuhua Fang ; Yunkai Huang</i>	
GLOBAL SENSITIVITY ANALYSIS APPLIED TO AN HYDROGENERATOR	559
<i>Thu Trang Nguyen ; Hung Mac ; Stéphane Clénet ; Eilin Guillot</i>	
FAST CALCULATION OF DETENT FORCE IN PM LINEAR SYNCHRONOUS MACHINES WITH CONSIDERING MAGNETIC SATURATION	560
<i>Yihua Yao ; Qinfen Lu ; Xiaoyan Huang ; Yunyue Ye ; Youtong Fang</i>	
MAGNETIC DESIGN CONSIDERATIONS OF BIDIRECTIONAL INDUCTIVE WIRELESS POWER TRANSFER SYSTEM FOR EV APPLICATIONS	561
<i>A. A. S. Mohamed ; A. Berzoy ; Osama Mohammad</i>	
AN INTEGRATED CHARACTERIZATION MODEL FOR THE MAGNETIC DESIGN OF AN EV CHARGER'S CIRCULAR WIRELESS POWER TRANSFER PADS	562
<i>Abla Hariri ; Ahmed Elsayed ; Osama A. Mohammad</i>	
Author Index	