

IECON 2012 – 38th Annual Conference on IEEE Industrial Electronics Society

**Montreal, Quebec, Canada
25 – 28 October 2012**

Pages 1-880



**IEEE Catalog Number: CFP12IEC-PRT
ISBN: 978-1-4673-2419-9**

TABLE OF CONTENTS

PLENARY SESSIONS

DESIGN FOR RELIABILITY OF POWER ELECTRONIC SYSTEMS.....	33
<i>H. Wang, K. Ma, F. Blaabjerg</i>	

PANEL SESSIONS

POWER ELECTRONICS AND ENERGY CONVERSION

A BIDIRECTIONAL DC-AC CONVERTER	50
<i>Euzeli Santos Jr.</i>	
A CURRENT-SHARING METHOD BASED ON NETWORKED CONTROL FOR THREE-PHASE PARALLEL INVERTER.....	57
<i>Yao Zhang, Hao Ma, Guoqiang Zhao, Jin Guo</i>	
A DIGITAL FEEDBACK CLAMPED SYNTHETIC RIPPLE BASED HYSTERETIC MODULATOR FOR OPTIMAL BATTERY CHARGING.....	62
<i>Rajeev Kumar Singh, Santanu Mishra</i>	
A HIGH POWER AND MULTI-OUTPUTS OF AC-DC POWER SUPPLY DESIGN TO MEET 80 PLUS GOLD AND ERP REQUIREMENTS	68
<i>Liang Shih-An, Huang Ching Wen, Lu Po Chang</i>	
A LINE-INTERACTIVE UPS SYSTEM OPERATING WITH SINUSOIDAL VOLTAGE AND CURRENT REFERENCES OBTAINED FROM A SELF-TUNING FILTER.....	74
<i>Sergio Silva, Rodrigo Modesto, Rodrigo Barriviera, Mauricio Kaster</i>	
A MODIFIED SINGLE-PHASE H-BRIDGE PWM RECTIFIER WITH POWER DECOUPLING	80
<i>Hui Zhao, Hongbo Li, Chen Min, Kai Zhang</i>	
A NEW CONTROL METHOD IN PHASE-SHIFTED FULL-BRIDGE CONVERTER FOR REDUCED POWER CONSUMPTION UNDER LIGHT LOAD CONDITIONS	86
<i>Duk-You Kim, Chong-Eun Kim, Gun-Woo Moon</i>	
A NEW INTERLEAVED THREE-PHASE SINGLE-STAGE PFC AC-DC CONVERTER.....	92
<i>Mehdi Narimani, Gerry Moschopoulos</i>	
A NON-STANDARD CONTROL STRATEGY FOR GRID-TIED SINGLE PHASE SYSTEMS WITH POWER QUALITY COMPENSATION.....	98
<i>Ricardo Ribeiro, Franklin Nascimento, Christian Azevedo, Thiago Rocha, Rodrigo Barreto</i>	
A NOVEL CURRENT-MODE CONSTANT ON-TIME CONTROL SCHEME TO ACHIEVE ADAPTIVE VOLTAGE POSITIONING FOR DC POWER CONVERTERS	104
<i>Yung-Jen Chen, Dan Chen, Yu-Cheng Lin, Ching-Jan Chen, Chien-Hui Wang</i>	
A NOVEL FAST AND DETERMINISTIC SUBSTATION COMMUNICATION NETWORK ARCHITECTURE BASED ON AFDX.....	110
<i>Peng-Yu Zhang, Yan Zhou, Xiao-Sheng Liu, Ji-Wei Pang, Zhen-Feng Zhao</i>	
A NOVEL MODULATION STRATEGY BASED ON TWO DIMENSIONAL MODULATION FOR BALANCING DC-LINK CAPACITOR VOLTAGES OF CASCADED H-BRIDGES RECTIFIER	116
<i>Wang Cong, Zhang Guopeng, Cheng Hong, Li Yaopu</i>	
A NOVEL MODULATION TECHNIQUE FOR ASYMMETRIC MULTI-CELL INVERTERS OF 27 LEVELS WITHOUT REGENERATION	123
<i>Eduardo Espinosa, Jose Espinoza, Felipe Villarroel, Javier Munoz, Pedro Melin, Roberto Ramirez</i>	
A NOVEL NEUTRAL POINT BALANCING TECHNIQUE FOR SVPWM SWITCHED 3-LEVEL INVERTER FOR AC DRIVES.....	129
<i>Koteswara Rao Alla, Krishna Reddy Cpv, Prashant Jain, Balawanth Reddy, Eswar Rao, Muni Bp</i>	
A NOVEL SYNCHRONOUS PWM METHOD FOR THREE-PHASE AC/DC/AC CONVERTER WITHOUT DC-LINK CAPACITOR	134
<i>Congwei Liu, Zhandong Sun, Ningzi Cheng, Yaohua Li</i>	
A NOVEL TECHNIQUE OF LOW FREQUENCY INPUT CURRENT RIPPLE REDUCTION IN TWO-STAGE DC-AC INVERTER	139
<i>Zheng Wei, Xiang Deng, Chunying Gong, Jiawei Chen, Fanghua Zhang</i>	
A NOVEL THREE-LEVEL CHANGEOVER CIRCUIT OF SUPER-CAPACITOR BANK FOR ENERGY STORAGE SYSTEMS.....	144
<i>Jin-Feng Nie, Xi Xiao, Zanxiang Nie, Peigen Tian, Ruoxing Ding</i>	
A NOVEL THREE-PHASE SOFTWARE PHASE-LOCKED LOOP BASED ON FREQUENCY-LOCKED LOOP AND INITIAL PHASE ANGLE DETECTION PHASE-LOCKED LOOP	150
<i>Liang Wang, Qirong Jiang, Lucheng Hong</i>	
A ROBUST CONTROL STRATEGY FOR REGULATING DC-LINK VOLTAGE OF ACTIVE POWER FILTER WITHOUT LOAD CURRENT MEASUREMENTS.....	156
<i>Ricardo Ribeiro, Jailton Moreira, Raphael Souza, Christian Azevedo</i>	

A SLIDING-MODE CONTROL SCHEME FOR LLC RESONANT DC/DC CONVERTER WITH FAST TRANSIENT RESPONSE	162
<i>Hao Ma, Qinwei Liu, Jin Guo</i>	
A THREE-PHASE FOUR-WIRE UNIFIED POWER QUALITY CONDITIONER WITHOUT SERIES TRANSFORMERS	168
<i>Luis Monteiro, Jose Pinto, Joao Afonso, Maria Bellar</i>	
A TRANSFORMERLESS HIGH BOOST DC-DC CONVERTER FOR USE IN MEDIUM / HIGH VOLTAGE APPLICATIONS	174
<i>Theodore Soong, Peter Lehn</i>	
A UNIVERSAL TWO-LEVEL CHANGEOVER CIRCUIT OF SUPER-CAPACITOR BANK FOR ENERGY STORAGE SYSTEMS	180
<i>Xi Xiao, Jin-Feng Nie, Zanxiang Nie, Peigen Tian, Ruoxing Ding</i>	
A ZERO-VOLTAGE AND ZERO-CURRENT SWITCHING FULL BRIDGE CONVERTER USING AN AUXILIARY CIRCUIT	185
<i>In-Ho Cho, Gun-Woo Moon</i>	
AC CIRCULATING CURRENTS SUPPRESSION IN MODULAR MULTILEVEL CONVERTER	191
<i>Xu She, Alex Huang, Xijun Ni, Rolando Burgos</i>	
ACTIVE FILTER SOLUTIONS WITH HIGH RELIABILITY FOR MORE ELECTRIC AIRCRAFT	197
<i>Zhong Chen, Miao Chen</i>	
ACTIVE-CLAMP FORWARD CONVERTER WITH ASYMMETRIC TRANSFORMER TURNS FOR REDUCING TRANSFORMER DC OFFSET CURRENT	204
<i>Byoung-Hee Lee, Young-Do Kim, Moon-Young Kim, In-Ho Cho, Gun-Woo Moon</i>	
AN ADAPTIVE ON-TIME CONTROLLED BOOST LED DRIVER WITH HIGH DIMMING RATIO	210
<i>Sheng Liu, Xiaobo Wu, Fenjie Yuan, Menglian Zhao</i>	
AN EFFICIENCY INVESTIGATION AND EXPERIMENTAL VERIFICATION OF EGS WITH VSCF	215
<i>Jan Leuchter, Pavol Bauer, Ahmed Zobia</i>	
AN FPGA-BASED DIGITAL CONTROL DEVELOPMENT METHOD FOR POWER ELECTRONICS	222
<i>Ezana Mekonnen, Jason Katcha, Michael Parker</i>	
AN INTERLEAVED-SERIES/PARALLEL FORWARD CONVERTER WITH WIDE INPUT VOLTAGE RANGE	227
<i>Junjun Zhang, Hongfei Wu, Yan Xing, Yanbing Xia, Kai Sun</i>	
AN UNIFIED D-Q TRANSFORMATION BASED BALANCING CONTROLLER FOR CASCADED MULTILEVEL CONVERTER	232
<i>Yun She</i>	
ANALYSIS OF DUAL ACTIVE BRIDGE BASED POWER ELECTRONIC TRANSFORMER AS A THREE-PHASE INVERTER	238
<i>M A Moonem, Hariharan Krishnaswami</i>	
ANALYSIS, DESIGN AND EVALUATIONS OF A SOFT SWITCHING PWM DC-DC CONVERTER WITH PHASE SHIFT-CONTROLLED ZCS ACTIVE HYBRID RECTIFIER	244
<i>Tomokazu Mishima, Kouhei Akamatsu, Mutsuo Nakaoka</i>	
AUDIO-SUSCEPTIBILITY OF THE INNER-LOOP OF PEAK CURRENT-MODE CONTROLLED PWM DC-DC BUCK CONVERTER IN CCM	250
<i>Nisha Kondrath, Marian Kazimierzczuk</i>	
AVERAGED MODELING OF TRANSFORMER-COUPLED INTERLEAVED BOOST CONVERTERS	256
<i>Omar Ruiz, Ilse Cervantes</i>	
BATTERY-SUPPLIED TRANSFORMERLESS BALLAST FOR DC HIGH INTENSITY DISCHARGE (HID) LAMPS	262
<i>Antonio Leon-Masich, Hugo Valderrama-Blavi, Josep Maria Bosque-Moncusí, Luis Martínez-Salamero, Jose Antonio Barrado-Rodrigo, Freddy Flores-Bahamonde</i>	
BOND GRAPH AND PORT-CONTROLLED HAMILTONIAN MODEL OF DOUBLY-FED WIND POWER SYSTEM	269
<i>Huihui Song, Yanbin Qu, Xinyu Wang</i>	
BOOST DIODE RECTIFIER FOR THREE-PHASE VARIABLE SPEED DRIVES SUPPLIED FROM THE SINGLE-PHASE MAINS: ANALYSIS AND DESIGN	274
<i>Petar Grbovic, Philippe Delarue, Philippe Le Moigne</i>	
CHARACTERIZATION AND APPLICATION OF NEXT-GENERATION SIC POWER DEVICES FOR HIGH-FREQUENCY ISOLATION BIDIRECTIONAL DC-DC CONVERTER	281
<i>Biao Zhao, Qiang Song, Wenhua Liu, Yandong Sun</i>	
CLAMPING VOLTAGE CONTROL STRATEGY FOR THE ACTIVELY CLAMPED RESONANT DC-LINK INVERTER	287
<i>Qinye Chen, Dehua Zhang, Yaojie Hou, Lixiang Jin</i>	
COMPARISON OF CSI AND VSI BASED MODULAR RECTIFIERS WITH MAGNETIC AC COUPLING FOR LARGE CURRENT AND LOW VOLTAGE APPLICATIONS	293
<i>Johan Guzman, Carlos Baier, Pedro Melin, Jose Espinoza, Javier Munoz</i>	
COMPUTATIONAL MODEL OF THE DYNAMIC BEHAVIOR OF THE ZETA CONVERTER, IN DISCONTINUOUS CONDUCTION MODE	299
<i>Renan Caron Viero, Fernando Bereta Dos Reis, Fernando Soares Dos Reis</i>	
CONTROL OF A 1 KW SWITCHED RELUCTANCE GENERATOR USING TRIAC	304
<i>Sylvia Leonor Mendez Prince, Abelardo Martínez Iturbe, Carlos Eduardo Montaña Salcedo, Willian Millan, Estanislao Oyarbide, Francisco Jose Perez-Cebolla</i>	

CONTROL OF A BOOST CONVERTER FOR RESISTIVE INPUT BEHAVIOR IN THE CONTINUOUS CONDUCTION MODE	310
<i>Yaser M. Roshan, Mehrdad Moallem</i>	
CONTROL OF A THREE-PHASE FOUR-WIRE INVERTER	316
<i>Liping Zheng, Dong Le</i>	
D-STATCOM APPLIED TO SINGLE-PHASE DISTRIBUTION NETWORKS: MODELING AND CONTROL	321
<i>Taciana Paula Enderle, Guilherme Sebastião Da Silva, Clécio Fischer, Rafael Concatto Beltrame, Cassiano Rech, Vinicius Foletto Montagner, Luciano Schuch</i>	
DC COMPONENTS AND SUBHARMONICS GENERATED BY NATURALLY SAMPLED PWM TECHNIQUES	327
<i>Peter Stumpf, Rafael K. Jordan, Istvan Nagy</i>	
DEAD-TIME MINIMISATION USING ACTIVE VOLTAGE CONTROL GATE DRIVE FOR HIGH-POWER IGBT CONVERTERS	333
<i>Patrick R. Palmer, Xin Yang, Weiwei He</i>	
DESIGN AND IMPLEMENTATION OF COMPOUND CURRENT CONTROL STRATEGY FOR IMPROVED LCL-BASED SHUNT ACTIVE POWER FILTER	339
<i>Xiaojian Zhong, Lei Hong, Xiao Chen, Guozhu Chen</i>	
DESIGN OF A RESONANT POWER INVERTER FOR A PIEZOELECTRIC ACTUATOR	345
<i>Christophe Winter, Christophe Auvigne, Yves Perriard</i>	
DOUBLE THREE-PHASE DUAL ACTIVE BRIDGE CONVERTER FOR HIGH FREQUENCY HIGH CURRENT APPLICATIONS	350
<i>Bernardo Cougo, Thierry Meynard, Henri Schneider</i>	
DYNAMIC PERFORMANCE OF A STATCOM UNDER GRID DISTURBANCES FOR TWO DIFFERENT LINEAR CONTROLLERS	356
<i>Jorge Valero Rodríguez, Emilio Bueno Peña, Pablo Ledesma Larrea, Hortensia Amaris Duarte, Ana Rodríguez Monter</i>	
EFFECTIVE METHOD OF USING ELECTROMAGNETIC COUPLING OF AIR-CORE REACTOR	362
<i>Takayuki Nakamura, Yoshiaki Taguchi, Masamichi Ogasa</i>	
EFFICIENCY OF CAPACITIVELY LOADED CONVERTERS	368
<i>Thomas Andersen, Lina Huang, Michael A. E. Andersen, Ole C. Thomsen</i>	
ENERGY HARVESTING CYCLES OF DIELECTRIC ELECTROACTIVE POLYMER GENERATORS	374
<i>Emmanouil Dimopoulos, Ionut Trintis, Stig Munk-Nielsen</i>	
ENHANCED AVERAGE CURRENT-MODE CONTROL FOR DC-DC CONVERTERS BASED ON AN OPTIMIZED FUZZY LOGIC CONTROLLER	382
<i>Kumars Rouzbehi, Arash Miranian, Costantino Citro, Alvaro Luna, Pedro Rodriguez</i>	
EVALUATION OF DIFFERENT CARRIER-BASED PWM METHODS FOR MODULAR MULTILEVEL CONVERTERS FOR HVDC APPLICATION	388
<i>Arman Hassannpoor Chaleshtari, Staffan Norrga, Hans-Peter Nee, Lennart Ångquist</i>	
EXPERIMENTAL VERIFICATION OF ENERGY EFFICIENCY ENHANCEMENT IN POWER ELECTRONICS AT PARTIAL LOAD	394
<i>Klaus Muehlbauer, Dieter Gerling</i>	
FAULT ANALYSIS OF DUAL ACTIVE BRIDGE CONVERTERS	398
<i>Eunice Ribeiro, António Marques Cardoso, Chiara Boccaletti</i>	
FAULT DIAGNOSIS AND TOLERANCE IN THREE-LEVEL NEUTRAL-POINT-CLAMPED RECTIFIERS	404
<i>Luis Caseiro, André Mendes, Aderito Alcaso</i>	
FAULT TOLERANCE IN ACTIVE POWER FILTERS, BASED ON MULTILEVEL NPC TOPOLOGY	410
<i>Pedro Lopes, André Mendes</i>	
FAULT TOLERANT DIGITAL CONTROL OF 2 MVA PARALLELABLE FREQUENCY CONVERTERS FOR HARBOR APPLICATIONS	416
<i>Andrea Toscani, Paolo Cova, Fulvio Bertoluzza, Nicola Pini, Giovanni Franceschini</i>	
FIELD STOP SHORTED ANODE TRENCH IGBT FOR INDUCTION HEATING APPLIANCES	422
<i>Jae-Eul Yeon, Min-Young Park, Kyu-Min Cho, Hee-Jun Kim</i>	
FIRST HARMONIC EQUIVALENT IMPEDANCE OF COUPLED INDUCTIVE LOADS FOR INDUCTION HEATING APPLICATIONS	427
<i>C. Carretero, O. Lucia, J. Acero, J. M. Burdio</i>	
GRID-CONNECTED BOOST INVERTER FOR SMALL-WIND URBAN INTEGRATION: ANALYSIS AND DESIGN	433
<i>Freddy Flores-Bahamonde, Hugo Valderrama-Blavi, Josep M. Bosque, Antonio Leon-Masich, Luis Martinez-Salamero</i>	
HARMONICS IN OPPOSED CURRENT CONVERTERS	440
<i>J. M. Schellekens, J. L. Duarte, H. Huisman, M. A. M Hendrix</i>	
HF LINK LCLTLC RESONANT CONVERTER WITH LF AC OUTPUT	447
<i>Branislav Dobrucky, Michal Prazenica, Slavomir Kascak, Jan Kassa</i>	
HIGH STEP-UP DC-DC CONVERTER WITH COUPLED INDUCTOR AND REDUCED SWITCH VOLTAGE STRESS	453
<i>Boris Axelrod, Yefim Berkovich</i>	
HYBRID PWM STRATEGY FOR VOLTAGE SOURCE INVERTERS FEEDING THREE-PHASE OPEN-END-WINDING EQUIPMENT	459
<i>Gregory Carlos, Euzeli Dos Santos Jr., Cursino Jacobina</i>	
IGBT SERIES CONNECTION UNDER ACTIVE VOLTAGE CONTROL WITH TEMPORARY CLAMP	465
<i>Patrick Palmer, Weiwei He, Xueqiang Zhang, Jin Zhang, Mark Snook</i>	

IMPLEMENTATION OF A MULTIPLE INPUT CONVERTER USING FUZZY LOGIC CONTROL FOR A STAND-ALONE PHOTOVOLTAIC SYSTEM	471
<i>Nadia Smith, Roy McCann</i>	
IMPLEMENTATION OF AN EMI ACTIVE FILTER IN GRID-TIED PV MICRO-INVERTER CONTROLLER AND STABILITY VERIFICATION	477
<i>Djilali Hamza, Mei Qiu, Praveen Jain</i>	
IMPLEMENTATION OF DIFFERENT LAYOUTS OF A CORELESS PLANAR TRANSFORMER FOR A FLYBACK CONVERTER	483
<i>Abdoulkarim Bouabana, Constantinos Sourkounis</i>	
IMPROVED CONTROL SCHEME TOWARDS REDUCED DC LINK INDUCTORS IN A MULTI-CELL TOPOLOGY BASED ON CURRENT SOURCE CONVERTERS	488
<i>Pedro Melin, Jose Espinoza, Carlos Baier, Jaime Rohten, Roberto Ramirez, Luis Moran</i>	
INPUT AC SIDE SWITCHED ACTIVE FILTERED HIGH PERFORMANCE THREE PHASE CUK RECTIFICATION WITH ENERGY RECOVERY SNUBBER	494
<i>Md Ashfanoor Kabir, Amina Abedin, Rubaiyat Hossain, M. Nasir Uddinn, M. A. Choudhury</i>	
INTEGRATED LOW POWER LOW VOLTAGE ISOLATED SWITCH MODE POWER SUPPLY	500
<i>Trung Hieu Trinh, Thanh Hai Phung, Jean-Christophe Crebier, Nicolas Rouger, Yves Lembeye</i>	
ISOLATED HIGH-EFFICIENCY DC/DC CONVERTER FOR PHOTOVOLTAIC APPLICATIONS	506
<i>Bas Vermulst, Korneel Wijnands, Jorge Duarte</i>	
ISOLATED SOFT-SWITCHING HFAC-LINK 3-PHASE AC-AC CONVERTER USING A SINGLE-PHASE HF TRANSFORMER	512
<i>Hamidreza Keyhani, Hamid A. Toliyat, Maja Harfman Todorovic, Rixin Lai, Rajid Datta</i>	
LOAD-RESONANT CONVERTER WITH CHANGING RESONANT TANK TOPOLOGY FOR WELDING APPLICATIONS	518
<i>Jevgeni Shklovski, Kuno Janson, Ants Kallaste</i>	
LOW THD VOLTAGE SOURCE INVOLVING TWO SLIDING MODE CONTROLLERS	525
<i>Jean-Claude Le Claire, Mohamed Fouad Benkhoris</i>	
LOW-VOLUME POWER SUPPLY FOR VEHICULAR FUEL INJECTION SYSTEMS	531
<i>Behzad Mahdavihah, Mor Peretz, Aleksandar Prodic</i>	
MITIGATING DC-SIDE POWER OSCILLATIONS AND NEGATIVE SEQUENCE LOAD CURRENTS IN MODULAR MULTILEVEL CONVERTERS UNDER UNBALANCED FAULTS -FIRST APPROACH USING RESONANT PI	537
<i>Gilbert Bergna, Erik Berne, Philippe Egrot, Jean-Claude Vannier, Pierre Lefranc, Marta Molinas, Jon-Are Suul</i>	
MODEL REFERENCE ADAPTIVE CONTROL DESIGN FOR THE BUCK-BOOST CONVERTER	543
<i>Yen-Fang Li, Ming-Fa Tsai, Chung-Shi Tseng, Yi-Fan Chiang</i>	
MODELING AND CONTROL OF A THREE-PHASE BOOST CONVERTER FOR IRREGULAR INPUT SOURCES	549
<i>Reza Sabzehgar, Mehrdad Moallam</i>	
MODELING AND CONTROL OF PRIMARY PARALLEL ISOLATED BOOST CONVERTER	555
<i>Maria C. Mira A., Juan C. Hernandez B., Gokhan Sen, Ole C. Thomsen, Michael A. E. Andersen</i>	
MODELING AND DESIGN OF MULTI-CELL BUCK CONVERTERS USING INTERCELL TRANSFORMERS FOR HVDC CABLE DIAGNOSTIC	561
<i>Abdallah Darkawi, Thierry Martiré, Jean-Jacques Huselstein, François Forest, Petru Notingher</i>	
MODIFIED ONE-CYCLE-CONTROLLED THREE-PHASE POWER-FACTOR-CORRECTION	567
<i>Xiang Deng, Zheng Wei, Yi Fan, Chunying Gong, Xiaoli Meng</i>	
MULTI-CELL TOPOLOGY BASED ON VOLTAGE-SOURCE CONVERTERS WITH A REDUCED DC CAPACITOR BY MEANS OF A PREDICTIVE CONTROL SCHEME	573
<i>Roberto Ramirez, Jose Espinoza, Pedro Melin, Felipe Villarroel, Eduardo Espinosa, Marco Rivera</i>	
MULTILEVEL INVERTER BASED ACTIVE POWER FILTER USING SPACE VECTOR MODULATION	579
<i>Madhukar Waware, Pramod Agarwal</i>	
NEUTRAL-POINT VOLTAGE DYNAMICS MODEL OF THREE-LEVEL NPC INVERTER FOR REACTIVE LOAD	585
<i>Ramkrishan Maheshwari, Stig Munk-Nielsen, Sergio Busquets-Monge</i>	
NEW METHOD OF EMI ANALYSIS IN POWER ELECTRONICS BASED ON SEMICONDUCTORS TRANSIENT MODELS: APPLICATION TO SIC MOSFET/SCHOTTKY DIODE	590
<i>Slim Hrigua, François Costa, Cyrille Gautier, Bertrand Revol</i>	
NONLINEAR EFFECTS IN PIEZOELECTRIC TRANSFORMERS EXPLAINED BY THERMAL-ELECTRIC MODEL BASED ON A HYPOTHESIS OF SELF-HEATING	596
<i>T. Andersen, M. A. E. Andersen, O. C. Thomsen, M. P. Foster, D. A. Stone</i>	
NOVEL MODULATION STRATEGY AND DECOUPLING ALGORITHM FOR TWO-STAGE THREE-PHASE FOUR-LEG MATRIX CONVERTER	602
<i>Xianhui Qin, Bo Zhou, Haitao Huang, Mingming Shi, Xiaoyu Liu</i>	
NOVEL ON-LINE MAXIMUM DUTY POINT TRACKING TECHNIQUE TO IMPROVING SERVER POWER EFFICIENCY MEETING 80PLUS GOLD CODE	609
<i>Yen-Shin Lai, Zih-Jie Su</i>	
NUMERICAL SIMULATION OF SURGE PROTECTION CIRCUITS AND EXPERIMENTAL VERIFICATION USING A LIGHTNING SURGE SIMULATOR	615
<i>Sisira James, Nihal Kularatna, Alistair Steyn-Ross, Rainer Kunemeyer</i>	
ONE CYCLE CONTROLLED ACTIVE HARMONIC FILTER	621
<i>Sreeraj E. S., Prejith E. K., Kishore Chatterjee</i>	

OPEN-CIRCUIT FAULT DETECTION ANALYSIS FOR INDIRECT MATRIX CONVERTER IN MICROTURBINE GENERATION SYSTEMS	627
<i>J. Alexis Andrade-Romero, Victoria Herrera, J. Franklin A. Romero</i>	
OPTIMAL DESIGN OF EMC FILTERS FOR SINGLE-PHASE BOOST PFC CIRCUITS	632
<i>Jonas Muehlethaler, Hirofumi Uemura, Johann W. Kolar</i>	
PARALLEL CONNECTION OF TWO SINGLE-PHASE AC-DC-AC THREE-LEG CONVERTER WITH INTERLEAVED TECHNIQUE	639
<i>Nady Rocha, Cursino B. Jacobina, Euzeli C. Dos Santos Jr., Rodolpho M. De B. Cavalcanti</i>	
PERFORMANCE ANALYSIS FOR HIGH-FREQUENCY LINK AC-AC CONTACT-LESS POWER SUPPLY SYSTEM IN PARKING TOWER	645
<i>Shingo Kawano, Eiji Hiraki, Toshihiko Tanaka, Masayuki Okamoto</i>	
PERFORMANCE OF INVERTER FED INDUCTION MOTOR UNDER OPEN CIRCUIT DC LINK CAPACITOR	651
<i>Hadeed Sher, Khaled Addoweesh, Yasin Khan, Abdul Rahman Kashif</i>	
PHASE-SHIFTED DUAL H-BRIDGE CONVERTER WITH A WIDE ZVS RANGE AND REDUCED OUTPUT FILTER	656
<i>Il-Oun Lee, Shin-Young Cho, Gun-Woo Moon</i>	
POWER IMPROVEMENT OF PIEZOELECTRIC TRANSFORMER-BASED DC/DC CONVERTER	662
<i>Yu-Hao Su, Yuan-Ping Liu, Dejan Vasic, François Costa, Wen-Jong Wu, Chih-Kung Lee</i>	
POWER QUALITY IMPROVEMENT IN THREE-PHASE FOUR-WIRE SYSTEM USING A SHUNT APF WITH PREDICTIVE CURRENT CONTROL	668
<i>Abdullah Fahmy, Mostafa Hamad, Ahmed Kadry Abdelsalam, Ahmed Lotfy</i>	
PREDICTIVE CONTROL OF A CURRENT SOURCE CONVERTER OPERATING WITH LOW SWITCHING FREQUENCY	674
<i>Marco Rivera, Samir Kouro, Jose Rodriguez, Bin Wu, Jose Espinoza</i>	
PRINTED CIRCUIT BOARD INTEGRATED TOROIDAL RADIO FREQUENCY INDUCTORS	680
<i>Peter Kamby, Arnold Knott, Michael A. E. Andersen</i>	
PROPOSAL AND ANALYSIS OF GATE DRIVE CIRCUIT SUITABLE FOR GAN-FET	685
<i>Fumiya Hattori, Masayoshi Yamamoto</i>	
PWM-CONTROLLED RECTIFIERS WITHOUT THE NEED OF AN EXTRA SYNCHRONISATION UNIT	691
<i>Qing-Chang Zhong, Zhenyu Ma, Phi-Long Nguyen</i>	
REACTIVE POWER CONTROL OF SINGLE PHASE GRID TIED VOLTAGE SOURCED INVERTERS FOR RESIDENTIAL PV APPLICATION	696
<i>Xiangdong Zong, Peter W. Lehn</i>	
REAL-TIME IMPLEMENTATION OF POWER THEORY USING FLC BASED SHUNT ACTIVE FILTER WITH DIFFERENT FUZZY M.F.S	702
<i>Suresh Mikkili, Anup Kumar Panda</i>	
REDUCTION OF DC-BUS VOLTAGE RIPPLES AND CAPACITORS FOR SINGLE-PHASE PWM- CONTROLLED RECTIFIERS	708
<i>Qing-Chang Zhong, Wen-Long Ming, Xin Cao, Miroslav Krstic</i>	
RESEARCH AND APPLICATION OF HIGH FREQUENCY ISOLATED QUASI-Z-SOURCE INVERTER	714
<i>Ding Yonghuan, Li Lei</i>	
RESEARCH OF THREE-PHASE FOUR-LEG RECTIFIER	719
<i>Xin Chen, Zheng Wei, HuiZhen Wang, Chensong Li, Chunying Gong</i>	
RESEARCH ON A COMBINED INPUT-SERIES OUTPUT-PARALLEL DC/DC CONVERTER	725
<i>Peng Zhao, Lan Xiao, Zilong Wang</i>	
RESEARCH ON CONSTANT-FREQUENCY HYSTERESIS CURRENT CONTROL IN DIFFERENTIAL THREE-LEVEL GRID-CONNECTED INVERTER	730
<i>Feng Ma, Lei Li</i>	
RESEARCH ON UNBALANCE LOAD CURRENT COMPENSATION USING CASCADED STATCOM WITH STAR CONFIGURATION	734
<i>Wenhua Liu, Xianghua Zhao</i>	
ROBUST ACTIVE DAMPING TECHNIQUE FOR THREE-PHASE PWM CONVERTER CONNECTED TO POWER GRID WITH UNKNOWN INDUCTANCE	739
<i>Takahiro Saeki, Kozo Ide, Shinya Morimoto, Hideaki Iura, Yoshiyasu Takase, Syuji Matsuda</i>	
SELECTIVE HARMONICS COMPENSATION USING A WECS EQUIPPED BY A DFIG	745
<i>Mohamed Boutoubat, Lakhdar Mokrani, Mohamed Machmoun, François Auger</i>	
SINGLE PHASE UPS WITH FACTS CAPABILITIES BY USING P-Q THEORY	751
<i>Dante Victor Shimoda Pereira, Francisco Kleber De Araujo Lima, Carlos Gustavo Castelo Branco, René Pastor Torrico Bascopé, Luiz Juarez Castelo Branco Camurça Neto</i>	
SINGLE-STAGE HIGH POWER FACTOR CONVERTER WITHOUT ELETROLYTIC CAPACITORS TO DRIVE POWER LEDS	757
<i>Zito Fonseca, Marcelo Pedroso, Arnaldo Perín, Mauricio Kaster, Claudinor Nascimento</i>	
SLIDING MODE CONTROL OF A POWER FACTOR CORRECTED CONVERTER FOR PLUG-IN HYBRID ELECTRIC VEHICLES	763
<i>Woonki Na, Renee Kohl, Weider Chung</i>	
SOFT SWITCHING DESIGN OF ISOLATED BOOST CONVERTER WITH COUPLED INDUCTORS	768
<i>Hao Ma, Longyu Chen, Jing Li</i>	

SPACE VECTOR PULSE WIDTH MODULATION OF MULTILEVEL INVERTERS: A NEW METHOD FOR SELECTING THE APPROPRIATE SMALL HEXAGON	774
<i>Mohamed Hamdi, Mahmoud Hamouda, Farhat Fnaiech, Kamal Al-Haddad</i>	
STABILITY ANALYSIS OF HALF-BRIDGE RECTIFIER EMPLOYING LTP APPROACH	780
<i>Rafael Zanatta Scapini, Lucas Vizzotto Bellinaso, Leandro Michels</i>	
STATIC POWER CONVERTER SYNCHRONIZATION AND CONTROL UNDER VARYING FREQUENCY CONDITIONS	786
<i>Jaime Rohten, Jose Espinoza, Felipe Villarroel, Marcelo Perez, Javier Munoz, Pedro Melin, Eduardo Espinosa</i>	
STEADY-STATE ANALYSIS OF DEAD-TIME EFFECT ON BIDIRECTIONAL BUCK CONVERTERS	792
<i>Benoit Bidoggia, Ramkrishan Maheshwari, Rasmus Ø. Nielsen, Stig Munk-Nielsen, Frede Blaabjerg</i>	
SYNCHRONOUS MODULATION OF CASCADED INVERTERS OF ASYMMETRICAL OPEN-END WINDING MOTOR DRIVE	798
<i>Valentin Oleschuk, Joel Prieto, Federico Barrero</i>	
SYNTHESIS OF TWO-STATE LADDER-STRUCTURED DC-DC POWER CONVERTERS BY DUALITY PRINCIPLE	804
<i>K. T. Mok, Y. M Lai, C. K. Tse, K. H. Loo</i>	
THE NOVEL SYNCHRONOUS RECTIFIER DRIVING METHOD FOR LLC SERIES RESONANT CONVERTER	810
<i>Bong-Chul Kim, Hong-Sun Park, Sang-Cheol Moon, Young-Do Kim, Duk-You Kim, Gun-Woo Moon</i>	
TIME-DOMAIN STEADY-STATE MODELING OF SERIES-PARALLEL RESONANT CONVERTER UNDER OPTIMIZED MODULATION	814
<i>Zhiyu Cao, Junbing Tao, Norbert Fröhleke, Joachim Böcker</i>	
TOPOLOGY REVIEW OF SINGLE PHASE GRID-CONNECTED MODULE INTEGRATED CONVERTERS FOR PV APPLICATIONS	821
<i>Edwin Fonkwe, Weidong Xiao, Vinod Khadkikar</i>	
TOWARD AN OPTIMAL HEISENBERG'S CLOSED-LOOP GATE DRIVE FOR POWER MOSFETS	828
<i>Nicolas Patin, Maria Lluís Vinals</i>	
TRANSIENT-FREE METHOD OF INDIRECT CURRENT CONTROL FOR RAILWAY TRACTION FOUR-QUADRANT CONVERTERS	834
<i>Liqun He, Jian Xiong, Hui Ouyang, Pengju Zhang, Kai Zhang</i>	
TWO-DIMENSIONAL RANDOM PWM TECHNIQUE FOR FULL-BRIDGE DC/DC CONVERTER	846
<i>Yen-Shin Lai, Bo-Yuan Chen</i>	
VOLUME REDUCTION OF OPPOSED CURRENT CONVERTERS THROUGH COUPLING OF INDUCTORS AND INTERLEAVED SWITCHING	852
<i>J. M. Schellekens, J. L. Duarte, H. Huisman, M. A. M. Hendrix</i>	
ZERO CURRENT SWITCHING TYPE CLASS DE RECTIFIER	858
<i>Tsukasa Misawa, Kazuaki Fukui, Hirotaka Koizumi</i>	

RENEWABLE ENERGY AND SUSTAINABLE DEVELOPMENT

A DISTRIBUTED MODEL PREDICTIVE CONTROL SCHEME FOR REDUCING CONSUMPTION OF HYBRID FUEL CELL SYSTEMS	868
<i>Sebastien Mariethoz, Olivier Bethoux, Mickael Hilairet</i>	
A FUZZY LOGIC CONTROL METHOD FOR MPPT OF PHOTOVOLTAIC SYSTEMS	874
<i>Abdullah Noman, Khaled Addoweesh, Hussein Mashaly</i>	
A MODEL PREDICTIVE METHOD FOR EFFICIENT POWER RAMP RATE CONTROL OF WIND TURBINES	881
<i>F. Doostmohammadi, Hesam Sadeghi, Adel Nasiri, Ali Esmaili, A. Talebi</i>	
A MODIFIED MODULATION SCHEME FOR CAPACITOR VOLTAGE CONTROL OF RENEWABLE ENERGY-FED GRID-CONNECTED Z-SOURCE INVERTERS	886
<i>Ahmed Abdelhakeem, Ahmed Elserougi, Amr El Zawawi, Shehab Ahmed, Ahmed Massoud</i>	
A MULTIFUNCTIONAL POWER FLOW CONTROLLER FOR PHOTOVOLTAIC GENERATION SYSTEMS WITH COMPLIANCE TO POWER QUALITY STANDARDS	894
<i>Abdelhamid Hamadi, Salem Rahmani, Kamal Al-Haddad, Hadi Kanaan</i>	
AN ADAPTIVE CONTROL DEVELOPED FOR MULTIPHASE CONVERTERS BASED ON LOOK-UP TABLES AND APPLIED TO PHOTOVOLTAIC CONVERSION SYSTEMS	904
<i>Aloña Berasategi, Carlos Paragua, Bruno Estivals, Youssef El Basri, Lionel Segurier, Adrien Ramond, Carlos Carrejo, Corinne Alonso</i>	
AN IMPROVED MAXIMUM POWER EXTRACTION SCHEME FOR MICROBIAL FUEL CELLS	910
<i>Samareh Attarsharghi, Lyne Woodward, Ouassima Akhrif</i>	
A NEW MAXIMUM POWER POINT TRACKING WITH INDIRECT CURRENT CONTROL FOR A THREE-PHASE GRID-CONNECTED INVERTER USED IN PMSG-BASED WIND POWER GENERATION SYSTEMS	916
<i>Salem Rahmani, Abdelhamid Hamadi, August Ndtoungou, Kamal Al-Haddad, Hadi Kanaan</i>	
AN ORIGINAL CONTROLLER DESIGN FOR A GRID CONNECTED PV SYSTEM	924
<i>Mohamed Trabelsi, Khaled Ahmed Ghazi, Nacer Al-Emadi, Lazhar Ben-Brahim</i>	
ANALYSIS OF OUT-OF-PLANE MICRO-POWER GENERATORS	930
<i>Mohamed A. E. Mahmoud, Bashar K. Hammad, Eihab M. Abdel-Rahman, Ehab F. El-Saadany, Raafat R. Mansour</i>	

ARTIFICIAL NEURAL NETWORK BASED MAXIMUM POWER POINT TRACKING TECHNIQUE FOR PV SYSTEMS.....	937
<i>Lina Elobaid, Ahmed Abdelsalam, Ezz Eldin Zakzouk</i>	
BENCHMARKING OF VOLTAGE SAG GENERATORS	943
<i>Yongheng Yang, Frede Blaabjerg, Zhixiang Zou</i>	
COMPARISON OF BISTABLE MAGNETIC NON-LINEAR PIEZOELECTRIC ENERGY HARVESTER WITH TRADITIONAL LINEAR TECHNIQUE.....	949
<i>Dejan Vasic, Yuan-Ping Liu, François Costa, Yu-Yin Chen</i>	
COMPARISON OF CURRENT CONTROL FOR LOW HARMONIC DISTORTION APPLIED TO A SMALL WIND GENERATION SYSTEM WITH PERMANENT MAGNET SYNCHRONOUS GENERATOR.....	955
<i>Oscar Carranza Castillo, Emilio Figueres Amoros, Gabriel Garcera Sanfeliu, Ruben Ortega Gonzalez</i>	
COMPARISON OF FIXED SPEED WIND TURBINES MODELS: A CASE STUDY.....	961
<i>Gonzalo Bustos, Luis S. Vargas, Freddy Milla, Doris Sáez, Hamid Zareipour, Alfredo Nuñez</i>	
DESCRIPTION OF HYSTERESIS OF NICKEL METAL HYDRIDE BATTERY	967
<i>Vincenzo Franzitta, Alessia Viola, Marco Trapanese</i>	
DESIGN AND ANALYSIS OF DYNAMIC WIND TURBINE SIMULATOR FOR WIND POWER GENERATION SYSTEM.....	971
<i>Jiawei Chen, Jie Chen, Chunying Gong, Huizhen Wang</i>	
EFFICIENCY IMPROVEMENT OF SOLAR-WIND BASED DUAL-INPUT CUK-SEPIC CONVERTER FOR TELECOM POWER SUPPLY	978
<i>B. Mangu, B. G. Fernandes</i>	
ELECTROMAGNETIC MICRO-POWER GENERATOR FOR ENERGY HARVESTING FROM BREATHING.....	984
<i>Aidin Delnavaz, Jérémie Voix</i>	
ENERGY MANAGEMENT AND POWER CONTROL FOR A STAND-ALONE WIND ENERGY CONVERSION SYSTEM	989
<i>Jie Chen, Jiawei Chen, Chunying Gong, Xiang Deng</i>	
EXPERIMENTAL VALIDATION OF DIRECT POWER CONTROL OF VARIABLE SPEED MICRO-HYDROPOWER PLANT	995
<i>Belhadji Lakhdar, Bacha Seddik</i>	
HARMONIC ELIMINATION IN A MULTILEVEL CURRENT-SOURCE INVERTER-BASED GRID-CONNECTED PHOTOVOLTAIC SYSTEM.....	1001
<i>Prajna Dash, Mehrdad Kazerani</i>	
HIGH-SPEED GRID CONNECTED INDUCTION GENERATOR SUPPORTED BY MAGNETIC BEARINGS	1007
<i>Fábio Lima, Fabiano Camargo Rosa, Marco Antonio Fumagalli</i>	
HYBRID METHOD FOR CONTROL OF VOLTAGE REGULATION APPLIED IN MICRO HYDRO POWER STATION	1013
<i>Robinson Camargo, Lucas Scherer, Celso Tischer, Fábio Posser, Claiton Franchi</i>	
IDENTIFICATION AND MAXIMUM POWER POINT TRACKING OF PHOTOVOLTAIC GENERATION BY A LOCAL NEURO-FUZZY MODEL	1019
<i>Kumars Rouzbehi, Arash Miranian, Alvaro Luna, Pedro Rodriguez</i>	
INTEGRATION OF RENEWABLE ENERGY SOURCES AND THE UTILITY GRID WITH THE NET ZERO ENERGY BUILDING IN REPUBLIC OF CHAD.....	1025
<i>Fadoul Souleyman Tidjani, Amrisha Chandra</i>	
INTERCONNECTION OF WIND FARMS WITH GRID USING A MTDC NETWORK.....	1031
<i>Yuan Fu, Y. Wang, Y. Luo, H. Li, X. Zhang</i>	
INVERTER BASED VOLTAGE SAG GENERATOR WITH PR-CONTROLLER	1037
<i>Andreas Uphues, Kilian Nötzold, Ralf Wegener, Stefan Soter, Richard Griessel</i>	
ISOLATED WIND ENERGY CONVERSION SYSTEM FOR THREE-PHASE FOUR WIRE LOADS EMPLOYING ADALINE BASED VOLTAGE-FREQUENCY CONTROLLER	1043
<i>V Sheeja, P Jayaprakash, B Singh, R Uma</i>	
LOAD FORECASTING IN THE USER SIDE USING WAVELET-ANFIS	1049
<i>Francisco Giacometto, Juan Cardenas, Konstantinos Kampouropoulos, Jose Romeral</i>	
LOW-VOLTAGE ACTIVE DIODE RECTIFIER FOR PYROELECTRIC HARVESTING CELL	1055
<i>Mounir Amokrane, Arnaud Baysse, Bertrand Nogarede, Mohamed Rguiti</i>	
LQR WITH INTEGRAL ACTION FOR THE CONTROL OF VARIABLE SPEED INDUCTION GENERATOR CONNECTED TO AC GRID	1061
<i>Ronilson Rocha, José L. Silvino, Peterson Resende</i>	
MAXIMUM POWER POINT TRACKING AND FREQUENCY CONTROL FOR HYBRID WIND DIESEL SYSTEM SUPPLYING AN ISOLATED LOAD.....	1067
<i>Vigneshwaran Rajasekaran, Adel Merabet, Hussein Ibrahim, Rachid Beguenane, Jogendra Thongam</i>	
MICRO WIND TURBINE SYSTEM INTEGRATION GUIDELINES PMSG AND INVERTER FRONT END CHOICES.....	1073
<i>Claudio Bianchini, Fabio Immovilli, Emilio Lorenzani, Giampaolo Buticchi, Alberto Bellini</i>	
MODELING AND CONTROL OF STAND-ALONE WIND ENERGY CONVERSION SYSTEM WITH PMSLDC GENERATOR.....	1085
<i>Neha Adhikari, Bhim Singh, A. L. Vyas, Amrisha Chandra, Kamal-Al Haddad</i>	
MULTI-VARIABLE CONTROL OF GENERATOR SYSTEM FOR VARIABLE SPEED WIND ENERGY CONVERTERS	1091
<i>Constantinos Sourkounis</i>	

NONLINEAR STATE SPACE MODEL OF A HYDRAULIC WIND POWER TRANSFER	1098
<i>Sina Hamzehlouia, Afshin Izadian</i>	
OPERATION AND PROTECTION OF PHOTOVOLTAIC SYSTEMS IN HYBRID AC/DC SMART GRIDS	1104
<i>Ahmed Mohamed, Carlos Fernandez De Cossio, Tan Ma, Mustafa Farhadi, Osama Mohammed</i>	
OPTIMAL LINEAR MODEL FOR PIEZOELECTRIC MATERIALS INVOLVED IN ROAD TRAFFIC ENERGY HARVESTING APPLICATIONS	1110
<i>Manuel Vázquez-Rodríguez, Francisco Javier Jiménez, José De Frutos</i>	
OPTIMIZATION OF A STAND-ALONE PMSG WIND GENERATION SYSTEM	1116
<i>Tahar Tafticht, Ahmed Chériti</i>	
OPTIMIZATION OF PHOTOVOLTAIC ENERGY SYSTEM: A CASE STUDY OF HANOI CITY	1120
<i>Xuan-Linh Dang, Emmanuel Hoang, Hamid Ben Ahmed, Marc Petit, Hong-Thinh Pham</i>	
PASSIVITY-BASED CONTROL OF PHOTOVOLTAIC-WIND HYBRID SYSTEM WITH EULER-LAGRANGE MODELING	1126
<i>Lila Croci, André Martínez, Patrick Coirault, Gérard Champenois, Jean-Paul Gaubert</i>	
PHOTOVOLTAIC-FED LED LIGHTING SYSTEM WITH SOC-BASED DIMMABLE LED LOAD	1132
<i>Walter Zamboni, Nicola Femia</i>	
PV BASED STAND ALONE SINGLE PHASE POWER GENERATING UNIT	1138
<i>Ritwik Chattopadhyay, Kishore Chatterjee</i>	
RESEARCH AND DESIGNING OF BOILER-TURBINE MODEL LINEARIZATION BALANCE OPERATING POINT BASED ON ENERGY-SAVING AND NON-LINEAR MEASUREMENT ANALYSIS	1145
<i>Chen Yanqiao, Liu Liheng, Cheng Hainan</i>	
SIMULATION OF A HYBRID RENEWABLE ENERGY SYSTEM IN RURAL REGIONS	1150
<i>Imad Mougharbel, Hussein Saleh, Semaan Georges</i>	
SMALL WIND TURBINES IN GRID-INTERACTIVE MICROGRIDS	1156
<i>Natalia Angela Orlando, Antonella Nagliero, Rosa A. Mastromauro, Marco Liserre, Antonio Dell'Aquila</i>	
USE OF ADAPTIVE LINEAR ALGORITHMS FOR VERY SHORT-TERM PREDICTION OF WIND TURBINE OUTPUT POWER	1162
<i>Mehdi Tohidian, Hesam Sadeghi, Adel Nasiri, Ali Esmaili, Ramezan-Ali Naghizadeh, Ali Reza</i>	
VECTOR CONTROL OF SQUIRREL-CAGE INDUCTION GENERATOR FOR STAND-ALONE WIND POWER GENERATION	1166
<i>Miloud Rezkallah, Ambrish Chandra, Bhim Singh, Mouhamed El Kahel</i>	
VOLTAGE AND FREQUENCY CONTROLLER FOR A STAND ALONE PV SYSTEM WITH BATTERY STORAGE ELEMENT	1172
<i>Ali Chikh, Ambrish Chandra</i>	
WIND TURBINE GROUNDING SYSTEM FREQUENCY-DEPENDENT MODELING FOR LIGHTNING TRANSIENT STUDIES	1178
<i>Hesam Sadeghi, Adel Nasiri, Reza Kazemi, R. Moini, K. Sheshyekani</i>	

POWER SYSTEMS

A NEW HYBRID TECHNIQUE OF CONTROL AND PROTECTION FOR THREE PHASE POWER TRANSFORMERS	1186
<i>Adel Aktaibi, Md. Azizur Rahman</i>	
A NOVEL CONTROL SCHEME FOR SERIES HYBRID ACTIVE POWER FILTER USING GENERALISED INSTANTANEOUS POWER THEORY	1192
<i>Mahmadasraf Mulla, Chudamani R., Anandita Chowdhury</i>	
A SURVEY OF METHODS FOR PLACING SHUNT CAPACITOR BANKS IN POWER NETWORK WITH HARMONIC DISTORTION	1198
<i>Liang Du, Lijun He, Ronald G. Harley</i>	
ACTIVE AND REACTIVE POWER CONTROL OF SYNCHRONOUS GENERATOR FOR THE REALIZATION OF A VIRTUAL POWER PLANT	1204
<i>Hammad Khan, Peter Bargiev, Victor Sreeram, Herbert Iu, Tyrone Fernando, Yateendra Mishra</i>	
ANALYSIS OF 48-PULSE BASED STATCOM AND UPFC PERFORMANCE UNDER BALANCED AND FAULT CONDITIONS	1211
<i>Saman Babaei, Babak Parkhideh, Subhashish Bhattacharya</i>	
APPLIANCE USAGE PREDICTION USING A TIME SERIES BASED CLASSIFICATION APPROACH	1217
<i>Kaustav Basu, Vincent Debusschere, Seddik Bacha</i>	
APPLICATION OF IMPERIALIST COMPETITIVE ALGORITHM TO DESIGN AN OPTIMAL CONTROLLER FOR LFC PROBLEM	1223
<i>Elyas Rakhshani, Alvaro Luna, Kumars Rouzbehi, Pedro Rodriguez</i>	
APPLYING ADAPTIVE NOTCH FILTERS TO HYBRID ACTIVE VAR COMPENSATOR	1228
<i>Silvia Ferreira, Robson Gonzatti, Carlos Da Silva, Luiz Eduardo Da Silva, Germano Lamabert-Torres, Joao Onofre P. Pinto</i>	
CIRCULATING CURRENT CONTROL OF DOUBLE-STAR CHOPPER-CELL MODULAR MULTILEVEL CONVERTER FOR HVDC SYSTEM	1234
<i>Xu She, Alex Huang</i>	
COMPARISON OF CONVERTER LOSSES IN AN LVDC DISTRIBUTION	1240
<i>Jenni Rekola, Antti Virtanen, Juha Jokipii, Heikki Tuusa</i>	
CONTROL OF SHUNT CUSTOM POWER DEVICE BASED ON ANTI-HEBBIAN LEARNING ALGORITHM	1246
<i>Sabha Raj Arya, Bhim Singh, Ambrish Chandra, Kamal Al-Haddad</i>	

CONTROL OF VSC BASED MUTI-TERMINAL DC SYSTEM FOR SUPPORT TO CRITICAL LOADS ON THE GRID SIDE WITNESSING LOSS OF GENERATION	1252
<i>Vishal Verma, Lovely Goyal, Bhim Singh</i>	
CONTROL STRATEGY OF A TRANSFORMERLESS THREE PHASE SHUNT HYBRID POWER FILTER USING A ROBUST PLL	1258
<i>Sarra Mustapha, Gaubert Jean-Paul, Chaoui Abdelmadjid, Krim Fateh</i>	
CURRENT REFERENCE GENERATOR FOR SINGLE PHASE SHUNT ACTIVE POWER FILTERS	1268
<i>Jakub Talla, Zdenek Peroutka, Seppo J. Ovaska, Vojtech Blahnik</i>	
CURRENT-SOURCE SHUNT ACTIVE POWER FILTER WITH PERIODIC-SAMPLING MODULATION TECHNIQUE	1274
<i>Bruno Exposto, Gabriel Pinto, Delfim Pedrosa, Vitor Monteiro, Henrique Gonçalves, João Afonso</i>	
DEVELOPMENT OF 2.5 MVAR STATCOM FOR ARC FURNACE APPLICATIONS	1280
<i>Siriki Eswara Rao, Bishnu Prasad Muni, Prashant Jain, C P Vamsi Krishna Reddy, Balasubramanyam Pv</i>	
DIRECT POWER CONTROL CONCEPT AND ANALYSIS FOR THREE PHASE SHUNT ACTIVE POWER FILTER	1286
<i>Abdelmadjid Chaoui, Jean-Paul Gaubert, Abdelouahab Bouafia</i>	
FACTS FOR COST-EFFECTIVE IMPROVEMENT OF POWER FEEDING OF LARGE MINING COMPLEXES	1295
<i>Rolf Grünbaum, Jon Rasmussen</i>	
GRAPHICAL SMALL SIGNAL MODELING BASED ON THE INDUCTOR WAVEFORM	1301
<i>Shin-Young Cho, Il-Oun Lee, Gun-Woo Moon</i>	
HARMONIC POWER FILTERS FOR OIL DRILLING RIGS: A CASE STUDY	1306
<i>Appa Rao Dekka, Abdul R Beig, Youssef Abdel Magid, Mohammad Salem Al Rahis</i>	
HARMONIC RESONANCES DAMPING USING HYBRID FILTER FOR WPP	1312
<i>Khairul Nisak Md Hasan, Kalle Rauma, Alvaro Luna, J. Ignacio Candela, Pedro Rodriguez</i>	
HARMONICS IN HVDC LINKS, PART I - SOURCES	1320
<i>Mohamed H. Saied, Mohamed H. Okba, Mohamed Z. Mostafa, Talaat M. Abdel- Moneim</i>	
HARMONICS IN HVDC LINKS, PART II - EFFECTS AND REDUCTION TECHNIQUES	1328
<i>Mohamed H. Saied, Mohamed H. Okba, Mohamed Z. Mostafa, Talaat M. Abdel- Moneim</i>	
HIERARCHICAL ADAPTIVE PSO FOR MULTI-OBJECTIVE OPF CONSIDERING EMISSIONS BASED SHUNT FACTS	1337
<i>Belkacem Mahdad</i>	
IMPROVED ACTIVE POWER FILTER PERFORMANCE FOR DISTRIBUTION SYSTEMS WITH RENEWABLE GENERATION.....	1344
<i>Pablo Acuna, Luis Morán, Marco Rivera, José Rodriguez, Juan Dixon</i>	
INDEPENDENT DC CAPACITANCE PARALLEL MULTIPLE MODULE SVG BASED ON CPS-SPWM	1350
<i>Wei Cai, Yanyan Huang, Fangyuan Zhou, Qiang Wu, Huadong Liu, Caixiao Wang</i>	
INTEGRATING DISTRIBUTED ENERGY RESOURCES IN THE ELECTRICAL GRID CONSIDERING RESOURCE VARIABILITY FOR RELIABLE POWER PLANNING	1356
<i>Shanmuga Veerapen, Robert T. F. Ah King</i>	
ITERATIVE LEARNING HEURISTIC DYNAMIC PROGRAMMING (ILHDP) DESIGN OF A STEAM POWER PLANT CONTROLLER.....	1362
<i>Udhay Ravishankar, Milos Manic</i>	
MEDIUM VOLTAGE FAN SAVE: ENERGY EFFICIENT FAN SYSTEMS IN POWER ENGINEERING, PART 1	1368
<i>Martin Sirovy, Zdenek Peroutka, Michalík Jan, Miroslav Byrtus</i>	
MODELLING AND DYNAMIC ANALYSIS OF OFFSHORE WIND FARMS ACCORDING TO THE FRENCH TSO GRID CODE	1374
<i>Bayram Tounsi, Alexandre Henry, Luigi Vanfretti</i>	
OPTIMIZATION OF DISTRIBUTION NETWORK INCORPORATING MICROGRID USING VACCINE-AIS	1381
<i>Sicong Tan, Jianxin Xu, Sanjib Kumar Panda</i>	
POWER FLOW METHODS FOR IMPROVING CONVERGENCE	1387
<i>Pierre Jean Lagace</i>	
REACTIVE COMPENSATION INVESTIGATION OF TSC SYSTEMS BASED ON DIFFERENT POWER FACTOR DEFINITIONS.....	1393
<i>Seyyedmilad Ebrahimi, Vahid Najmi, Hossein Mokhtari</i>	
REAL TIME CAPABILITY CURVE BASED ON DATA PROVIDED BY THE POWER SYSTEM STATE ESTIMATOR.....	1399
<i>Eben-Ezer P. Silveira, Antonio Tadeu Lyrio Almeida, Robson Celso Pires</i>	
RESEARCH ON THE FIELD CURRENT OF A DOUBLY SALIENT ELECTROMAGNETIC GENERATOR WITH A HALF-CONTROLLED PWM RECTIFIER.....	1405
<i>Zhixin Mao, Zhihui Chen, Zhe Chen</i>	
SAMPLING RATE SELECTION INFLUENCES ON INCREMENTAL COST CONSENSUS ALGORITHM IN DECENTRALIZED ECONOMIC DISPATCH	1410
<i>Xichun Ying, Mo-Yuen Chow</i>	
SMART IMPEDANCE: EXPANDING THE HYBRID ACTIVE SERIES POWER FILTER CONCEPT	1416
<i>Carlos Henrique Silva, Rondineli Pereira Rodrigues, Luiz Eduardo Borges Da Silva, Germano Lambert-Torres, Robson Bauwelz, Gonzatti, Silvia Costa Ferreira, Luiz Gonzaga Fernandez Silva</i>	

STATE-OF-THE-ART OF TOPOLOGY PROCESSORS FOR EMS AND PMU APPLICATIONS AND THEIR LIMITATIONS.....	1422
<i>Mostafa Farrokhhabadi, Luigi Vanfretti</i>	
STUDY OF A NOVEL STATCOM BASED ON MODULAR MULTILEVEL INVERTER.....	1428
<i>Jingsong Zhu, Lei Li, Min Pan</i>	
TEACHING VOLTAGE REGULATION USING A TSC TYPE SVC	1433
<i>Eben-Ezer P. Silveira, Antonio Tadeu Lyrio Almeida, Angelo J. J Rezek, Robson Celso Pires</i>	
THE RETURN OF INVESTMENT ANALYSIS OF A PHEV CHARGING STATION WITH COORDINATED CHARGING.....	1439
<i>Dawei He, Weixuan Lin, Pascal Ntsama, Ronald Harley</i>	
TWO-STAGE CONFIGURATION FOR 60W UNIVERSAL-LINE AC-DC ADAPTER	1445
<i>Shin-Young Cho, Il-Oun Lee, Jeong-Eon Park, Gun-Woo Moon</i>	

SIGNAL AND IMAGE PROCESSING AND COMPUTATIONAL INTELLIGENCE

A NEW INTERFERENCE-CANCELLATION TECHNIQUE FOR INSTRUMENTS IMPACTED BY LINE-FREQUENCY SIGNALS	1454
<i>Robert Cox</i>	
A ZEROTREE CODING FOR COMPRESSION OF ECG SIGNAL USING EZW AND SPIHT.....	1458
<i>Sana Ktata, Halima Mahjoubi</i>	
AN ADAPTIVE CONTROL SCHEME FOR ARTICULATORY SYNTHESIS OF PLOSIVE-VOWEL SEQUENCES.....	1465
<i>Guangpu Huang, Meng Joo Er</i>	
AN ENHANCED GA TECHNIQUE FOR SYSTEM OPTIMIZATION	1471
<i>Dezhi Li, Wilson Wang, Fathy Ismail</i>	
BIOMEDICAL DIAGNOSIS AND PREDICTION USING PARSIMONIOUS FUZZY NEURAL NETWORKS.....	1477
<i>Yuting Chen, Meng Joo Er</i>	
COMBINING TEXTURAL DESCRIPTORS FOR FOREST SPECIES RECOGNITION	1483
<i>Jefferson Martins, Luiz Oliveira, Robert Sabourin</i>	
DEVELOPMENT OF A SUPPORT VECTOR MACHINE-BASED NAVIGATION SYSTEM FOR DRIVING A MOBILE ROBOT THROUGH PATHS IN PLANTATIONS.....	1489
<i>Danilo Samuel Jodas, Norian Marranghello, Aledir Silveira Pereira, Rodrigo Capobianco Guido</i>	
DIFFERENTIAL QUANTIZATION OF SPECTRAL PARAMETERS FOR CELP BASED CODERS IN PACKET NETWORKS.....	1495
<i>Fatiha Merazka</i>	
ESTIMATION OF EXECUTION TIMING OF HUMAN ACTION CONSIDERING CAUSALITY BETWEEN ACTION AND SITUATION.....	1499
<i>Kohjiro Hashimoto, Shinji Doki, Kae Doki</i>	
EXPRESSION OF INDIVIDUAL WOVEN YARN OF TEXTILE FABRIC BY CLUSTERING THREE DIMENSIONAL CT IMAGE USING MAHALANOBIS DISTANCE.....	1505
<i>Toshihiro Shinohara</i>	
EXTENDED COHOG AND PARTICLE FILTER BY IMPROVED MOTION MODEL FOR PEDESTRIAN ACTIVE SAFETY	1511
<i>Hirokatsu Kataoka, Kimimasa Tamura, Yasuhiro Matsui, Yoshimitsu Aoki</i>	
FINGERPRINT VERIFICATION BY CORRELATION USING WAVELET COMPRESSION OF PREPROCESSING DIGITAL IMAGES	1517
<i>Yaileth Morales, Cesar Torres, Lorenzo Mattos, Leonardo Diaz, Fabio Vega</i>	
IMAGE ENCRYPTION BASED ON CONVOLUTION OPERATION IN THE GYRATOR TRANSFORM DOMAIN	1527
<i>Sandra M. Daza, Fabio Vega Nieto, Cesar Orlando Torres Moreno, Lorenzo Mattos Vasquez, Leonardo Alverto Diaz Marulanda, Yaileth Morales Daza</i>	
INVARIANT AND REDUCED FEATURES FOR FINGERPRINT CHARACTERIZATION	1530
<i>Balti Ala, Sayadi Mounir, Fnaiech Farhat</i>	
INVARIANT COMMON SPATIAL PATTERN ADVANCED FEATURE EXTRACTION IN MU RHYTHMS OF EEG SIGNALS.....	1535
<i>Thanh Ha Nguyen, Seung-Min Park, Kwang-Eun Ko, Kwee-Bo Sim</i>	
LAZERLAB: A 3D SCANNER/TRACER LASER SYSTEM WITH STEREOSCOPIC VISION.....	1540
<i>Renaud Daviot, Anne-Claire Conneau, Jean-Christophe Boissy</i>	
LIGHTNING UNIT CONTROL & DESIGN FOR HIGHSPEED ACQUISITION AND LIGHT MICROSCOPY	1547
<i>Dusan Koniar, Libor Hargas, Stanislav Stofan, Marek Paskala</i>	
NEW CONCEPT FOR CORROSION INSPECTION OF URBAN PIPELINE NETWORKS BY DIGITAL IMAGE PROCESSING	1551
<i>Mohammadreza Motamedi, Farrokh Faramarzi, Olga Duran</i>	
OPTICAL FLOW-BASED MOTION ESTIMATION IN ULTRASONIC IMAGES FOR FORCE ESTIMATION IN PERCUTANEOUS PROCEDURES: THEORY AND EXPERIMENTAL VALIDATION.....	1557
<i>Arash Maghsoudi, Mehran Jahed</i>	
OPTIMAL EEG FEATURE SELECTION BY GENETIC ALGORITHM FOR CLASSIFICATION OF IMAGINATION OF HAND MOVEMENT	1561
<i>Pharino Chum, Seung-Min Park, Kwang-Eun Ko, Kwee-Bo Sim</i>	

REALIZATION OF A MEMS ATTITUDE REFERENCE SYSTEM FOR A SMALL AERIAL VEHICLE	1567
<i>Chungil Kim, Taeyeon Kim, Joon Lyou</i>	
RECOGNITION AND IDENTIFICATION OF FACES USING DIGITAL CORRELATION	1571
<i>Leonardo Diaz, S. Arroyave, L. Hernandez, Cesar Torres, Lorenzo Mattos, Yaileth Morales, Fabio Vega</i>	
RECURRENT ONLINE KERNEL RECURSIVE LEAST SQUARE ALGORITHM FOR NONLINEAR MODELING	1574
<i>Haijin Fan, Qing Song, Zhao Xu</i>	
SELF-QUOTIENT-REFERENTIAL BILATERAL FILTER FOR IMAGES UNDER VARYING LIGHTING CONDITIONS	1580
<i>Mitsuharu Matsumoto</i>	
STATISTICAL FEATURES SELECTION FROM INTRINSIC MODE FUNCTIONS FOR PATHOLOGIES DETECTION IN RETINA DIGITAL IMAGES	1585
<i>Salim Lahmiri, Christian Gargour, Marcel Gabrea</i>	
THE DLMT HARDWARE IMPLEMENTATION. A COMPARATIVE STUDY WITH THE DCT AND THE DWT	1591
<i>Felix Moreno, David Aledo</i>	
WAVELET TRANSFORM AND PRINCIPAL COMPONENT ANALYSIS BASED CLUTTER REDUCTION FOR THROUGH WALL IMAGING	1597
<i>Muhammad Mohsin Riaz, Abdul Ghaffoor</i>	

ELECTRICAL MACHINES AND DRIVES

A FAULT DIAGNOSIS SCHEME FOR THREE PHASE INDUCTION MOTORS BASED ON UNCERTAINTY BOUNDS	1606
<i>Mohammed Obaid Mustafa, George Nikolakopoulos, Thomas Gustafsson</i>	
A FLUX-WEAKENING CONTROL METHOD ON MAXIMUM TORQUE CONTROL FRAME FOR IPMSM POSITION SENSORLESS CONTROL	1612
<i>Atsushi Matsumoto, Masaru Hasegawa, Shinji Doki</i>	
A NOVEL DIRECT TORQUE CONTROL METHOD WITH THE COMPENSATION OF ROTATING EMF TO REDUCE TORQUE RIPPLE FOR PERMANENT MAGNET SYNCHRONOUS MOTOR DRIVES	1618
<i>Kaiqi Zhao, Hongxing Wu, Z. Yu</i>	
A ROBUST NONLINEAR LUENBERGER OBSERVER FOR THE SENSORLESS CONTROL OF SM-PMSM: ROTOR POSITION AND MAGNETS FLUX ESTIMATION	1625
<i>Nicolas Henwood, Jérémy Malaizé, Laurent Praly</i>	
A SENSORLESS CONTROL USING EXTENDED KALMAN FILTER FOR AN INTERIOR PERMANENT MAGNET SYNCHRONOUS MOTOR BASED ON AN EXTENDED ROTOR FLUX	1631
<i>Jae-Hoon Kim, Sang-Soo Lee, Rae-Young Kim, Dong-Seok Hyun</i>	
A SIMPLIFIED METHODOLOGY FOR PARAMETERS MEASUREMENT OF AN AXIAL FLUX PERMANENT MAGNET MOTOR WITHOUT NEUTRAL POINT	1637
<i>Delfim Pedrosa, Henrique Gonçalves, Bruno Exposto, Júlio Martins, J. Luiz Afonso</i>	
A STUDY AND DESIGN OF A POSITION TRACKING CONTROL FOR AN 8/6 SWITCHED RELUCTANCE MACHINE	1643
<i>Silviano Rafael, Paulo Branco, Armando Pires</i>	
A TUTORIAL ON PI VELOCITY CONTROL OF INDUCTION MOTORS	1648
<i>Liuping Wang, Lu Gan</i>	
ACTIVE REDUCTION OF ELECTRICAL MACHINES MAGNETIC NOISE BY THE COMPENSATION OF LOW FREQUENCY CURRENT HARMONICS.	1654
<i>Pierre Pellerey, Gwennael Favennec, Vincent Lanfranchi, Guy Friedrich</i>	
ADAPTIVE VECTOR CONTROL OF PERMANENT MAGNET SYNCHRONOUS MACHINES WITH SPEED ESTIMATION	1660
<i>Hicham Chaoui, Pierre Sicard</i>	
AN EXPERIMENTAL TEST BENCH FOR A DISTRIBUTED RAILWAY TRACTION MECHANICAL LOAD EMULATOR	1666
<i>Tahar Achour, Maria Pietrzak-David</i>	
AN IMPROVED ROTOR SPEED ESTIMATION METHOD OF IPMSM DRIVES WITH CYCLIC FLUCTUATING LOAD	1672
<i>Yuchao Shi, Kai Sun, Yan Guo, Xiaohua Jiang, Lipei Huang, Yongdong Li</i>	
ANALYSIS OF CURRENT REACTION ON INVERTER-SWITCHING TO DETECT CHANGES IN ELECTRICAL MACHINE'S HIGH-FREQUENCY BEHAVIOR	1678
<i>Peter Nussbaumer, Christian Santin, Thomas M. Wolbank</i>	
ANALYTICAL STUDY OF TORQUE VS. SPEED CHARACTERISTICS OF PM BRUSHLESS DC DRIVES	1684
<i>Giuseppe Buja, Manuele Bertoluzzo, Ritesh Keshri, Roberto Menis</i>	
APPLICATION OF FREQUENCY DOMAIN MULTIPLEXING FOR THE REDUCTION OF ADCS IN VECTOR CONTROL OF PMSM	1690
<i>Raymundo Cordero, Walter Suemitsu, João Onofre, Andre Muniz, Rene Capitanio</i>	
CASCADED CONTINUOUS-TIME MODEL PREDICTIVE CONTROL OF INDUCTION MOTOR	1696
<i>Lu Gan, Liuping Wang</i>	

COMPENSATION OF TRANSIENT ERROR IN SENSORLESS ALTERNATING CARRIER INJECTION SCHEME	1702
<i>Mohammad Ali Ghazi Moghadam, Farzad Tahami</i>	
COOPERATIVE CONTROL OF REGENERATIVE BRAKE AND MECHANICAL BRAKE FOR A TWO COACH TRAIN	1707
<i>Kota Teramoto, Kiyoshi Ohishi, Shingo Makishima, Keiichi Uezono, Shinobu Yasukawa</i>	
DECOUPLING AND SENSORLESS VECTOR CONTROL SCHEME FOR SINGLE-PHASE INDUCTION MOTOR DRIVES	1713
<i>Rodrigo Z. Azzolin, Rodrigo P. Vieira, Cristiane C. Gastaldini, Hilton A. Gründling, Thiago A. Bernardes</i>	
DESIGN ASPECTS OF THE TRANS-ROTARY MAGNETIC GEAR	1720
<i>Siavash Pakdelian, Hamid Toliyat</i>	
DESIGN OF INTERIOR PM SYNCHRONOUS TRACTION MOTOR WITH NOVEL APPROXIMATE SKEWED ROTOR	1726
<i>Jiancheng Zhang, Xiaoyan Huang, Youtong Fang, Zikui Ma</i>	
DETENT FORCE REDUCTION OF A TUBULAR LINEAR DRIVE BY USING A GENETIC ALGORITHM AND FEM - VERIFICATION OF SIMULATION RESULTS	1731
<i>Sebastian Gruber, Ralf Wegener, Stefan Soter</i>	
DIRECT CONTROL STRATEGY OF SYNCHRONOUS GENERATORS USING DC/DC CONVERTER	1737
<i>Barakat Abdallah, Tnani Slim, Champenois Gérard, Mouni Emile</i>	
DISCRETE-TIME SLIDING MODE ROTOR FLUX AND ROTOR SPEED OBSERVER FOR INDUCTION MACHINE DRIVES	1742
<i>Rodrigo Padilha Vieira, Cristiane Cauduro Gastaldini, Rodrigo Zelir Azzolin, Hilton Abillio Gründling</i>	
DYNAMIC MODELING AND SIMULATION OF BRUSHLESS DOUBLY FED INDUCTION MACHINE IN CONSIDERATION OF CORE LOSS	1753
<i>Mohammadnaser Hashemnia, Farzad Tahami</i>	
EFFICIENCY OPTIMIZATION OF VECTOR CONTROLLED INDUCTION MOTOR DRIVE	1758
<i>Mini Sreejeth, Madhusudan Singh, Parmod Kumar</i>	
ELECTRICAL SIGNATURE ANALYSIS BASED ONLINE MONITORING OF DRIVE-TRAINS FOR DOUBLY-FED WIND GENERATOR	1764
<i>Prabhakar Neti, Pinjia Zhang, Manoj Shah, Karim Younsi</i>	
ELECTRICAL STEEL SOLICITATION IN TRACTION ELECTRICAL MACHINE	1770
<i>Anthony Frias, A. Kedous-Lebouc, C. Chillet, L. Albert, L. Calegari</i>	
ENHANCED BANDWIDTH CURRENT CONTROLLER FOR FPGA BASED INVERTER DRIVES - A DETAILED ANALYSIS AND IMPLEMENTATION	1775
<i>Florian Senicar, Alexander Bartsch, Benjamin Krüger, Stefan Soter</i>	
EXCITABILITY OF DIFFERENT MODES OF VIBRATION OF STATOR END WINDINGS	1781
<i>Sven Exnowski</i>	
EXPERIMENTAL SENSORLESS VECTOR CONTROL PERFORMANCE OF A DFIG BASED ON A EXTENDED KALMAN FILTER	1786
<i>Ricardo Pérez, César Silva, Juan Yuz, Gonzalo Carrasco</i>	
EXTENDED VECTOR CONTROL OF A ROTATING POWER ELECTRONIC BRUSHLESS DOUBLY-FED INDUCTION GENERATOR UNDER UNSYMMETRICAL VOLTAGE SAGS	1793
<i>Naveed Ur Rehman Malik, Chandur Sadarangani</i>	
FINITE CONTROL SET MODEL PREDICTIVE CONTROL OF PMSM-2LVS1 USING INTERPOLATED SWITCHING STATES	1799
<i>Shan Chai, Liuping Wang</i>	
FIVE-PHASE FLUX SWITCHING MACHINE: OPTIMAL CURRENT WAVEFORMS IN ORDER TO IMPROVE OPEN PHASE OPERATION	1805
<i>Emna Ben Sedrine, Javier Ojeda, Ilhem Slama-Belkhdja, Mohamed Gabsi</i>	
FUZZY DIRECT TORQUE CONTROL OF SWITCHED RELUCTANCE MOTOR	1811
<i>Softiane Fahas, Hoang Le-Huy, Innocent Kamwa</i>	
FUZZY-LOGIC CONTROL OF UNSYMMETRICAL TWO-PHASE INDUCTION MOTOR	1817
<i>Naser Abdel-Rahim</i>	
GLOBAL WAVELET SPECTRUM BASED FAULT DETECTION FOR SELF-EXCITED INDUCTION GENERATOR	1823
<i>Victoria Herrera, Javier Alexis Andrade Romero, Jesus Franklin Andrade Romero</i>	
IMPACT OF HEAT TREATMENT ON CORE PROPERTIES AND IPMSM PERFORMANCE	1829
<i>Shah A. Rahman, Andy M. Knight</i>	
INDUCTION MOTOR PARAMETER DETERMINATION USING THE HARMONY SEARCH ALGORITHM TO POWER, TORQUE AND SPEED ESTIMATION	1835
<i>Jose Roberto Marques, Izabel Fernanda Machado, Jose Roberto Cardoso</i>	
INFLUENCE OF NON-IDEAL MAGNETIC CORE EFFECTS ON THE EXPERIMENTAL DETERMINATION OF THE MAGNETIC CHARACTERISTICS OF A SWITCHED RELUCTANCE MOTOR	1841
<i>Francisco Jose Perez-Cebolla, Abelardo Martinez-Iturbe, Bonifacio Martin-Del-Brio, Eduardo Laloya Monzón, Sylvia Mendez Prince</i>	
INFLUENCE OF THE SINUSOIDAL SUPPLY FREQUENCY ON THE INDUCTION MOTOR STRAY LOAD LOSSES	1847
<i>Radu Bojoi, Aldo Boglietti, Andrea Cavagnino, Silvio Vaschetto</i>	
INITIAL ROTOR POSITION IDENTIFICATION IN MEDIUM VOLTAGE SYNCHRONOUS MACHINES	1852
<i>Simon Feuersänger, Mario Pacas</i>	

INVESTIGATION ON THE THERMAL BEHAVIOR OF THE DUAL-ROTOR PERMANENT MAGNET INDUCTION MACHINE	1858
<i>Ana Maria Gazdac, Augustin Mpanda Mabwe, Franck Betin, Claudia Steluta Martis, Karoly Agoston Biro</i>	
LOAD TORQUE AND MOMENT OF INERTIA OBSERVABILITY ANALYSIS FOR ALTERNATING CURRENT DRIVE SENSORLESS CONTROL	1864
<i>Ivo Herman, Pavel Vaclavek</i>	
LOW COST SOLUTIONS TO REDUCE COGGING TORQUE AND ACOUSTIC NOISE OF SMALL BRUSHED DC MOTORS FOR AUTOMOTIVE RADIATOR COOLING FAN MODULES	1870
<i>Aldo Boglietti, Andrea Cavagnino, Alberto Tenconi</i>	
MARGINALIZED PARTICLE FILTER FOR SENSORLESS CONTROL OF PMSM DRIVES	1877
<i>Václav Smídl, Zdenek Peroutka</i>	
MECHANICAL AND ELECTRICAL QUALITY CONTROL TESTS FOR SMALL DC MOTORS IN PRODUCTION LINE	1883
<i>Enrico Concettoni, Cristina Cristalli, Stefano Serafini</i>	
MECHANICAL DRIVE TRAIN EMULATION BY MEANS OF ELECTRICAL DRIVES - A GENERALISED APPROACH	1888
<i>Luca Peretti, Ville Särkimäki</i>	
MODELING OF PERMANENT MAGNET SYNCHRONOUS MACHINE WITH FRACTIONAL SLOT WINDINGS	1894
<i>Maxim Bogomolov, Christian Kral, Anton Haumer, Elena Lomonova</i>	
MODELING OF THE INDUCTION MOTOR WITH TWO SETS OF THREE PHASE WINDINGS IN THE STATOR AND SQUIRREL CAGE ROTOR	1900
<i>Nysret Zenun Avdiu</i>	
MODIFIED DIRECT THRUST CONTROL OF LINEAR PERMANENT MAGNET MOTOR WITH SENSORLESS SPEED ESTIMATION	1908
<i>Muhammad Ali Masood Cheema, John Edward Fletcher, M. Faz Rahman, Dan Xiao</i>	
MULTILEVEL OCTADECAGONAL SPACE VECTOR GENERATION FOR INDUCTION MOTOR DRIVES BY CASCADING ASYMMETRIC THREE LEVEL INVERTERS	1915
<i>Gopakumar K, Mathew K, Najath Abdul Azeez, Jaison Mathew, Anubrata Dey, Umanand L</i>	
NEGATIVE SEQUENCE CURRENT COMPENSATION FOR STATOR SHORTED TURN DETECTION IN INDUCTION MOTORS	1921
<i>Syaiful Bakhri, Nesimi Ertugrul, Wen Soong</i>	
ON THE COEFFICIENTS OF CORE LOSS FORMULAS FOR ELECTRICAL MACHINES	1927
<i>Jemimah Akiror, Pragasen Pillay</i>	
ON THE EFFECT OF ACCESSIBLE NEUTRAL POINT IN FAULT TOLERANT FIVE PHASE PMSM DRIVES	1934
<i>Ramin Salehi Arashloo, Mehdi Salehifar, Jose Luis Romeral Martinez</i>	
ONLINE TUNING METHOD FOR CURRENT MEASUREMENT OFFSETS AND GAIN DEVIATIONS FOR SPMSM	1940
<i>Naoki Miyamoto, Kiyoshi Ohishi</i>	
PARTIAL RESONANT AC LINK CONVERTER: A HIGHLY RELIABLE VARIABLE FREQUENCY DRIVE	1946
<i>Mahshid Amirabadi, Hamid Toliyat, William Alexander</i>	
POSITION CONTROL OF PMSM BASED ON AUGMENTED FUZZY TAKAGI-SUGENO SISO MODELS AND LMIS	1952
<i>Raymundo Cordero, Walter Suemitsu, João Onofre, Andre Muniz, Rene Capitano</i>	
POSITION CONTROL OF TWO-PHASE INDUCTION MOTOR USING DSPACE ENVIRONMENT	1958
<i>Slavomir Kascak, Michal Prazenica, Branislav Dobrucky</i>	
POSITION ESTIMATION METHOD WHICH IS SUITABLE FOR HIGHLY MAGNETIC SATURATION OF IPMSM	1964
<i>Kohei Fujii, Yang Zhao, Shinji Doki</i>	
RAPID PROTOTYPING OF A MULTIVARIABLE CONTROL WITH POLE PLACEMENT BY STATE FEEDBACK OF A PMSM: LMI APPROACH	1970
<i>Said Hassaine, Bilal Sari, Sandrine Moreau, Benyouès Mazari</i>	
REAL TIME IMPLEMENTATION OF ROBUST CONTROLLER FOR PMSM DRIVE SYSTEM USING H8 NORM	1976
<i>Said Hassaine, Sandrine Moreau, Sofiane Gherbi, Moussa Sedraoui, Benyouès Mazari</i>	
RESEARCH ON PREDICTIVE CONTROL FOR PMSM BASED ON ONLINE PARAMETER IDENTIFICATION	1982
<i>Weihua Wang, Xi Xiao</i>	
SENSORLESS INDIRECT VECTOR CONTROL OF AN INDUCTION MACHINE WITH A SCOTT-T CONNECTION IN THE STATOR	1987
<i>Horacio Polli, Ademir Nied, Fabio Rosa, Luiz Stival, Jose Oliveira</i>	
SENSORLESS INDUCTION MOTOR CONTROL WITH IMPROVED STATOR FLUX ESTIMATOR BY PROGRAMMABLE LPF	1993
<i>Sang-Soo Lee, Jae-Hoon Kim, Byoung-Gun Park, Dong-Seok Hyun</i>	
SENSORLESS ROTOR TEMPERATURE ESTIMATION OF PERMANENT MAGNET SYNCHRONOUS MOTOR UNDER LOAD CONDITIONS	1999
<i>Martin Ganchev, Christian Kral, Thomas Wolbank</i>	

SPACE VECTOR BASED DITHERED SIGMA DELTA MODULATOR FOR TWO-LEVEL INVERTER TO SUPPRESS THE HARMONIC SPIKES	2005
<i>Biji Jacob, M. R. Baiju</i>	
SPEED CONTROL OF PMSM DRIVES BY GENERALIZED PREDICTIVE ALGORITHMS	2012
<i>Kvetoslav Belda, David Vosmik</i>	
SPEED SENSORLESS INSTANTANEOUS POWER CONTROL OF INDUCTION MOTOR DRIVES	2018
<i>Mehdi Farasat, Ekrem Karaman, Andrzej Trzynadlowski, M. Sami Fadali</i>	
STANDSTILL POSITION ESTIMATION OF SPMSM - ROBUSTNESS TO MANUFACTURING TOLERANCES	2024
<i>Yateendra Deshpande, Hamid A. Toliyat, Xiaoyan Wang</i>	
STEADY STATE ANALYSIS OF BRUSHLESS DOUBLY FED INDUCTION MACHINE TAKING CORE LOSS INTO ACCOUNT	2030
<i>Mohammad Naser Hashemnia, Farzad Tahami</i>	
STUDY OF ON-LINE BACKLASH IDENTIFICATION FOR PMSM SERVO SYSTEM	2036
<i>Ming Yang, Siyu Tang, Junxin Tan, Dianguo Xu</i>	
STUDY OF STATOR CORE-END PACKETS UNDER THE ACTION OF TWO INCIDENT FLUXES - REAL SCALE MODEL	2043
<i>Gilles Vogt, Raphaël Romary, Guillaume Parent, Valentin Costan</i>	
SWITCHED RELUCTANCE MACHINE MODELING INCLUDING CORE MAGNETIC SATURATION - THE SELF-EXCITED OPERATION MODE	2049
<i>Victor Bernardeli</i>	
THE USE OF PROGRAMMABLE AUTOMATION CONTROLLER IN SYNCHRONOUS GENERATOR EXCITATION SYSTEM	2055
<i>Igor Erceg, Stjepan Tusun, Gorislav Erceg</i>	
THEORY AND IMPLEMENTATION OF A MTPA TRACKING CONTROLLER FOR ANISOTROPIC PM MOTOR DRIVES	2061
<i>Riccardo Antonello, Matteo Carraro, Mauro Zigliotto</i>	
THRUST OPTIMIZATION OF A FIVE-PHASE FAULT-TOLERANT FLUX-SWITCHING LINEAR SYNCHRONOUS MOTOR	2067
<i>Arun Gandhi, Leila Parsa</i>	
TIME DOMAIN SIMULATIONS OF SYNCHRONOUS GENERATOR MODELLED BY HALF-ORDER SYSTEM	2074
<i>Szymon Racewicz, Piotr J. Chrzan, Delphine M. Riu, Nicolas M. Retiere</i>	
TORQUE PRODUCTION CAPABILITIES OF ELECTRICAL MACHINES WITH PLANAR WINDINGS	2080
<i>Francesco Cupertino, Stefano Ettore</i>	
USING A WEIGHTING FACTOR TABLE FOR FCS-MPC OF INDUCTION MOTORS WITH EXTENDED PREDICTION HORIZON	2086
<i>Alireza Davari, Davood Arab Khaburi, Ralph Kennel</i>	

CONTROL SYSTEMS AND APPLICATIONS

A COMPARATIVE STUDY OF CONTROL SCHEMES FOR VSC-HVDC TRANSMISSION SYSTEM	2096
<i>Xiaofan Fu, Louis-A. Dessaint, Richard Gagnon, Keliang Zhou, Ming Cheng</i>	
A COMPARISON BETWEEN DISTURBANCE OBSERVER-BASED AND MODEL-BASED CONTROL OF NEEDLE IN PERCUTANEOUS APPLICATIONS	2104
<i>Arash Maghsoudi, Mehran Jahed</i>	
A HYBRID BACKSTEPPING-LIKE NONLINEAR CONTROL OF A ROBOT-TRAILER SYSTEM	2109
<i>Aditya Singh, John Y. Hung, Bob J. Selfridge</i>	
A MIMO INTELLIGENT CONTROL FOR BALL MILL SYSTEMS	2115
<i>Limin Liu</i>	
A MODIFIED CROSS-CORRELATION METHOD FOR THE IDENTIFICATION OF SYSTEMS WITH LARGE BANDWIDTH	2121
<i>Jean Sawma, Flavia Khatounian, Eric Monmasson</i>	
A NEW VARIABLE GAIN CONTROLLER FOR A CLASS OF UNCERTAIN LINEAR SYSTEMS VIA PIECEWISE LYAPUNOV FUNCTIONS --- LESS CONSERVATIVE LMI CONDITIONS ---	2127
<i>Hidetoshi Oya, Yuji Morishima, Kojiro Hagino</i>	
A NULL-SPACE-BASED CONTROL FOR CABLE DRIVEN MANIPULATORS	2132
<i>Davide Cattin, Emre Sariyildiz, Kohuei Ohnishi</i>	
A ROBUST METHODOLOGY TO CONTROL THE AIR PATH OF A DIESEL ENGINE	2138
<i>Chao Deng, Guillaume Colin, Yann Chamaillard, Dominique Nelson Gruel</i>	
A SKILL PROFICIENCY EVALUATION METHOD OF INDIVIDUAL BASED ON ACCURACY AND REPEATABILITY	2144
<i>Daiki Suzuki, Kouhei Ohnishi</i>	
A SLIDING MODE CONTROLLER FOR TWO-PHASE SYNCHRONOUS BUCK CONVERTERS	2150
<i>Christopher G. Wilson, John Y. Hung, Robert N. Dean</i>	
ADAPTIVE FUZZY FLATNESS-BASED EXCITATION CONTROL FOR POWER SYSTEM GENERATORS	2156
<i>Hassan Yousef, Mohammed Hamdy</i>	
ADAPTIVE SPEED REGULATION OF GEARLESS WIND ENERGY TRANSFER SYSTEMS	2162
<i>Sina Hamzehloiu, Afshin Izadian</i>	

ADVANCED COUPLED VOLTAGE-FREQUENCY CONTROL FOR POWER EFFICIENT DVFS MANAGEMENT	2168
<i>Carolina Albea, Diego Puschini, Suzanne Lesecq, Yeter Akgul</i>	
AN OPTIMAL MODULATION STRATEGY FOR MINIMISING THE LOSSES OF ISOLATED MULTISOURCE DC-DC CONVERTERS	2174
<i>Claudia Fischer, Sebastien Mariethoz, Manfred Morari</i>	
AN UNSCENTED KALMAN FILTER APPROACH FOR THE PLANT-MODEL MISMATCH REDUCTION IN HVAC SYSTEM MODEL BASED CONTROL	2180
<i>Tarik Ferhatbegovic, Gerhard Zucker, Peter Palensky</i>	
COLOR CONTROL IN RGB DRIVER SYSTEM APPLICABLE TO LED OF ALL AGEING CONDITIONS	2186
<i>Sau Kin Ng, Ka Hong Loo, Yuk Ming Lai, Chi Kong Tse</i>	
COMPUTING OPTIMUM COEFFICIENTS OF PID CONTROLLER WITH GENETIC ALGORITHM	2192
<i>Gholamreza Farahani</i>	
CONTROL OF A HYSTERETIC ELECTROMAGNETIC ELECTRON LENS SYSTEM	2198
<i>Bas Vermulst, Jorge Duarte, Nelis Van Lierop</i>	
CONTROL SYSTEM DESIGN FOR ROBOT ARMS PLAYING INSIDE-LOOP YOYO TRICK	2204
<i>Tomoyuki Sakuma, Takuma Nemoto, Masami Iwase, Shoshiro Hatakeyama, Masaki Izutsu</i>	
CONTROLLABILITY ANALYSIS OF A GRID CONNECTED INTERIOR PERMANENT MAGNET GENERATOR	2210
<i>Olorunfemi Ojo, Hossein Karimi-Davijani</i>	
DELAYED NON-FRAGILE H-INFINITY CONTROL FOR OFFSHORE STEEL JACKET PLATFORMS	2216
<i>Baolin Zhang, Zuo-Wu Huang, Qing-Long Han</i>	
DESIGN METHOD OF ROBUST KALMAN FILTER VIA L_1 REGRESSION AND ITS APPLICATION FOR VEHICLE CONTROL WITH OUTLIERS	2222
<i>Yasuaki Kaneda, Yasuharu Irizuki, Masaki Yamakita</i>	
DESIGN OF ARTIFICIAL NEURAL NETWORK CONTROLLER FOR CONTINUALLY STIRRED TANK HEATER	2228
<i>Kumar Gaurav, Shaktidev Mukherjee</i>	
DEVELOPMENT OF A HIGH-SPEED TURBO-GENERATOR SUPPORTED BY ACTIVE MAGNETIC BEARINGS	2232
<i>Fabiano Camargo Rosa, Fabio Lima, Marco Antonio Fumagalli</i>	
DEVELOPMENT OF OPTIMIZATION ALGORITHM FOR GREEN DRIVE ON ROADS WITH CONTINUOUS CURVES	2238
<i>Jihoon Kim, Namju Jeon, Hyeongcheol Lee</i>	
DIFFERENT APPROACHES OF STATIONARY REFERENCE FRAMES SATURATORS	2245
<i>Mario Rizo, Ana Rodríguez, Marco Liserre, Francisco Javier Rodríguez, Emilio Bueno</i>	
DIRECT ROTOR FIELD-ORIENTED CONTROL OF A DUAL THREE-PHASE INDUCTION MACHINE USING A NOVEL KALMAN OBSERVER	2251
<i>Rijaniaina Njakasoa Andriamalala, Hubert Razik, Bruno Francois, Xavier Guillaud</i>	
DUAL EKF ESTIMATOR FOR FAULT DETECTION AND ISOLATION IN HEATING VENTILATION AND AIR CONDITIONING SYSTEMS	2257
<i>Nicolae Tudoroiu, Mohammed Zaheeruddin</i>	
DYNAMIC FRICTION MODELING AND IDENTIFICATION FOR HIGH PRECISION MECHATRONIC SYSTEMS	2263
<i>Steffen Buechner</i>	
EFFECTS OF SAMPLING-PERIOD ON POLE-LOCATIONS IN YAW-ANGLE CONTROL VIA A DEFLECTING NOZZLE	2269
<i>Fuminao Tayama, Noriyuki Hori, C. A. Rabbath</i>	
EFFICIENT PARALLEL PARTICLE SWARM OPTIMIZERS ON GPU FOR REAL-TIME HARMONIC MINIMIZATION IN MULTILEVEL INVERTERS	2275
<i>Vincent Roberge, Mahommed Tarbouchi</i>	
EVOLUTIONARY COMPUTATION BASED OPTIMIZATION OF CONTROLLER PARAMETERS FOR AN ELECTROMAGNETIC LEVITATION SYSTEM	2283
<i>Mrinal Kanti Sarkar, Subrata Banerjee, Sakti Prasad Ghoshal</i>	
FEED-FORWARD EXCESS PASSIVITY-BASED CONTROL OF BUCK-BOOST CONVERTERS	2289
<i>Likhita Gavini, Afshin Izadian</i>	
FINITE-TIME OBSERVER-BASED SYNCHRONIZATION FOR A CLASS OF UNCERTAIN CHAOTIC SYSTEMS USING ADAPTIVE TERMINAL SLIDING MODE CONTROL	2295
<i>Jinwoo Lee, Dongyeop Kang, Sangchul Won</i>	
FLATNESS-BASED DEFORMATION CONTROL OF A 1-DIMENSIONAL MICROBEAM WITH IN-DOMAIN ACTUATION	2301
<i>Amir Badkoubeh, Guchuan Zhu</i>	
FUZZY-BASED ADAPTIVE OBSERVER CONTROL FOR A CLASS OF NONLINEAR SYSTEMS WITH UNKNOWN TIME DELAYS	2307
<i>Hassan Yousef, Mohammed Hamdy</i>	
HIGH ORDER ROBUST TERMINAL ITERATIVE LEARNING CONTROL DESIGN USING GENETIC ALGORITHM	2313
<i>Samir Boudria, Guy Gauthier</i>	

INVERSE CONTROL OF A CLASS OF NONLINEAR SYSTEMS WITH MODIFIED GENERALIZED PRANDTL-ISHLINSKII HYSTERESIS	2319
<i>Sining Liu, Xinjun Sheng, Zhi Li, Chun-Yi Su</i>	
MAGNETIC ATTITUDE CONTROL DESIGN FOR SMALL SATELLITES VIA SLOWLY-VARYING SYSTEMS THEORY	2325
<i>Mahmut Reyhanoglu, Jaime Rubio Hervas</i>	
MAXWELL SLIP BASED ADAPTIVE FRICTION COMPENSATION IN HIGH PRECISION APPLICATIONS	2331
<i>Stephan Zschaecck</i>	
MONOTONICITY OF FIXATION PROBABILITY OF EVOLUTIONARY DYNAMICS ON COMPLEX NETWORKS	2337
<i>Shaolin Tan, Jinhua Lu, Xinghuo Yu, David Hill</i>	
MULTI-MODEL OBSERVER AND STATE FEEDBACK POSITION CONTROL OF A FLEXIBLE ROBOTIC ACTUATOR	2342
<i>Benoît Huard, Mathieu Grossard, Sandrine Moreau, Thierry Pointot</i>	
NEW HIGH TORQUE DENSITY PERMANENT MAGNET MACHINE DESIGN FOR ELECTRIC VEHICLES	2348
<i>Yasser Alamoudi, Min Zhang</i>	
NODE SELECTION AND GAIN ASSIGNMENT IN PINNING CONTROL USING GENETIC ALGORITHM	2354
<i>Cui Li Yang, Wallace Kit-Sang Tang, Qiang Jia</i>	
NOVEL HYSTERESIS CONTROLLER BASED ON A ROTATING COORDINATE SYSTEM WITH DIRECT D AND Q CONSTRAINT	2360
<i>Philip Dost, Sebastian Rafael Jarzabek, Constantinos Sourkounis</i>	
ON BI-PROPER MAPPING DISCRETIZATION OF A REGULAR DESCRIPTOR SYSTEM	2366
<i>Shin Kawai, Noriyuki Hori</i>	
ON DELAY-DERIVATIVE-DEPENDENT SAMPLED-DATA FUZZY CONTROL DESIGN FOR T-S MODEL-BASED FUZZY SYSTEMS WITH INTERVAL TIME-VARYING DELAY	2372
<i>Xiefu Jiang, Qing-Long Han</i>	
ON THE STABILITY OF DISCRETE-TIME ACTIVE DAMPING METHODS FOR VSI CONVERTERS WITH A LCL INPUT FILTER	2378
<i>Marcos Orellana, Robert Griñó</i>	
ORDER REDUCTION USING MIXED METHOD	2384
<i>Satakshi Singh, Shaktidev Mukherjee, R. C Mittal</i>	
PARTIAL-STATE FEEDBACK CONTROL DESIGN FOR LIQUID CONTAINER TRANSFER WITH SLOSHING SUPPRESSION	2389
<i>Mahmut Reyhanoglu, Jaime Rubio Hervas</i>	
POSITION CONTROL OF DC MOTORS WITH EXPERIENCE MAPPING BASED PREDICTION CONTROLLER	2394
<i>Niranjana Saikumar, Dinesh N. S.</i>	
POSITION CONTROL OF PMSM USING JERK-LIMITED TRAJECTORY FOR TORQUE RIPPLE REDUCTION IN ROBOT APPLICATIONS	2400
<i>Soo-Cheol Shin, Chi-Hwan Choi, Jang-Hyoun Youn, Taek-Kie Lee, Chung-Yuen Won</i>	
PRECISE POSITION CONTROL OF TWO-AXES PAN/TILT SYSTEM IN EXTREME ENVIRONMENT	2406
<i>Michal Malek, Rastislav Kastier, Martin Hrasko</i>	
PREDICTIVE ROLLOVER DETECTION IN WHEELED VEHICLES	2410
<i>Martin Rodríguez, Ilse Cervantes</i>	
PSO-BASED FUZZY PREDICTIVE CONTROL	2416
<i>Oussama Ait Sahed, Kamel Kara, Mohamed Laid Hadjili</i>	
QUATERNION FEEDBACK CONTROL FOR GYROLESS TARGET POINTING OF UNDERACTUATED SPACECRAFT	2422
<i>Yee-Jin Cheon</i>	
REGULARIZATION FOR POLYNOMIAL MATRICES AND ITS APPLICATION TO DESCRIPTOR SYSTEMS	2427
<i>Wataru Kase</i>	
REPRODUCTION OF HAPTIC DATA IN MANIPULATING AND GRASPING OPERATIONS	2433
<i>Ayaka Matsui, Seiichiro Katsura</i>	
ROBUST CONTROL APPLIED IN BUCK BOOST CONVERTER IN A PHOTOVOLTAIC SYSTEM: A NEW PROPOSAL	2439
<i>João Neto, Anderson Cavalcanti, Andres Salazar</i>	
ROBUST CONTROL OF AN ISLANDED MICROGRID	2447
<i>Joel Steenis, Konstantinos Tsakalis, Raja Ayyanar</i>	
ROBUST CONTROLLER DESIGN OF AUTOMOTIVE VALVE FOR PURPOSE OF EMISSION REGULATION	2452
<i>Yun She</i>	
ROBUST FAULT-TOLERANT CONTROLLER DESIGN	2458
<i>Rajamani Doraiswami, Lahouari Cheded</i>	
ROBUST H_{∞} CONTROL FOR THE TURBOCHARGED AIR SYSTEM USING THE MULTIPLE MODEL APPROACH	2464
<i>Anh Tu Nguyen, Jimmy Lauber, Michel Dambrine</i>	
ROBUST STABILITY ANALYSIS OF THE SYSTEM WITH DISTURBANCE OBSERVER: THE REAL PARAMETRIC UNCERTAINTY APPROACH II	2470
<i>Emre Sariyildiz, Kouhei Ohmishi</i>	

SAMPLED-DATA STABILIZATION FOR TAKAGI-SUGENO FUZZY SYSTEMS USING MEMBERSHIP FUNCTION DEVIATIONS	2476
<i>Xiao-Bo Chi, Xin-Chun Jia, Qing-Long Han</i>	
SECOND ORDER SLIDING MODE CONTROL ON TASK-SPACE OF A 6-DOF STEWART PLATFORM	2482
<i>Sung-Hua Chen, Chin-Teng Lin, Li-Chen Fu</i>	
SLIP CONTROL OF A QUARTER CAR MODEL BASED ON TYPE-1 FUZZY NEURAL SYSTEM WITH PARAMETERIZED CONJUNCTIONS	2488
<i>Ayşe C. Aras, Okyay Kaynak, Rahib Abiyev</i>	
SMO-BASED FAULT TOLERANT CONTROL DESIGN FOR THREE PHASE INDUCTION MOTORS	2494
<i>Hamed Rezaei, Mohammad Javad Khosrowjerdi, Ali Saadat</i>	
STABLE ITERATIVE CORRELATION-BASED TUNING ALGORITHM FOR SERVO SYSTEMS	2500
<i>Mircea-Bogdan Radac, Radu-Emil Precup, Emil M. Petriu, Bogdan-Stefan Cerveneak, Claudia-Adina Dragos, Stefan Pretil</i>	
STATE-SPACE MODEL OF A CLASS OF SWITCHED-MODE DC-DC POWER SUPPLY	2506
<i>Haijun Fang</i>	
TERMINAL SLIDING MODE CONTROL STRATEGY DESIGN FOR SECOND-ORDER NONLINEAR SYSTEM	2512
<i>Jeng-Dao Lee, Suiyang Khoo, Kwei-Yuan Lai</i>	
TORQUE RIPPLE REDUCTION IN PERMANENT MAGNET SYNCHRONOUS MACHINES USING ANGLE-BASED ITERATIVE LEARNING CONTROL	2518
<i>Yi Yuan, Francois Auger, Luc Loron, Stephane Moisy, Mathieu Hubert</i>	
TUNING A FUZZY CONTROLLER BY PARTICLE SWARM OPTIMIZATION FOR AN ACTIVE SUSPENSION SYSTEM	2524
<i>Jorge Hurel, Anthony Mandow, Alfonso Garcia-Cerezo</i>	
UNDERDETERMINED MULTIVARIABLE DEAD-BEAT CONTROLLER	2530
<i>Philip Dost, Andreas Steimel, Carsten Heising</i>	
VIRTUAL TORQUE CONTROL IN WIND GENERATION WITH DOUBLY FED INDUCTION GENERATOR	2536
<i>Daniel Dolz, Ignacio Peñarocha, Néstor Aparicio, Roberto Sanchis</i>	
VISUAL MOTION OBSERVER-BASED POSE CONTROL VIA OBSTACLE AVOIDANCE NAVIGATION FUNCTION FOR EYE-IN-HAND SYSTEMS	2542
<i>Yusei Tsuruo, Toshiyuki Murao, Hiroyuki Kawai, Masayuki Fujita</i>	

SENSORS, ACTUATORS AND SYSTEMS INTEGRATION

A SIMPLE HIGH-PERFORMANCE RESPIRATORY SOUND ACQUISITION INSTRUMENT	2552
<i>Irwin Diaz, Alejandro Marquez, Ricardo Nuñez</i>	
AN AUTONOMOUS WIRELESS SENSOR NETWORK DEVICE POWERED BY A RF ENERGY HARVESTING SYSTEM	2557
<i>Denis Dondi, Stefano Scorcioni, Alessandro Bertacchini, Luca Larcher, Paolo Pavan</i>	
AUTOMATIC VERIFICATION SYSTEM FOR DOPPLER KINEMETERS	2563
<i>Fco Javier Jiménez, José De Frutos, Manuel Vázquez-Rodríguez</i>	
BASE POSITION DETECTION OF GRAPE STEM CONSIDERING ITS DISPLACEMENT FOR WEEDING ROBOT IN VINEYARDS	2567
<i>Hisashi Igawa, Takayuki Tanaka, Shun'Ichi Kaneko, Tatsumi Tada, Shin'Ichi Suzuki, Isao Ohmura</i>	
DESIGN OF TEMPERATURE CONTROL SYSTEM TOWARD THERMAL DISPLAY WITH FAST AND PRECISE RESPONSE	2573
<i>Hidetaka Morimitsu, Seiichiro Katsura</i>	
DETECTION OF TRANSVERSE LOAD USING THE HIGH BIREFRINGENCE BRAGG GRATING AND GENETIC ALGORITHM	2579
<i>Maryam Etezzad, Mojtaba Kahrizi, Kash Khorasani</i>	
ENERGY HARVESTING FOR ZIGBEE COMPLIANT WIRELESS SENSOR NETWORK NODES	2583
<i>Pedro Amaro, Fernando J. T. E. Ferreira, Rui Cortesão, Jorge Landek</i>	
FORCE CONTROL OF TWO-MASS RESONANT SYSTEM WITH VIBRATION SUPPRESSION BASED ON MODAL TRANSFORMATION	2589
<i>Eiichi Saito, Seiichiro Katsura</i>	
IDENTIFICATION METHOD OF SENSOR DIRECTIONS AND SENSITIVITIES IN MULTI-AXIS ACCELEROMETER	2595
<i>Hitoshi Kimura, Masashi Nakamura, Kodai Katou, Norio Inou, Minoru Yoshida</i>	
MEASUREMENTS OF INCLINATION ANGLE AND DISTANCE OF CURVE MIRROR USING LED LIGHT SOURCES	2601
<i>Kento Nishibori, Kenji Nishibori</i>	
MODELING AND FORCE CONTROL OF MEMBRANE PNEUMATIC ACTUATORS	2607
<i>Nojiri Yutaka, Tsujiuchi Nobutaka, Koizumi Takayuki, Mizuno Tomoyuki, Ichikawa Yasunori, Shimizu Mikio</i>	
MODELING AND PERSONAL RECOGNITION OF CALLIGRAPHY TASK USING HAPTIC DATA	2613
<i>Yoshihiro Ohnishi, Seiichiro Katsura</i>	
NEURAL NETWORK MODELING OF COLD-GAS THRUSTERS FOR A SPACECRAFT FORMATION FLYING TEST-BED	2619
<i>Hicham Chaoui, Pierre Sicard, James Lee, Alfred Ng</i>	
ULTRA-LOW TEMPERATURE DEPENDENT ROIC FOR CAPACITIVE SENSING PLATFORMS	2622
<i>Raul Aragones Ortiz, Joan Oliver Malagelada, Carles Ferrer Ramis</i>	

VELOCITY BASED MOTION-COPYING SYSTEM FOR INTEGRATED REPRODUCTION OF MOTION COMPONENTS	2628
<i>Shunsuke Yajima, Seiichiro Katsura</i>	

MECHATRONICS AND ROBOTICS

A POSITION TRACKING CONTROL OF TWO WHEEL MOBILE MANIPULATOR USING COG TRAJECTORY BASED ON ZERO DYNAMICS	2638
<i>Kyohei Umemoto, Toshiyuki Murakami</i>	
ADAPTIVE NEURAL NETWORK CONTROL OF FLEXIBLE-JOINT ROBOTIC MANIPULATORS WITH FRICTION AND DISTURBANCE	2644
<i>Hicham Chaoui, Pierre Sicard</i>	
AN APPROACH TO EXPANSION OF WORKSPACE MOTION IN MASTER-SLAVE CONTROL SYSTEM	2650
<i>Kiyotoshi Komuta, Toshiyuki Murakami</i>	
AN EXTENDED JACOBIAN MATRIX AND MULTIRATE CONTROL FOR BILATERAL CONTROL BETWEEN DIFFERENT TIME RESOLUTION SYSTEMS	2656
<i>Sho Sakaino, Toshiaki Tsuji</i>	
BILATERAL CONTROL METHOD FOR TENDON-DRIVEN MECHANISM CONSIDERING WIRE ELONGATION	2662
<i>Takahiro Nozaki, Takahiro Mizoguchi, Kouhei Ohnishi</i>	
CARTESIAN TRAJECTORY TRACKING OF AN UPPER LIMB EXOSKELETON ROBOT	2668
<i>Mohammad Habibur Rahman, Maarouf Saad, Cristobal Ochoa-Luna, Jean-P Kenne, Philippe S. Archambault</i>	
CONTROL OF A ROBOT-TRAILER SYSTEM USING A SINGLE NON-COLLOCATED SENSOR	2674
<i>Michael L. Payne, John Y. Hung, David M. Bevly, Bob J. Selfridge</i>	
DESIGN AND EXPERIMENTAL VALIDATION OF A HIERARCHICAL CONTROL STRATEGY FOR 7 DOF MANIPULATORS	2680
<i>Raouf Fareh, Mohamad Saad, Maarouf Saad</i>	
DESIGN AND EXPERIMENTAL VALIDATION OF A MOBILE ROBOT PLATFORM FOR ANALOG PLANETARY EXPLORATION	2686
<i>Joseph L. Amato, Jon J. Anderson, Thomas J. Carlone, Michael E. Fagan, Kenneth A. Stafford, Taskin Padir</i>	
EVALUATIONS OF DIFFERENT SIMULTANEOUS LOCALIZATION AND MAPPING (SLAM) ALGORITHMS	2693
<i>Gurkan Tuna, Kayhan Gulez, Vehbi Cagri Gungor, Tarik Veli Mumcu</i>	
FEASIBILITY OF EMG-BASED ANN CONTROLLER FOR A REAL-TIME VIRTUAL REALITY SIMULATION	2699
<i>Anbin Xiong, Guangmo Lin, Xingang Zhao, Jianda Han, Guangjun Liu</i>	
FORMULATION OF PACKING PROBLEM APPLYING DENSEST PACKING ALGORITHMS TO PLANNING OF PACKING FOR ROBOT	2705
<i>Hiromu Onda</i>	
GRIPPING STRATEGY OF PNEUMATIC ROBOT ARM FOR INDUSTRIAL FIELDS	2713
<i>Sho Maeda, Nobutaka Tsujiuchi, Takayuki Koizumi, Isao Nakai, Mitsumasa Sugiura</i>	
HAND-FREE INTERFACE BASED ON FACIAL ORIENTATIONS	2719
<i>Nobuaki Nakazawa, Takashi Mori, Aya Maeda, Ilhwan Kim, Toshikazu Matsui, Kou Yamada</i>	
HUMAN-ROBOT INTERACTION WITH MULTI-SENSOR FUSION BASED HAND SIGN RECOGNITION FOR SERVICE ROBOT	2725
<i>Luo Ren. C, Wu Yen-Chang</i>	
MOTION CONTROL FOR 2DOF TENDON-DRIVEN SPHERICAL JOINT MECHANISMS	2731
<i>Keita Shimamoto, Kouhei Ohnishi</i>	
MULTILAYER SCHEME FOR THE ADAPTIVE COOPERATIVE COORDINATED CONTROL OF MOBILE MANIPULATORS	2737
<i>Victor Andaluz, Paul Canseco, Andres Rosales, Flavio Roberti, Ricardo Carelli</i>	
MULTIPURPOSE OPTIMIZATION OF CAMERA POSITION BY MODELING IMAGE NOISE IN CAMERA FOR ROBOT VISION	2744
<i>Ryo Kojima, Nobutaka Tsujiuchi, Takayuki Koizumi, Masahiro Masuguchi</i>	
ON INTERNET BASED SUPERMEDIA ENHANCED TELEPRESENCE VIA CELLULAR DATA NETWORK	2750
<i>Jesus David Terrazas Gonzalez, Greg Linton, Wai-Keung Fung, Rob Barwell</i>	
ON PASSIVITY--BASED CONTROL OF A CLASS OF ELECTRICALLY DRIVEN ROBOTS	2756
<i>Javier Moreno-Valenzuela, Ricardo Campa, Victor Santibanez</i>	
OPTIMAL PATH PLANNING FOR AN AUTONOMOUS ROBOT-TRAILER SYSTEM	2762
<i>Xin Yu, John Y. Hung</i>	
RECURSIVE MOTION PLANNING USING OPTIMAL VECTOR SMOOTHING SPLINES WITH CROSS-COUPLED CONSTRAINTS	2768
<i>Hiroyuki Fujioka, Hiroyuki Kano</i>	
ROBOTIC SYSTEM FOR SINGLE INCISION LAPAROSCOPIC SURGERY	2774
<i>Irene Rivas-Blanco, Pablo Saz-Orosco, Isabel Garcia-Morales, Victor Muñoz-Martínez</i>	
SCALE-DEPENDENT METHOD FOR WHOLE ARM GRASP EVALUATION	2780
<i>M. Abdeetedal, H. A. Talebi, F. Abdollahi</i>	

STABILITY OF A TELEROBOTIC MANIPULATION SYSTEM WITH PROXIMITY-BASED HAPTIC FEEDBACK	2786
<i>Riccardo Antonello, Omar Andres Daud, Roberto Oboe, Enrico Grisan</i>	
STUDY ON THE OBSERVABILITY OF DOUBLE PARALLEL MAGNETIC SUSPENSION SYSTEMS	2793
<i>Takeshi Mizuno, Yuji Ishino, Masaya Takasaki</i>	

FACTORY AUTOMATION AND INDUSTRIAL INFORMATICS

A DYNAMIC ALGORITHM TO IMPROVE WIRELESS SENSOR NETWORKS MANAGEMENT	2802
<i>Mario Collotta, Luca Gentile, Giovanni Pau, Gianfranco Scatà</i>	
A SAN MODEL FOR THE ANALYSIS OF THE FLOW CONTROL CONGESTION MECHANISM OF KNXNET/IP	2808
<i>Salvatore Cavalieri, Ferdinando Chiacchio</i>	
ACTIVITY RECOGNITION USING A HIERARCHICAL MODEL	2814
<i>Caglar Tirkaz, Dietmar Bruckner, Guoqing Yin, Jan Haase</i>	
ADAPTIVE NETWORK FUZZY INFERENCE SYSTEM AND SUPPORT VECTOR MACHINE LEARNING FOR TOOL WEAR ESTIMATION IN HIGH SPEED MILLING PROCESS	2821
<i>Xiang Li, Meng Joo Er, Hailin Ge, Oon Peen Gan, Sheng Huang, Lianyin Zhai, San Linn, Amin Torabi Jahromi</i>	
ENERGY-AWARE FOUNDRY PRODUCTION SCHEDULING	2827
<i>Oihane Kamara, Yoseba K. Penya</i>	
EXTENDING THE VERIFICATION COVERAGE FOR PLC CONTROL PROGRAMS: A FUNCTIONAL SAFETY APPROACH	2833
<i>Cleber Sarmiento, Diolino Santos-Filho, Paulo Miyagi</i>	
REQUESTED BEHAVIOR DRIVEN CONTROL OF PRODUCT DEFINITION	2839
<i>László Horváth, Imre J. Rudas</i>	
SEMO-TS: TESTING OPC UA SERVER MODELS IN SIMULATED ENVIRONMENTS	2845
<i>Sebastian Rohjans, Sebastian Lehnhoff, Mathias Uslar, Plamen Rusinov</i>	
VIRTUAL ENTERPRISE PLANNING SYSTEM USING TIME WINDOWS AND CAPACITY CONSTRAINT CONCEPTS	2851
<i>Marcosiris A. O. Pessoa, Fabrício Junqueira, Diolino J. Santos Filho, Newton Maruyama, Lucas A. Moscato, Paulo E. Miyagi</i>	

ELECTRIC AND PLUG-IN HYBRID ELECTRIC VEHICLES

A CONTACTLESS POWER TRANSFER - SUPERCAPACITOR BASED SYSTEM FOR EV APPLICATION	2860
<i>Swagat Chopra, Venugopal Prasanth, Brahim El Mansouri, Pavol Bauer</i>	
A MATRIX CONVERTER-BASED TOPOLOGY FOR HIGH POWER ELECTRIC VEHICLE BATTERY CHARGING AND V2G APPLICATION	2866
<i>Harish S Krishnamoorthy, Pawan Garg, Prasad N Enjeti</i>	
A NOVEL ISOLATED BIDIRECTIONAL DC-DC CONVERTER FOR ULTRA-CAPACITOR APPLICATION IN HYBRID AND ELECTRIC VEHICLES	2872
<i>Dawei He, Pascal Nisama, Jinchu Han, Thomas Habetler</i>	
A PRECISE OPEN LOOP TORQUE CONTROL FOR AN INTERIOR PERMANENT MAGNET SYNCHRONOUS MOTOR (IPMSM) CONSIDERING IRON LOSSES	2877
<i>Wilhelm Peters, Oliver Wallscheid, Joachim Böcker</i>	
A TOOL OF VEHICLE-TO-GRID (V2G) CONCEPT FOR VOLTAGE PLAN CONTROL OF RESIDENTIAL ELECTRIC GRID AREAS WITH PLUG-IN HYBRID ELECTRIC VEHICLES (PHEVS)	2883
<i>Harun Turker, Matthieu Hauck, Ahmad Hably, Seddik Bacha</i>	
A TRIGONOMETRIC VELOCITY ESTIMATOR USING RESOLVER SENSOR IN DRIVE SYSTEM APPLICATIONS	2889
<i>Saeid Haghbin, Maliheh Sadeghi Kani, David Vindel, Ola Carlson, Sonja Lundmark</i>	
ADVANCED DRIVE FOR LOW COST PERMANENT MAGNET SYNCHRONOUS MACHINES USED FOR HEV - A REVIEW	2895
<i>Abhijit Choudhury, Pragasen Pillay, Sheldon Williamson</i>	
CO-SIMULATION OF PEV COORDINATION SCHEMES OVER A FIWI SMART GRID COMMUNICATIONS INFRASTRUCTURE	2901
<i>Martin Lévesque, Da Qian Xu, Geza Joos, Martin Maier</i>	
COMPARISON OF QUICK CHARGE TECHNOLOGIES FOR ELECTRIC VEHICLE INTRODUCTION IN NETHERLANDS	2907
<i>Jayakrishnan Harikumar, György Vereczki, Csaba Farkas, Pavol Bauer</i>	
CONSTANT POWER LOADS IN MORE ELECTRIC VEHICLES - AN OVERVIEW	2914
<i>Sean Smithson, Sheldon Williamson</i>	
CONTROL OF INDUCTION MACHINES ON AN ELECTRIC VEHICLE WITH MAXIMUM TORQUE AND EFFICIENCY VIA THE OPTIMAL SLIP FACTOR	2923
<i>Chih-Han Kuo, Chen-Wen Hsu, Chih-Wei Yu, Pau-Lo Hsu</i>	
DESIGN AND FEM VALIDATION FOR AN AXIAL SINGLE STATOR DUAL ROTOR PMSM	2929
<i>Lucian Nicolae Tutelea, Sorin Ioan Deaconu, Ion Boldea</i>	
DRIVING RANGE EXTENSION BY SERIES CHOPPER POWER TRAIN OF EV WITH OPTIMIZED DC VOLTAGE PROFILE	2936
<i>Masashi Takeda, Naoki Motoi, Giuseppe Guidi, Yukinori Tsuruta, Atsuo Kawamura</i>	

DYNAMIC PROGRAMMING FOR OPTIMAL INTEGRATION OF PLUG-IN HYBRID ELECTRIC VEHICLES (PHEVs) IN RESIDENTIAL ELECTRIC GRID AREAS	2942
<i>Harun Turker, Ahmad Hably, Seddik Bacha</i>	
EVALUATION AND COMPARISON OF A TWO-LEVEL AND A MULTILEVEL INVERTER FOR AN EV USING A MODULIZED BATTERY TOPOLOGY	2949
<i>Oskar Josefsson, Torbjörn Thiringer, Sonja Lundmark, Hector Zelaya</i>	
FREQUENCY-SEPARATION-BASED ENERGY MANAGEMENT CONTROL STRATEGY OF POWER FLOWS WITHIN ELECTRIC VEHICLES USING ULTRACAPACITORS	2957
<i>Adrian Florescu, Seddik Bacha, Iulian Munteanu, Antoneta Iuliana Bratcu</i>	
MODIFIED STATOR FLUX ESTIMATION BASED DIRECT TORQUE CONTROLLED PMSM DRIVE FOR HYBRID ELECTRIC VEHICLE	2965
<i>Abhijit Choudhury, Pragasen Pillay, Sheldon Williamson</i>	
OUTSTANDING RUNNING PERFORMANCE OF FRONT-AND-REAR-WHEEL-INDEPENDENT-DRIVE-TYPE ELECTRIC VEHICLE (FRID EV) UNDER VARIOUS TRANSIENT RUNNING CONDITIONS	2971
<i>Nobuyoshi Mutoh, Ryutaro Miyaji, Toru Yamaguchi</i>	
PEMFC LOW TEMPERATURE STARTUP FOR ELECTRIC VEHICLE	2977
<i>Nilson Henao, Souso Kelouwani, Kodjo Agbossou, Yves Dubé</i>	
POWER SUPPLY FOR IDLE REDUCTION EMPLOYING CONSTANT FREQUENCY RIPPLE REGULATOR	2983
<i>Tetsuya Oribe, Taichi Kimura, Terukazu Sato, Kimihiro Nishijima, Takashi Nabeshima</i>	
STUDY FOR USING ELECTRIC VEHICLES AS ENERGY SUPPLY WITHIN THE ELECTRIC GRID	2989
<i>Philip Dost, Constantinos Sourkounis</i>	
SWITCHED CAPACITOR WITH CHAIN STRUCTURE FOR CELL-BALANCING OF LITHIUM-ION BATTERIES	2994
<i>Moon-Young Kim, Chol-Ho Kim, Jun-Ho Kim, Duk-You Kim, Gun-Woo Moon</i>	
THE IMPACT OF ELECTRIC VEHICLES ON THE GRID FOR LOCAL ENERGY MODELS	3000
<i>Norma Anglani, Fabrizio Fattori, Giuseppe Muliere</i>	
VOLTAGE BALANCING CONVERTER NETWORK FOR SERIES-CONNECTED BATTERY STACK	3007
<i>Thanh Hai Phung, Jean Christophe Crebier, Yves Lembeye</i>	

ELECTRONIC SYSTEM ON CHIP AND REAL TIME EMBEDDED CONTROL

A CASE FOR I/O RESPONSE BENCHMARKING OF MICROPROCESSORS	3018
<i>Goncalo Martins, Dave Lacey, Allistair Moses, Matthew Rutherford, Kimon Valavanis</i>	
AN FPGA PROTOTYPE OF CURRENT AND VOLTAGE PREDICTIVE CONTROLLER FOR HIGH SWITCHING FREQUENCY BUCK CONVERTER	3024
<i>Bo Li, Xuefang Lin-Shi, Bruno Allard, Jean-Marie Retif</i>	
CONTROL AREA NETWORK BASED QUOTIENT REMAINDER COMPRESSION-ALGORITHM FOR AUTOMOTIVE APPLICATIONS	3030
<i>Supriya Kelkar, Rajkamal</i>	
CONTROL OF VOLTAGE SOURCE INVERTER USING FPGA IMPLEMENTATION OF ADALINE-FLL	3037
<i>Cristina Guzman, Alben Cardenas, Kodjo Agbossou</i>	
CONTROLLING TRAFFIC JAMS ON URBAN ROADS MODELED IN COLOURED PETRI NET USING GENETIC ALGORITHM	3043
<i>Henrique Dezani, Luis Gomes, Furio Damiani, Norian Marranghello</i>	
EFFICIENT IMPLEMENTATION OF EKF-SLAM ON A MULTI-CORE EMBEDDED SYSTEM	3049
<i>Bastien Vincke, Abdelhafid Elouardi, Alain Lambert, Alain Mériçot</i>	
FPGA BASED PREDICTIVE DEADBEAT CONTROL FOR HIGH SWITCHING FREQUENCY SEPIC	3055
<i>Nan Li, Xuefang Lin-Shi, Bruno Allard, Pierre Lefranc, Emmanuel Godoy, Ali Jaafar</i>	
FPGA-BASED 2ND-ORDER SIGMA-DELTA A/D CONVERTER FOR CURRENT MEASUREMENT FOR RESONANT POWER CONVERTERS	3061
<i>Oscar Jimenez, Oscar Lucia, Isidro Urriçza, Luis A. Barragan, Jose I. Artigas, Denis Navarro</i>	
FULL SYSTEM ON PROGRAMMABLE CHIP SOLUTION FOR DPC CONTROL OF THREE PHASE PWM BOOST RECTIFIER	3067
<i>Marwa Ben Said, Wissem Naouar, Imen Bahri, Eric Monmasson, Meriem Merai, Meriam Douma, Ilhem Slama-Belkhdja</i>	
GENERAL-PURPOSE RECONFIGURABLE LOW-LATENCY ELECTRIC CIRCUIT AND DRIVE SOLVER ON FPGA	3073
<i>Christian Dufour, Sébastien Cense, Tarek Ould-Bachir, Luc-André Gréçoire, Jean Bélanger</i>	

SOFTWARE

ANALYSIS OF THE ISBSG SOFTWARE REPOSITORY FROM THE ISO 9126 VIEW OF SOFTWARE PRODUCT QUALITY	3086
<i>Laila Cheikhi, Alain Abran, Jean-Marc Desharnais</i>	
CASE STUDY: USING REQUIREMENTS AND FSM FOR EVALUATING SOFTWARE TRUSTWORTHINESS	3095
<i>Mitra Nami, Witold Suryn</i>	
CONSTRUCTING MODEL-BASED PRODUCT LINE IDES FOR EMBEDDED SYSTEM DESIGN	3101
<i>Horacio Hoyos, Rubby Casallas, Fernando Jimenez</i>	

DEVELOPING AN ROV SOFTWARE CONTROL ARCHITECTURE: A FORMAL SPECIFICATION APPROACH	3107
<i>Fabio Henrique De Assis, Fabio Kawaoka Takase, Newton Maruyama, Paulo Eigi Miyagi</i>	
DRIVE SYSTEM ASSISTANCE TOOL FOR META-ANALYSIS OF DIMENSIONING AND MAINTENANCE INDICATORS	3113
<i>Fazel Ansari, Randitya A. Dewa, Madjid Fathi</i>	
ENHANCING ISO/IEC 25021 QUALITY MEASURE ELEMENTS FOR WIDER APPLICATION WITHIN ISO 25000 SERIES	3120
<i>Dominique St-Louis, Witold Suryn</i>	
FROM REQUIREMENTS TO SOFTWARE TRUSTWORTHINESS USING SCENARIOS AND FINITE STATE MACHINE	3126
<i>Mitra Nami, Witold Suryn</i>	
ON THE EXPRESSIVENESS OF BUSINESS PROCESS MODELING NOTATIONS FOR SOFTWARE REQUIREMENTS ELICITATION	3132
<i>Carlos Monsalve, Alain April, Alain Abran</i>	
SOFTWARE QUALITY ENGINEERING IN SERVICE OF IT CONSUMER	3138
<i>Witold Suryn</i>	
TOWARDS RELIABLE WEB APPLICATIONS: ISO 19761	3144
<i>Manar Abu Talib, Emilia Mendes, Adel Khelifi</i>	
USING ISO 27001 IN TEACHING INFORMATION SECURITY	3149
<i>Manar Abu Talib, Adel Khelifi, Tahsin Ugurlu</i>	

NETWORK-BASED CONTROL SYSTEMS

A NOVEL STABILITY CRITERION FOR NETWORKED CONTROL SYSTEMS USING A NEW BOUNDING TECHNIQUE	3158
<i>Xian-Ming Zhang, Qing-Long Han</i>	
CONTROLLER DESIGN BASED ON COMPLETE QUADRATIC LYAPUNOV-KRASOVSKII FUNCTIONAL FOR TIME DELAY SYSTEMS	3164
<i>Yutaka Uchimura, Masanori Nagahara</i>	
DESIGN OF NETWORKED CONTROL SYSTEMS USING A STOCHASTIC SWITCHING SYSTEMS APPROACH	3170
<i>Koichi Kobayashi, Kunihiko Hiraishi</i>	
EVALUATING SERIAL ZIGBEE DEVICES FOR APPLICATION IN WIRELESS NETWORKED CONTROL SYSTEMS	3176
<i>Eduardo Paciencia Godoy, Fernando Scorzoni, Arthur José Vieira Porto</i>	
EXPLORING THE WORST-CASE TIMING OF ETHERNET AVB FOR INDUSTRIAL APPLICATIONS	3182
<i>Jonas Diemer, Jonas Rox, Rolf Ernst, Feng Chen, Karl-Theo Kremer, Kai Richter</i>	
H_∞ NETWORKED CONTROL WITH MULTIPLE PACKET DROPOUTS	3188
<i>Fuwen Yang, Qing-Long Han</i>	
NETWORK-BASED OUTPUT TRACKING CONTROL OF VAN DER POL'S OSCILLATOR	3194
<i>Dawei Zhang, Qing-Long Han, Xinchun Jia</i>	
SELF-TRIGGERED MODEL PREDICTIVE CONTROL WITH DELAY COMPENSATION FOR NETWORKED CONTROL SYSTEMS	3200
<i>Koichi Kobayashi, Kunihiko Hiraishi</i>	
STABILITY AND PASSIVITY OF FEEDBACK INTERCONNECTED SYSTEMS IN NETWORK ENVIRONMENTS	3206
<i>Jia Wang, Qing-Long Han, Fuwen Yang</i>	

REAL-TIME WIRELESS COMMUNICATION FOR INDUSTRIAL APPLICATIONS

ANALYSIS OF WIRELESS COMMUNICATIONS IN UNDERGROUND TUNNELS FOR INDUSTRIAL USE	3216
<i>Javier Ferrer-Coll, Per Ångskog, He Shabai, José Chilo, Peter Stenumgaard</i>	
FPGA IMPLEMENTATION AND EVALUATION OF DISCRETE-TIME CHAOTIC GENERATORS CIRCUITS	3221
<i>Pascal Giard, Georges Kaddoun, François Gagnon, Claude Thibeault</i>	
ISSUES OF ROUTING PROTOCOL FOR WIRELESS INDUSTRIAL SENSOR NETWORKS	3225
<i>Jing Zhao, Dong Yang, Yajuan Qin, Tao Zheng, Junqi Duan, Mikael Gidlund</i>	
RELIABLE RSS-BASED ROUTING PROTOCOL FOR INDUSTRIAL WIRELESS SENSOR NETWORKS	3231
<i>Kan Yu, Mikael Gidlund, Johan Åkerberg, Mats Björkman</i>	
TECHNOLOGICAL LEAP OF SIGNAL TRANSFER SYSTEM: CONTACTLESS	3238
<i>Rémy Astier, Thierry Capitaine, Valéry Bourmy, Jérôme Dubois, Jérôme Fortin</i>	
UTILIZING PARALLELIZATION AND EMBEDDED MULTICORE ARCHITECTURES FOR SCHEDULING LARGE-SCALE WIRELESS MESH NETWORKS	3244
<i>Song Han, Aloysius K. Mok, Mark Nixon, Deji Chen, Lawrence Waugh, Fred Stotz</i>	

INDUSTRIAL ELECTRONICS APPLIED TO INDUCTION HEATING

A NEW ZVS PHASE-SHIFTED HIGH-FREQUENCY RESONANT INVERTER INCORPORATING ASYMMETRICAL PWM-BASED UNIT CONTROL FOR INDUCTION HEATING	3256
<i>Tomokazu Mishima, Chikanori Takami, Mutsuo Nakaoka</i>	
FLEXIBLE COOKING ZONE WITH 2D MOBILE INDUCTORS IN INDUCTION HOBS	3262
<i>Fernando Sanz, Carlos Franco, Carlos Sagues, David Paesa, Sergio Llorente</i>	
HIGH-EFFICIENCY POWER CONVERTERS FOR DOMESTIC INDUCTION HEATING APPLICATIONS	3268
<i>Hector Sarnago, Óscar Lucia, Arturo Mediano, Jose Miguel Burdio</i>	
IGBT FOR HIGH PERFORMANCE INDUCTION HEATING APPLICATIONS	3274
<i>Ali Salih</i>	
IR SENSOR FOR TEMPERATURE MEASUREMENT IN DOMESTIC INDUCTION HEATING SYSTEMS	3281
<i>Eduardo Imaz, Rafael Alonso, Carlos Heras, Enrique Carretero, Iñigo Salinas</i>	
PCB MULTI-TRACK COILS FOR DOMESTIC INDUCTION HEATING APPLICATIONS	3287
<i>Ignacio Lope, Claudio Carretero, Jesus Acero, Rafael Alonso, Jose Miguel Burdio</i>	
RESONANT CONTROL OF MULTI-PHASE INDUCTION HEATING SYSTEMS	3293
<i>Kien Long Nguyen, Stéphane Caux, Xavier Kestelyn, Olivier Pateau, Pascal Maussion</i>	
THE PRACTICAL EVALUATIONS OF TIME-SHARING HIGH-FREQUENCY RESONANT SOFT-SWITCHING INVERTER FOR ALL METAL IH COOKING APPLIANCES	3302
<i>Takayuki Hirokawa, Eiji Hiraki, Toshihiko Tanaka, Masayuki Okamoto, Mutsuo Nakaoka</i>	

ADVANCED TECHNIQUES FOR IDENTIFICATION AND CLASSIFICATION IN SMART METERING

EVENT DETECTION FOR NON INTRUSIVE LOAD MONITORING	3312
<i>Kyle D. Anderson, Mario E. Berges, Adrian Ocnanu, Diego Benitez, Jose M. F. Moura</i>	
GENERIC THERMAL MODEL OF ELECTRIC APPLIANCES INTEGRATED IN LOW ENERGY BUILDING	3318
<i>Herie Park, Marie Ruellan, Nadia Martaj, Rachid Bennacer, Eric Monmasson</i>	
SMART METER SYSTEMS DETECTION & CLASSIFICATION USING ARTIFICIAL NEURAL NETWORKS	3324
<i>Thomas Bier, Djaffar Ould Abdeslam, Jean Merckle, Dirk Benyoucef</i>	

POWER CONVERTERS AND CONTROL FOR DISTRIBUTED GENERATION

A LINEAR-PREDICTION MAXIMUM POWER POINT TRACKING ALGORITHM FOR PHOTOVOLTAIC POWER GENERATION	3334
<i>Lei Tang, Wei Xu, Chengbi Zeng, David Dorrell, Xinghuo Yu</i>	
A LYAPUNOV-BASED CURRENT CONTROL STRATEGY OF THREE PHASE SHUNT ACTIVE POWER FILTER FOR HARMONIC ELIMINATION, POWER-FACTOR CORRECTION, AND LOAD UNBALANCE COMPENSATION	3340
<i>Mohamed Haddad, Salem Rahmani, Farhat Fnaiech, Kamal Al-Haddad</i>	
A MULTI-INPUT BI-DIRECTIONAL CONVERTER WITH DECOUPLED POWER DISTRIBUTION CONTROL	3346
<i>Lingling Cao, K. H. Loo, Y. M. Lai, Chi K Tse, Yugang Yang</i>	
A NON-ISOLATED THREE-PORT CONVERTER FOR STAND-ALONE RENEWABLE POWER SYSTEM	3352
<i>Zihu Zhou, Hongfei Wu, Xudong Ma, Yan Xing</i>	
A NOVEL FOUR-LEG THREE-PHASE INVERTER CONTROL STRATEGY TO REDUCE THE DATA CENTER THERMAL LOSSES: ELIMINATION OF NEUTRAL CURRENT	3358
<i>Souvik Dasgupta, Irudhayasamy Vasantharaj Prasanna, Sanjib Kumar Panda, Sanjib Kumar Sahoo</i>	
A SIMPLE DC-LINK PRE-CHARGING METHOD FOR THREE-PHASE VOLTAGE SOURCE INVERTERS	3364
<i>Bjarte Hoff, Waldemar Sulkowski</i>	
A TRIPLE-DROOP CONTROL SCHEME FOR INVERTER-BASED MICROGRIDS	3368
<i>Fei Luo, Y. M. Lai, K. H. Loo, Chi K. Tse</i>	
AN INTEGRATED BOOST-DUAL HALF-BRIDGE LCL SRC WITH CAPACITIVE OUTPUT FILTER FOR ELECTROLYSER APPLICATION	3376
<i>Deepak Gautam, Ashoka K. S. Bhat</i>	
ANALYSIS AND DESIGN OF INTERLEAVED CURRENT-FED PHASE-MODULATED SINGLE-PHASE UNFOLDING INVERTER	3382
<i>Prasanna U. Rajagopal, Akshay K. Rathore</i>	
AUTO-SYNCHRONIZATION OF LC FILTER BASED FRONT-END CONVERTER WITH PARALLEL INVERTERS BASED WEAK DISTORTED ISLAND GRID USING VOLTAGE INJECTION	3388
<i>Shahil Shah, Partha Sarathi Sensarma</i>	
BI-DIRECTIONAL ISOLATED MULTI-PORT POWER CONVERTER FOR AIRCRAFT HVDC NETWORK POWER TRANSFER	3394
<i>Baburaj Karanayil, Marcos Arregui, Vassilios Agelidis, Mihai Ciobotaru</i>	
CONTROL OF A HYBRID ENERGY STORAGE SYSTEM USING A THREE LEVEL NEUTRAL POINT CLAMPED CONVERTER	3400
<i>Aitor Etxeberria, Ionel Vechiu, Sylvain Baudoin, Haritza Camblong, Jean-Michel Vinassa</i>	
CONTROL OF SINGLE-PHASE INVERTER CONNECTED TO THE GRID THROUGH AN LCL FILTER	3406
<i>Gerardo Escobar, Sami Pettersson, Carl N. M Ho</i>	

CONTROL STRATEGY FOR A STANDALONE PV/BATTERY HYBRID SYSTEM	3412
<i>Hisham Mahmood, Dennis Michaelson, Jin Jiang</i>	
GENERALIZED MICROGRID HARMONIC COMPENSATION STRATEGIES USING DG UNITS INTERFACING CONVERTERS.....	3419
<i>Jinwei He, Yun Wei Li</i>	
LIFETIME PREDICTION OF IGBT IN A STATCOM USING MODIFIED-GRAPHICAL RAINFLOW COUNTING ALGORITHM	3425
<i>Lakshmi Reddy Gopi Reddy, Leon M. Tolbert, Burak Ozpineci</i>	
MAGNETIZING INDUCTANCE ASSISTED WIDE RANGE ZVS THREE-PHASE AC LINK CURRENT-FED DC/DC CONVERTER WITH ACTIVE-CLAMP FOR LOW DC VOLTAGE APPLICATIONS	3431
<i>Pan Xuewei, Prasanna U. Rajagopal, Akshay K. Rathore</i>	
MODELING AND CONTROL OF GRID CONNECTED VOLTAGE SOURCE CONVERTER FOR POWER SHARING.....	3437
<i>Alka Singh, Bhim Singh</i>	
MODULAR MULTILEVEL CASCADED CONVERTER BASED ON CURRENT SOURCE H-BRIDGES CELLS	3443
<i>Marcelo A. Perez, Ricardo Lizana, Camilo Azocar, Jose Rodriguez, Bin Wu</i>	
MULTI-OSCILLATORY LQR FOR A THREE-PHASE FOUR-WIRE INVERTER WITH L3NC OUTPUT FILTER	3449
<i>Arkadiusz Kaszewski, Lech Grzesiak, Bartlomiej Ufnalski</i>	
OPTIMAL LINEAR CONTROLLER DESIGN OF STANDALONE VSI INCLUDING EMULATED OUTPUT CURRENT STATE	3456
<i>Amin Hasanazadeh, Chris S. Edrington, Jesse Leonard</i>	
REACTIVE POWER CONTROL FOR VOLTAGE SUPPORT DURING TYPE C VOLTAGE-SAGS.....	3462
<i>Antonio Camacho, Miguel Castilla, Jaime Miret, José Matas, Eduardo Alarcón-Gallo, Luis García De Vicuña, Pau Martí</i>	
SELF-OPTIMIZATION OF PHOTOVOLTAIC SYSTEM POWER GENERATION BASED ON SLIDING MODE CONTROL	3468
<i>Ayedh Alqahtani, Vadim Utkin</i>	
SENSORLESS CONTROL FOR DFIG WIND TURBINES BASED ON SUPPORT VECTOR REGRESSION	3475
<i>Ahmed Abo-Khalil, Hammad Abo-Zied</i>	
SENSORLESS CONTROL WITH STARTUP PROCEDURE AND GRID FAULT DETECTION FOR THREE- PHASE VSI WITH LCL FILTER	3481
<i>Bjarte Hoff, Waldemar Sulkowski</i>	
SUPERVISORY AND CONTROL SYSTEM DEVELOPMENT APPLIED TO DISTRIBUTED GENERATION USING WEB TOOLS	3494
<i>Robinson Camargo, Claiton Franchi, Diones Dutra, Fábio Posser, Celso Tischer, Lucas Scherer</i>	
UNBALANCED OPERATION OF PER-PHASE VECTOR CONTROLLED FOUR-LEG GRID FORMING INVERTER FOR STAND-ALONE HYBRID SYSTEMS	3500
<i>Nayeem Ahmed Ninad, Luiz A. C. Lopes</i>	

ADVANCED TOPOLOGIES AND CONTROL FOR WIND ENERGY CONVERSION SYSTEMS

A NEW HIGH FREQUENCY GRID INTERFACE SYSTEM FOR PMSG-BASED WIND TURBINE GENERATORS IN LOW POWER APPLICATIONS	3510
<i>Amirhossein Rajaei, Mustafa Mohamadian, Ali Yazdian</i>	
A NEW TOPOLOGY AND CONTROL STRATEGY FOR CENTRALIZED RIDE-THROUGH CAPABILITY OF WIND FARM	3516
<i>Lucheng Hong, Qirong Jiang, Liang Wang, Wei Du</i>	
A NOVEL MPPT CONTROL DESIGN FOR WIND-TURBINE GENERATION SYSTEMS USING NEURAL NETWORK COMPENSATOR.....	3521
<i>Ming-Fa Tsai, Chung-Shi Tseng, Yu-Hsiang Hung</i>	
AN EFFECTIVE HARMONIC ELIMINATION FOR DFIG FEEDING NON-LINEAR LOADS IN STAND- ALONE OPERATION.....	3527
<i>Ngoc-Tung Nguyen, Hong-Hee Lee</i>	
CAPABILITY OF ASYMMETRICAL GRID FAULTS RIDE-THROUGH FOR DFIG-BASED WIND TURBINES.....	3533
<i>Zhong Zheng, Geng Yang, Hua Geng</i>	
DC-LINK VOLTAGE BALANCING OF SIX-PHASE WIND ENERGY SYSTEMS WITH SERIES- CONNECTED MACHINE-SIDE CONVERTERS AND NPC GRID-SIDE CONVERTER.....	3541
<i>Hang S. Che, Mario J. Duran, W. P. Hew, Nasrudin A. Rahim, Emil Levi, Martin Jones</i>	
HIERARCHICAL COORDINATED CONTROL OF DC MICROGRID WITH WIND TURBINES	3547
<i>Lirong Zhang, Yi Wang, Heming Li, Pin Sun</i>	
LOW VOLTAGE RIDE THROUGH CONTROL OF A CASCADED HIGH POWER CONVERTER FOR DIRECT-DRIVE PERMANENT MAGNET WIND GENERATORS	3553
<i>Xibo Yuan</i>	
OPTIMAL CONTROL OF A GRID CONNECTED VARIABLE SPEED WIND ENERGY CONVERSION SYSTEM BASED ON SQUIRREL CAGE INDUCTION GENERATOR.....	3560
<i>Bachir Kedjar, Kamal Al-Haddad</i>	

POWER FLOW CONTROL WITH LOSSES MINIMIZATION AND FAULT TOLERANCE FOR PMSG	3566
<i>Guillermo Catuogno, Daniel Forchetti, Guillermo Garcia, Roberto Leidhold</i>	

ENERGY AND INFORMATION TECHNOLOGY

COMMUNICATION INTERFACES FOR THE EV SERVICE PROVIDER OF THE SMART GRID.....	3576
<i>Ángeles Rodríguez, Antonio Torralba, Alberto Villafaña, Eloísa Martín</i>	
EVALUATION OF TWO APPROACHES FOR SIMULATING CYBER-PHYSICAL ENERGY SYSTEMS	3582
<i>Edmund Widl, Peter Palensky, Atiyah Elsheikh</i>	
REAL-TIME SIMULATION OF COOPERATIVE DEMAND CONTROL METHOD WITH BATTERIES	3588
<i>Kawashima Daichi, Ihara Masaru, Shen Tianmeng, Nishi Hiroaki</i>	
SERVICE-ORIENTED COMMUNICATION PLATFORM FOR SCALABLE SMART COMMUNITY APPLICATIONS.....	3594
<i>Ryogo Kubo, Tianmeng Shen, Toshiro Togoshi, Koichi Inoue, Hiroaki Nishi, Masashi Tadokoro, Ken-Ichi Suzuki, Naoto Yoshimoto</i>	
USING SMART METERS FOR DIAGNOSTICS AND MODEL-BASED CONTROL IN THERMAL COMFORT SYSTEMS.....	3600
<i>Maruti Sinha, Robert Cox</i>	

MULTIPHASE VARIABLE SPEED DRIVES

COMPUTATION OF OPTIMAL CURRENT REFERENCES FOR FLUX-WEAKENING OF MULTI-PHASE SYNCHRONOUS MACHINES.....	3610
<i>Li Lu, Bassel Aslan, Luc Kobylanski, Paul Sandulescu, Fabien Meinguet, Xavier Kestelyn, Eric Semail</i>	
DIRECT TORQUE CONTROL FOR FIVE-PHASE INDUCTION MOTOR DRIVES WITH REDUCED COMMON-MODE VOLTAGE.....	3616
<i>Jose Riveros, Mario Duran, Federico Barrero, Sergio Toral</i>	
HARMONIC SUBSPACE AND SEQUENCE MAPPING IN A SERIES-CONNECTED SIX-PHASE TWO-MOTOR DRIVE.....	3622
<i>Jano Malvar, Óscar López, Jesus Doval-Gandoy, Alejandro G. Yepes, Ana Vidal, Pablo Fernández-Comesaña, Francisco D. Freijedo</i>	
MULTIPHASE PM MACHINE FOR MORE ELECTRIC AIRCRAFT APPLICATIONS: PROTOTYPE FOR DESIGN VALIDATION.....	3628
<i>Radu Bojoi, Andrea Cavagnino, Alberto Tenconi, Silvio Vaschetto</i>	
MULTIPHASE SPACE VECTOR CONTROL MODULATION TECHNIQUE FOR VOLTAGE SOURCE CONVERTERS	3635
<i>Óscar López, Jacobo Álvarez, Jano Malvar, Alejandro G. Yepes, Ana Vidal, Pablo Fernández-Comesaña, Francisco D. Freijedo, Jesús Doval-Gandoy</i>	
PWM TECHNIQUES FOR AN OPEN-END WINDING FIVE-PHASE DRIVE WITH A SINGLE DC SOURCE SUPPLY.....	3641
<i>Nandor Bodo, Martin Jones, Emil Levi</i>	
SPEED CONTROL OF FIVE-PHASE INDUCTION MOTOR DRIVES WITH AN OPEN PHASE FAULT CONDITION AND PREDICTIVE CURRENT CONTROL METHODS	3647
<i>Hugo Guzman, Mario Duran, Federico Barrero</i>	
SPEED SENSORLESS CONTROL OF DUAL THREE-PHASE INDUCTION MACHINE BASED ON A LUENBERGER OBSERVER FOR ROTOR CURRENT ESTIMATION	3653
<i>Raul Gregor, Jorge Rodas</i>	
VARIABLE SPEED MULTIPHASE INDUCTION MACHINE USING POLE PHASE MODULATION PRINCIPLE	3659
<i>Amrit Gautam, Olorunfemi Ojo</i>	

PERMANENT MAGNET SYNCHRONOUS MOTOR SENSORLESS DRIVES

A FAMILY OF SENSORLESS OBSERVERS WITH SPEED ESTIMATE FOR ROTOR POSITION ESTIMATION OF IM AND PMSM DRIVES.....	3670
<i>Mihai Comanescu</i>	
AN IPMSM POSITION CONTROL SYSTEM USING HIGH FREQUENCY INJECTION SENSORLESS TECHNIQUE.....	3676
<i>Jui-Ling Chen, Tian-Hua Liu</i>	
INDUCTANCE-BASED POSITION SELF-SENSING OF A BRUSHLESS DC-MACHINE USING HIGH-FREQUENCY SIGNAL INJECTION	3682
<i>Fabien Gabriel, Frederik De Belie, Xavier Neyt</i>	
INTEGRATION OF HFSI AND EXTENDED-EMF BASED TECHNIQUES FOR PMSM SENSORLESS CONTROL IN HEV/EV APPLICATIONS	3688
<i>Jorge Lara, Ambrish Chandra, Jianhong Xu</i>	
INTEGRATION OF OBSERVER EQUATIONS USED IN AC MOTOR DRIVES BY ZERO AND FIRST ORDER HOLD DISCRETIZATION	3694
<i>Mihai Comanescu</i>	

METHODOLOGY AND EXPERIMENTAL SET-UP FOR DSP-BASED SENSORLESS PWM SPEED ESTIMATION OF INDUCTION MACHINE	3699
<i>Mamadou Lamine Doumbia, Abdelrahman Yousif Eshag Lesan</i>	
PREDICTIVE CONTROLLER DESIGN FOR A SENSORLESS IPMSM SPEED CONTROL SYSTEM	3705
<i>Jui-Ling Chen, Tian-Hua Liu</i>	
SLIDING MODE COMPENSATOR FOR IMPROVING ROBUSTNESS OF PHASE LOCKED LOOP FOR ENCODERLESS SERVO DRIVE	3711
<i>Noor Aamir Baloch, Kentaro Inomata, Shinya Morimoto, Kozo Ide, Kazuhiro Tsuruta</i>	

INTELLIGENT REAL-TIME AUTOMATION AND CONTROL SYSTEMS

A RECONFIGURABLE COMMUNICATION GATEWAY FOR DISTRIBUTED EMBEDDED CONTROL SYSTEMS	3720
<i>Filip Andr�n, Thomas Strasser, Alois Zoitl, Ingo Hegny</i>	
AGILE TESTING CONCEPTS BASED ON KEYWORD-DRIVEN TESTING FOR INDUSTRIAL AUTOMATION SYSTEMS	3727
<i>Reinhard Hametner, Dietmar Winkler, Alois Zoitl</i>	
CONFIDENCE ESTIMATION OF FEEDBACK INFORMATION USING DYNAMIC BAYESIAN NETWORKS	3733
<i>Quoc Bao Duong, Eric Zamaı, Khoi Quoc Tran Dinh</i>	
FREE SHAPE PATHS IN INDUSTRIAL ROBOTS	3739
<i>Luis E. Gonzalez, Moctezuma, Andrei Lobov, Jose L. Martinez, Lastra</i>	
IEC 61131-3 MODEL FOR MODEL-DRIVEN DEVELOPMENT	3744
<i>Monika Wenger, Alois Zoitl</i>	
TOWARDS AN IEC 61499 COMPLIANCE PROFILE FOR SMART GRIDS - REVIEW AND ANALYSIS OF POSSIBILITIES	3750
<i>Thomas Strasser, Filip Andr�n, Valeriy Vyatkin, Gulnara Zhabelova, Chen-Wei Yang</i>	

HIGH POWER FACTORS RECTIFIERS

A SINGLE-SWITCH SINGLE-STAGE QUASI-ACTIVE PFC CONVERTER WITH BUS VOLTAGE FOLLOWING PEAK INPUT VOLTAGE	3762
<i>Hussain Athab, Dylan Dah-Lu, Amir Yazdani, Bin Wu</i>	
ACTIVE SUPPRESSION OF CURRENT HARMONICS ON SINGLE-PHASE CURRENT-SOURCE ACTIVE RECTIFIER AC SIDE: PROPOSED APPROCHES AND THEIR EVALUATION	3768
<i>Jan Michalik, Jan Molnar, Zdenek Peroutka</i>	
DESIGN, MODELING, CONTROL AND SIMULATION OF A TWO-STAGE GRID-CONNECTED POWER LOAD EMULATOR	3774
<i>Hadi Y. Kanaan, Maxime Caron, Kamal Al-Haddad</i>	
INPUT-OUTPUT LINEARIZATION AND PI CONTROL FOR A THREE-PHASE NEUTRAL POINT CLAMPED BOOST RECTIFIER	3780
<i>Ki Chun Ng, Liuping Wang</i>	
PRINCIPLE OF A NOVEL COMPONENT MINIMIZED ACTIVE POWER FILTER FOR HIGH POWER MAGNET SUPPLIES	3786
<i>Dorin Neacsu</i>	

HIGH PRECISION MOTION CONTROL FOR MECHATRONIC SYSTEMS

DEVELOPMENT OF MICRO WIDE ANGLE FOVEA LENS	3796
<i>Sota Shimizu, Motosuke Kiyohara, Takumi Hashizume</i>	
GAIN SCHEDULED REFERENCE GOVERNOR AND ITS APPLICATION TO LONG SEEK CONTROL OF HARD DISK DRIVES	3802
<i>Hao Guo, Yuze Ohta, Izumi Masubuchi</i>	
HIGH RESOLUTION POSITION ESTIMATION FOR ADVANCED MOTION CONTROL BASED ON FPGA	3808
<i>Manuel Nandayapa, Chowarit Mitsantisuk, Kiyoshi Ohishi</i>	
IMPROVEMENT OF VIBRATION SUPPRESSION PERFORMANCE OF GALVANO MIRROR USING PIEZOELECTRIC ELEMENT	3814
<i>Kenta Seki, Hiroki Yokoi, Makoto Iwasaki</i>	
LOAD-SIDE ACCELERATION CONTROL FOR INDUSTRIAL ROBOT ARM WITH AXIAL TORSION	3820
<i>Takashi Yoshioka, Naoki Shimada, Kiyoshi Ohishi, Toshimasa Miyazaki</i>	
OVERCOMING CURRENT QUANTIZATION EFFECTS FOR PRECISE CURRENT CONTROL BY COMBINING DITHERING TECHNIQUES AND KALMAN FILTER	3826
<i>Hongzhong Zhu, Hiroshi Fujimoto</i>	
PRECISION MOTION CONTROL BASED ON A PERIODIC ADAPTIVE DISTURBANCE OBSERVER	3832
<i>Kwanghyun Cho, Seibum Choi, Sehoon Oh, Heeram Park</i>	
ROBUST CONTROL METHOD FOR INDUSTRIAL SERVO SYSTEMS BASED ON APPROXIMATION OF FRACTIONAL ORDER INTEGRAL	3838
<i>Hidetoshi Ikeda, Hiroshi Sugie</i>	

ADVANCED SIGNAL PROCESSING TECHNIQUES FOR FAULT DETECTION AND DIAGNOSIS OF ELECTROMECHANICAL SYSTEMS

A SMART MONITOR FOR MEASUREMENT AND FAULT DETECTION	3848
<i>Andrew Kadik, Wilson Wang</i>	
ACCURATE BEARING FAULTS CLASSIFICATION BASED ON STATISTICAL-TIME FEATURES, CURVILINEAR COMPONENT ANALYSIS AND NEURAL NETWORKS.....	3854
<i>Miguel Delgado, Giansalvo Cirrincione, Antoni García, Juan Antonio Ortega, Humberto Henao</i>	
BEARING FAULT DETECTION IN SYNCHRONOUS MACHINE BASED ON THE STATISTICAL ANALYSIS OF STATOR CURRENT	3862
<i>Antoine Picot, Ziad Obeid, Sylvain Poignant, Jérémie Régnier, Olivier Darnis, Pascal Maussion</i>	
CYCLOSTATIONARITY ANALYSIS OF INSTANTANEOUS ANGULAR SPEEDS FOR MONITORING CHATTER IN HIGH SPEED MILLING	3868
<i>Mourad Lamraoui, Marc Thomas, Mohamed Elbadaoui, François Girardin</i>	
DATA-DRIVEN QUALITY RELATED PREDICTION AND MONITORING.....	3874
<i>Shen Yin, Z. Wei, H. Gao, K. Peng</i>	
DETECTING BEARING DEFECTS UNDER HIGH NOISE LEVELS: A CLASSIFIER FUSION APPROACH	3880
<i>Luana Batista, Bechir Badri, Robert Sabourin, Marc Thomas</i>	
DETECTING PARTIALLY FALLEN-OUT MAGNETIC SLOT WEDGES IN AC MACHINES BASED ON ELECTRICAL QUANTITIES ONLY.....	3887
<i>Goran Stojic, Robert Magnet, Gojko Joksimovic, Mario Vasak, Nedjeljko Peric, Thomas Wolbank</i>	
ELECTRIC MACHINES DIAGNOSIS TECHNIQUES VIA TRANSIENT CURRENT ANALYSIS	3893
<i>Joan Pons-Llinares, Vicente Climente-Alarcón, Francisco Vedreño-Santos, Jose A. Antonino-Daviu, Martín Riera-Guasp</i>	
EXPERIMENTAL COMPARISON BETWEEN DIAGNOSTIC INDICATORS FOR BEARING FAULT DETECTION IN SYNCHRONOUS MACHINE BY SPECTRAL KURTOSIS AND ENERGY ANALYSIS.....	3901
<i>Ziad Obeid, Antoine Picot, Sylvain Poignant, Jérémie Régnier, Olivier Darnis, Pascal Maussion</i>	
FAULTS DIAGNOSIS AND DETECTION USING PRINCIPAL COMPONENT ANALYSIS AND KULLBACK-LEIBLER DIVERGENCE	3907
<i>Jinane Harmouche, Claude Delpha, Demba Diallo</i>	
INDUCTION MACHINE FAULT DETECTION ENHANCEMENT USING A STATOR CURRENT HIGH RESOLUTION SPECTRUM.....	3913
<i>El Houssin El Bouchikhi, Vincent Choqueuse, Mohamed Benbouzid, Jean Frederic Charpentier</i>	
ON THE USE OF STATIONARY WAVELET PACKET TRANSFORM AND MULTICLASS WAVELET SVM FOR BROKEN ROTOR BAR DETECTION	3919
<i>Hassen Keskes, Ahmed Braham, Zied Lachiri</i>	
PERMANENT MAGNETS SYNCHRONOUS MACHINES FAULTS DETECTION AND IDENTIFICATION.....	3925
<i>Garance Vinson, Michel Combacau</i>	
SVM BASED DIAGNOSIS OF INVERTER FED INDUCTION MACHINE DRIVE : A NEW CHALLENGE.....	3931
<i>Claude Delpha, Hao Chen, Demba Diallo</i>	
WIND TURBINE BEARING FAILURE DETECTION USING GENERATOR STATOR CURRENT HOMOPOLAR COMPONENT ENSEMBLE EMPIRICAL MODE DECOMPOSITION	3937
<i>Yassine Amirat, Vincent Choqueuse, Mohamed Benbouzid</i>	

MICROSENSORS AND MICROACTUATORS

A MEMS ANALOG DEMODULATOR	3946
<i>So-Ra Chung, Eihab Abdel-Rahman, John Yeow</i>	
ELECTRICAL PERFORMANCE STABILITY CHARACTERIZATION OF HIGH-SENSITIVITY SI-BASED EUV PHOTODIODES IN A HARSH INDUSTRIAL APPLICATION	3952
<i>Lei Shi, Stoyan N. Nihitjanov, Frank Scholze, Lis K. Nanver</i>	
FABRICATION OF ELECTROSMOTIC MICROPUMP USING PCB AND SU-8.....	3958
<i>Stefan Gassmann, Lienhard Pagel, Antonio Luque, Francisco A. Perdignes, Carmen Aracil</i>	
FABRICATION OF SILICON MICRO-ROD ARRAY WITH CONTROLLED DENSITY AND SIZE DISTRIBUTION USING POROUS SILICON	3962
<i>Bahareh Yaghootkar, Mahmoud Amouzgar, Mojtaba Kahrizi</i>	
IMPACT ON THE ELECTROSTATIC FIELD OF ELECTROSTATIC FORCE MICROSCOPE DUE TO TIP-SAMPLE DISTANCE AND NON-FLAT SAMPLE SURFACE	3966
<i>Jie Mei, Lijie Li, Steve Wilks</i>	
LIGHT-DRIVEN HYDROGEL MICROVALVE BASED ON BR PROTON PUMPS	3970
<i>Khaled M. Al-Arife, George K. Knopf, Amarjeet S. Bassi</i>	
LOW VOLTAGE ELECTROSTATIC ACTUATION AND ANGULAR DISPLACEMENT MEASUREMENT OF MICROMIRROR COUPLED WITH RESONANT DRIVE CIRCUIT.....	3976
<i>Sangtak Park, Manu Pallapa, John T. W. Yeow, Eihab Abdel-Rahman</i>	
PCB BASED DNA DETECTION CHIP.....	3982
<i>Stefan Gassmann, Holger Götz, Matthias Hinze, Maren Mix, Gerd-Uwe Flechsig, Lienhard Pagel</i>	
PERFORMANCE OF AN ELECTROSTATIC ACTUATED MICROMIRROR IN A VACUUM AND NON-VACUUM PACKAGING	3987
<i>Imran Khan, James Chong, Ridha Ben Mrad, Siyuan He, Michael Schertzer</i>	

WORKING EQUATIONS OF A CIRCULAR MULTIMORPH PIEZOELECTRIC MICROMACHINED ULTRASONIC TRANSDUCER	3991
<i>Firas Sammoura, Katherine Smyth, Sang-Gook Kim</i>	
ZNO CRYSTALLINE NANOWIRES ARRAY FOR APPLICATION IN GAS IONIZATION SENSOR	3997
<i>Svetlana Spitsina, Mojtaba Kahrizi</i>	

ADVANCES IN ENERGY STORAGE DEVICES AND SYSTEMS

A SIMPLIFIED POWER MANAGEMENT STRATEGY FOR A SUPERCAPACITOR/BATTERY HYBRID ENERGY STORAGE SYSTEM USING THE HALF-CONTROLLED CONVERTER	4006
<i>João Marcus Abreu Curti, Xiao Liang Huang, Ryo Minaki, Yoichi Hori</i>	
ADAPTIVE PARAMETER IDENTIFICATION AND STATE-OF-CHARGE ESTIMATION OF LITHIUM-ION BATTERIES	4012
<i>Habiballah Rahimi Eichi, Mo-Yuen Chow</i>	
COMPARING PARTICLE FILTER AND EXTENDED KALMAN FILTER FOR BATTERY STATE-OF-CHARGE ESTIMATION	4018
<i>Walter Zamboni, Rocco Restaino</i>	
DIRECT CURRENT CONTROL OF A BATTERY-ULTRACAPACITOR POWER SUPPLY	4024
<i>Branislav Hredzak, Vassilios G. Agelidis</i>	
FACTORS FOR AN LRV VOLTAGE BOOSTER SIMULATION	4029
<i>Francois Ruelland, Kamal Al-Haddad</i>	
GRID-CONNECTED MARINE CURRENT GENERATION SYSTEM POWER SMOOTHING CONTROL USING SUPERCAPACITORS	4035
<i>Zhibin Zhou, Franck Scuiller, Jean Frederic Charpentier, Mohamed Benbouzid, Tianhao Tang</i>	
HARDWARE BUILDING BLOCKS OF A HIERARCHICAL BATTERY MANAGEMENT SYSTEM FOR A FUEL CELL HEV	4041
<i>Federico Baronti, Gabriele Fantechi, Roberto Roncella, Roberto Saletti, Pierangelo Terreni</i>	
MODELING OF METALLIZED POLYMER FILMS CAPACITOR'S IMPEDANCE	4048
<i>Maawad Mkdessi, Ali Sari, Pascal Venet</i>	
STUDY OF A SUPERCAPACITOR ENERGY STORAGE SYSTEM DESIGNED TO REDUCE FREQUENCY MODULATION ON SHIPBOARD ELECTRIC POWER SYSTEM	4054
<i>Franck Scuiller</i>	
USING TRANSIENT ELECTRICAL MEASUREMENTS FOR REAL-TIME MONITORING OF BATTERY STATE-OF-CHARGE AND STATE-OF-HEALTH	4060
<i>Lalit Mandal, Robert Cox, Jukkrit Noppakunkajorn, Omar Baroudi</i>	

ELECTRIC MACHINES AND HYBRID VEHICLES

A COMPARATIVE STUDY OF VARIOUS MRAS-BASED IM'S ROTOR RESISTANCE ADAPTATION METHOD	4070
<i>M. Reza Dehbozorgi, Hossein Madadi Kojabadi, Hani Vahedi, Kamal Al-Haddad</i>	
A DUAL-MEMORY PERMANENT BRUSHLESS MACHINE FOR AUTOMOTIVE INTEGRATED STARTER-GENERATOR APPLICATION	4076
<i>Wenlong Li, Christopher H. T. Lee, Chunhua Liu</i>	
A NEW TUBULAR FAULT-TOLERANT PERMANENT-MAGNET MOTOR FOR ACTIVE VEHICLE SUSPENSION	4082
<i>Mei Kang, Jinhua Ji, Guohai Liu, Wenxiang Zhao</i>	
COMPARISON OF CHAOTIC PWM ALGORITHMS FOR ELECTRIC VEHICLE MOTOR DRIVES	4087
<i>Zhen Zhang, T. W. Ching, Chunhua Liu, Christopher H. T. Lee</i>	
COMPARISON OF TWO INTERIOR PERMANENT-MAGNET MOTORS WITH IMPROVED FAULT-TOLERANCE	4093
<i>Qian Chen, Guohai Liu, Junqin Yang, Wensheng Gong, Wenxiang Zhao</i>	
DESIGN OF A HIGH PERFORMANCE FERRITE MAGNET-ASSISTED SYNCHRONOUS RELUCTANCE MOTOR FOR AN ELECTRIC VEHICLE	4099
<i>Milind Paradkar, Joachim Boecker</i>	
DESIGN, ANALYSIS AND SENSORLESS CONTROL OF A NEW SELF-DECELERATING PERMANENT-MAGNET MOTOR	4104
<i>Ying Fan, Jin Huang, Xuedong Han, Xiaofan Fu, Wei Hua</i>	
ELECTROMAGNETIC PERFORMANCES ANALYSIS OF A NEW MAGNETIC-PLANETARY-GEARED PERMANENT MAGNET BRUSHLESS MACHINE FOR HYBRID ELECTRIC VEHICLES	4110
<i>Xiaoyong Zhu, Lingting Kong, Long Cheng, Wenxiang Zhao, Li Quan, Ming Cheng</i>	
EQUIVALENT VEHICLE ROTATIONAL INERTIA USED FOR ELECTRIC VEHICLE TEST BENCH DYNAMIC STUDIES	4115
<i>Poria Fajri, Reza Ahmadi, Mehdi Ferdowsi</i>	
FUEL CELL AND POWER CONTROL FOR A HYBRID VEHICLE. EXPERIMENTAL RESULTS	4121
<i>Carlos Montero, Alejandro Oliva, David Marcos, Elena Gonzalez, Carlos Bordons, Miguel A. Ridao, Eduardo F. Camacho, Eduardo Lopez</i>	
MODELING & FAULT DIAGNOSIS SYSTEM FOR ELECTRIC VEHICLES	4127
<i>J. F. Ramahaleomiarantsoa, Nicolas Héraud, Ouadie Bennouna, E. J. R. Sambatra, J. M. Razafimahenina</i>	

ONE NEW MODEL BASED PREDICTIVE TORQUE CONTROL ALGORITHM FOR DOUBLY SALIENT PERMANENT MAGNET SYNCHRONOUS MACHINES	4133
<i>Wei Xu, Wenwu Yang, Xinghuo Yu, Jinwei He</i>	
STATIC CHARACTERISTIC OF A NOVEL STATOR SURFACE-MOUNTED PERMANENT MAGNET MACHINE FOR BRUSHLESS DC DRIVES	4139
<i>Zhang Yitian, Hua Wei, Zhang Gan, Cheng Ming, Fu Xiaofan</i>	

ASSISTIVE TECHNOLOGY ON HUMAN FACTOR

AN IMPLEMENTATION OF A DISTRIBUTED SERVICE FRAMEWORK FOR CLOUD-BASED ROBOT SERVICES	4148
<i>Sachiko Nakagawa, Noboru Igarashi, Yosuke Tsuchiya, Masahiko Narita, Yuka Kato</i>	
CAMERA-BASED NAVIGATION FOR SERVICE ROBOTS USING PICTOGRAPHS ON THE CROSSING POINT	4154
<i>Daisuke Chugo, Kei Hirose, Katsuki Nakashima, Sho Yokota, Hiroyuki Kobayashi, Hiroshi Hashimoto</i>	
EFFECT OF USAGE OF VISUALIZED EYE FIXATION POINTS OF SKILLED OPERATORS ON EDUCATION OF PLANT OPERATION	4160
<i>Akio Gofuku, Shinya Ishibashi</i>	
HUMAN ASSISTIVE CONTROL ON TELE-OPERATED HUMAN-ROBOT COOPERATIVE CARRYING TASK	4165
<i>Shiro Matsunaga, Satoshi Suzuki</i>	
MOVING OBJECT DETECTION AND CAMERA MOTION ANALYSIS FROM MOVING CAMERA	4171
<i>Andrey Vavilin, Kang-Hyun Jo</i>	
ROBOTIC WHEELCHAIR WITH OMNI-DIRECTIONAL VISION FOR MOVING ALONGSIDE A CAREGIVER	4177
<i>Yoshinori Kobayashi, Ryota Suzuki, Yoshinori Kuno</i>	
SIMULTANEOUS DESIGN OF ROBOT MOTION AND UTTERANCE TIMING BY USING SELF-ORGANIZING MAPS	4183
<i>Jun Goto, Satoshi Suzuki</i>	
STUDY ON MOTION DESIGN FOR SERVICE ROBOT BASED ON STANDARD HUMAN MOTION	4187
<i>Sho Yokota, Hiroshi Hashimoto, Daisuke Chugo, Kuniaki Kawabata</i>	

HARMONISATION OF STANDARDS AS A RESULT OF CONVERGENCE OF TECHNOLOGIES IN MODERN TECHNICAL ARTIFACTS

AN APPROACH TO USE PERA IN ENTERPRISE MODELING FOR INDUSTRIAL SYSTEMS	4196
<i>Dazhuang He, Andrei Lobov, Luis E. Gonzalez Moctezumas, Jose Luis Martinez Lastra</i>	

COGNITIVE SYSTEMS FOR NAVIGATION

3D CMOS SENSOR BASED ACOUSTIC OBJECT DETECTION AND NAVIGATION SYSTEM FOR BLIND PEOPLE	4208
<i>Dunai Larisa, Defez Beatriz, Lengua Ismael, Peris-Fajarnes Guillermo</i>	

AMBIENT INTELLIGENCE OF MOBILE ROBOTS OR VEHICLE WITH HUMAN FACTORS

FAST HUMAN DETECTION BASED ON PARALLELOGRAM HAAR-LIKE FEATURES	4220
<i>Van-Dung Hoang, Andrey Vavilin, Kang-Hyun Jo</i>	
INFLUENCE OF PSYCHOANALYTIC DEFENSE MECHANISMS ON THE DECISION MAKING PROCESS IN AUTONOMOUS AGENTS	4226
<i>Friedrich Gelbard, Dietmar Bruckner</i>	
MOVING OBJECT DETECTION IN OMNIDIRECTIONAL VISION-BASED MOBILE ROBOT	4232
<i>Chi-Min Oh, Yong-Cheol Lee, Dae-Young Kim, Chil-Woo Lee</i>	
REMOVING OUTLIERS OF LARGE SCALE SCENE MODELS BASED ON AUTOMATIC CONTEXT ANALYSIS AND CONVEX OPTIMIZATION	4236
<i>My-Ha Le, Andrey Vavilin, Kang-Hyun Jo</i>	

POWER CONVERTERS CONTROL AND MANAGEMENT IN ELECTRIC AND FUEL CELL VEHICLES

AN INTEGRATED EMI SUPPRESSION Y-CAPS APPLICABLE TO HIGH FREQUENCY HIGH POWER DC-DC CONVERTERS FOR ELECTRIC VEHICLE	4246
<i>Majid Pahlevaninezhad, Djilali Hamza, Amish Servansing, Alireza Bakhshai, Praveen Jain</i>	
DESIGN OF AN INTEGRATED FAST BATTERY CHARGER CONTROLLER ON A FPGA BOARD	4252
<i>Samantha Lacroix, Mickaël Hilairet, Eric Labouré</i>	
FAULT-TOLERANT OPERATION OF POWER CONVERTERS IN PHEVS COUPLED BY A SCOTT TRANSFORMER	4258
<i>Tuan Dat Mai, Yonghua Cheng, Johan Driesen</i>	

RANGE EXTENSION CONTROL SYSTEM FOR ELECTRIC VEHICLE BASED ON SEARCHING ALGORITHM OF OPTIMAL FRONT AND REAR DRIVING FORCE DISTRIBUTION	4264
<i>Hiroshi Fujimoto, Sho Egami, Jun Saito, Kazunori Handa</i>	
THE η-α-PARETO FRONT OF INDUCTIVE POWER TRANSFER COILS	4270
<i>Roman Bosshard, Jonas Mühlethaler, Johann Kolar, Ivica Stevanovic</i>	
VISION BASED MULTI-RATE ESTIMATION AND CONTROL OF BODY SLIP ANGLE FOR ELECTRIC VEHICLES.....	4278
<i>Yafei Wang, Binhminh Nguyen, Hiroshi Fujimoto, Yoichi Hori</i>	

WIND TURBINE MODELING, IDENTIFICATION, CONTROL AND FAULTS DIAGNOSIS

A HIGH-ORDER SLIDING MODE OBSERVER FOR SENSORLESS CONTROL OF DFIG-BASED WIND TURBINES.....	4288
<i>Mohamed Benbouzid, Brice Beltran, Hervé Mangel, Abdeslam Mamoune</i>	
AN OPTIMUM SPEED MPPT CONTROLLER FOR VARIABLE SPEED PMSG WIND ENERGY CONVERSION SYSTEMS	4293
<i>Jogendra S. Thongam, Mohamed Tarbouchi, Rachid Beguenane, Aime F. Okou, Adel Merabet, Pierre Bouchard</i>	
COMPARATIVE STUDY OF SPEED ESTIMATION TECHNIQUES FOR SENSORLESS VECTOR CONTROL OF INDUCTION MACHINE.....	4298
<i>Mamadou Lamine Doumbia, Abdelrahman Yousif Eshag Lesan</i>	
CONTROL OF GRID-SIDE INVERTER FOR ISOLATED WIND-DIESEL POWER PLANTS USING VARIABLE SPEED SQUIRREL CAGE INDUCTION GENERATOR.....	4304
<i>Tommy Andy Theubou Tameghe, René Wamkeue, Innocent Kamwa</i>	
IMPEDANCE SPECTROSCOPY FAILURE DIAGNOSIS OF A DFIG-BASED WIND TURBINE	4310
<i>Mohamed Becherif, Assia Henni, Mohamed Benbouzid, Maxime Wack</i>	
MODELLING AND CONTROL OF A PITCH CONTROLLED WIND TURBINE EXPERIMENT WORKSTATION	4316
<i>Adel Merabet, Vigneshwaran Rajasekaran, John Kerr</i>	
REACTIVE POWER CONTROL OF DFIG-BASED WIND TURBINE DURING VOLTAGE SAG	4321
<i>Francisco Kleber De A. Lima, Joacillo Luz Dantas, Carlos Gustavo C. Branco</i>	
REACTIVE POWER MANAGEMENT MODELING OF AN AUTONOMOUS WIND-DIESEL POWER PLANT	4326
<i>Tommy Andy Theubou Tameghe, René Wamkeue, Innocent Kamwa</i>	
SLIDING MODE CONTROL BASED ROBUST OBSERVER OF AERODYNAMIC TORQUE FOR VARIABLE-SPEED WIND TURBINES.....	4332
<i>Olivo Ciccarelli, Maria Letizia Corradini, Giacomo Cucchieri, Gianluca Ippoliti, Giuseppe Orlando</i>	

RESEARCH AND DEVELOPMENT PROJECTS ON INDUSTRIAL AGENTS

A PRODUCT HANDLING TECHNICAL ARCHITECTURE FOR MULTIAGENT-BASED MECHATRONIC SYSTEMS.....	4342
<i>Luis Ribeiro, Andre Rocha, Jose Barata</i>	
GRACE ONTOLOGY INTEGRATING PROCESS AND QUALITY CONTROL	4348
<i>Paulo Leitão, Nelson Rodrigues, Claudio Turrin, Arnaldo Pagani, Pierluigi Petrali</i>	
QUALITY CONTROL AGENTS FOR ADAPTIVE VISUAL INSPECTION IN PRODUCTION LINES	4354
<i>Lorenzo Stroppa, Nelson Rodrigues, Paulo Leitão, Nicola Paone</i>	
SELF-ADAPTING TEST-PLANS IN PRODUCTION LINE: AN APPLICATION TO VISION CONTROL STATIONS	4360
<i>Alessandro Bastari, Matteo Piersantelli, Cristina Cristalli, Nicola Paone</i>	
SKILL BASED CONFIGURATION METHODOLOGY FOR EVOLVABLE MECHATRONIC SYSTEMS	4366
<i>Pedro Ferreira, Margarita Razgon, Piero Larizza, Giuseppe Triggiani, Niels Lohse</i>	
VISUALIZATION TOOL TO SUPPORT MULTI-AGENT MECHATRONIC BASED SYSTEMS.....	4372
<i>João Ferreira, Luis Ribeiro, Pedro Neves, Hakan Akillioglu, Mauro Onori, José Barata</i>	

HAPTICS FOR HUMAN SUPPORT

A DESIGN METHOD OF BILATERAL CONTROL SYSTEM BASED ON INTERACTIVE PARAMETERS	4382
<i>Takahiro Mizoguchi, Takahiro Nozaki, Kouhei Ohnishi</i>	
BILATERAL CONTROL CONSIDERING TRANSITION OF SUBSYSTEMS BASED ON ABILITY TO OPPOSE THE THUMB	4388
<i>Yuki Nagatsu, Seiichiro Katsura</i>	
BILATERAL CONTROL WITH 2-DOF HAPTIC SPHERICAL INTERFACE.....	4394
<i>Kento Watanabe, Keita Shimamoto, Kouhei Ohnishi</i>	
ERROR CORRECTION FOR WIRELESS HAPTIC COMMUNICATION	4400
<i>Nozomi Suzuki, Seiichiro Katsura</i>	
FORCE SENSATION IMPROVEMENT IN BILATERAL CONTROL OF DIFFERENT MASTER-SLAVE MECHANISM BASED ON HIGH-ORDER DISTURBANCE OBSERVER	4406
<i>Thao Tran Phuong, Manuel Nandayapa, Chowarit Mitsantisuk, Yuki Yokokura, Kiyoshi Ohishi</i>	

FUNCTION ESTIMATION OF GRASPING/MANIPULATING MOTION IN SCALED BILATERAL CONTROL USING PRINCIPAL COMPONENT ANALYSIS	4412
<i>Hiroki Nagashima, Seiichiro Katsura</i>	
MODELING METHOD BASED ON WAVE EQUATION FOR REPRODUCTION CONTROL OF HAPTIC SENSATION	4418
<i>Yosuke Mizutani, Seiichiro Katsura</i>	
PARAMETER ESTIMATION OF FLEXIBLE ROBOT USING MULTI-ENCODER BASED ON DISTURBANCE OBSERVER	4424
<i>Chowarit Mitsantisuk, Manuel Nandayapa, Kiyoshi Ohishi, Seiichiro Katsura</i>	
REPRODUCIBILITY ANALYSIS AND EXPERIMENTAL VALIDATION OF MOTION-COPYING SYSTEM	4430
<i>Yuki Yokokura, Kiyoshi Ohishi</i>	
TWO-DIMENSIONAL ASSIST CONTROL OF POWER-ASSISTED WHEELCHAIR CONSIDERING STRAIGHT AND ROTATION MOTION DECOMPOSITION	4436
<i>Kayoung Kim, Kanghyun Nam, Sehoon Oh, Hiroshi Fujimoto, Yoichi Hori</i>	

ADVANCED TECHNIQUES FOR POWER MANAGEMENT

A NOVEL INDUCTIVE-CAPACITIVE PULSE FORMING CIRCUIT FOR PULSE POWER LOAD APPLICATIONS	4446
<i>Bulent Vural, Chris S. Edrington</i>	
AN ADAPTIVE NEURAL PLL FOR GRID SYNCHRONIZATION	4451
<i>Ali Bechouche, Hamid Sediki, Djaffar Ould Abdeslam, Salah Haddad</i>	
OPTIMAL CONTROL STRATEGY OF THE INTERLEAVED BUCK CELL BASED SHUNT ACTIVE FILTER	4457
<i>Zhong Chen, Miao Chen</i>	
TUNING OF RESONANT CONTROLLERS APPLIED TO THE CURRENT CONTROL OF VOLTAGE-SOURCE CONVERTERS	4463
<i>Ana Rodriguez, Miguel Moranchel, Emilio J. Bueno, Francisco J. Rodriguez</i>	

CONTROL AND MODELING OF HIGH SPEED MOTORS

A NEW ADAPTIVE HIGH SPEED CONTROL ALGORITHM USED FOR A FOC OR A DTC PMSM DRIVE STRATEGIES	4472
<i>Flah Aymen, Sbïta Lassaäd</i>	
ANALYSIS AND DESIGN OF AN ULTRA-HIGH-SPEED SLOTLESS SELF-BEARING PERMANENT-MAGNET MOTOR	4477
<i>Thomas Baumgartner, Ralph Burkart, Johann Walter Kolar</i>	
CONTROL OF HIGH-SPEED PERMANENT MAGNET SYNCHRONOUS MACHINE	4484
<i>Jan Chysky, Jaroslav Novak, Martin Novak</i>	
INFLUENCE OF PHOTOVOLTAIC DC BUS VOLTAGE ON THE HIGH SPEED PMSM DRIVE	4489
<i>Farhat Mayssa, Flah Aymen, Sbïta Lassaäd</i>	

TOWARDS A MORE EFFICIENT LIGHTING

A LOW COST HIGH POWER FACTOR PRIMARY REGULATED OFFLINE LED DRIVER	4498
<i>Jianwen Shao, Thomas Stamm</i>	
A SIMPLE SINGLE SWITCH ELECTRONIC BALLAST FOR COMPACT FLUORESCENT LAMPS WITH PASSIVE POWER FACTOR CORRECTION (PFC) AND SOFT SWITCHING CAPABILITY	4503
<i>John Lam, Praveen K. Jain</i>	
A SINGLE-STAGE HIGH EFFICIENCY LONG-LIFE OFF-LINE LED DRIVER BASED ON THE DCM CUK CONVERTER	4509
<i>Guilherme Soares, Pedro Almeida, Henrique Braga, Danilo Pinto</i>	
A SINGLE-STAGE HIGH POWER-FACTOR CONVERTER FOR STREET LIGHTING SYSTEM BASED ON LEDS SUPPLIED BY MAINS/BATTERY	4515
<i>Rafael Adaime Pinto, Priscila Ermann Bolzan, Ricardo Nederson Do Prado</i>	
AN OPTIMIZED METHODOLOGY FOR LED LIGHTING SYSTEM DESIGNERS: A PHOTOMETRIC ANALYSIS	4521
<i>Vitor Cristiano Bender, Fernanda Mendes, Nórton Barth, William Dotto Vizzotto, Marco Antonio Dalla Costa, Ricardo Nederson Do Prado, Tiago Bandeira Marchesan</i>	
AUTOMATIC LAMP DETECTION TECHNIQUE FOR SELF-OSCILLATING FLUORESCENT LAMP ELECTRONIC BALLASTS	4527
<i>Juliano De Pelegrini Lopes, Maikel Fernando Menke, Fábio Ecke Bisogno, Ricardo Nederson Do Prado, Álysson Ramiere Seidel, José Marcos Alonso Álvarez</i>	
CURRENT-VOLTAGE MODEL OF LED LIGHT SOURCES	4533
<i>Szymon Beczkowski, Stig Munk-Nielsen</i>	
DESIGN CONSIDERATIONS OF A HALF-BRIDGE LCC INVERTER WITH CURRENT BALANCING FOR AC-LED	4539
<i>Ka Hong Loo, Yuk Ming Lai, Chi Kong Tse</i>	

ELECTROTHERMAL FEEDBACK OF A LED LIGHTING SYSTEM: MODELING AND CONTROL	4545
<i>Vitor Cristiano Bender, Alexandre Cardoso, Guilherme Ceretta Flores, Cassiano Rech, Tiago Bandeira Marchesan</i>	
INTEGRATED SEPIC-BUCK-BOOST CONVERTER AS AN OFF-LINE LED DRIVER WITHOUT ELECTROLYTIC CAPACITORS	4551
<i>Pedro Almeida, Guilherme Soares, Henrique Braga, Danilo Pinto</i>	
INTELLIGENT POWER LED LIGHTING SYSTEM WITH WIRELESS COMMUNICATION	4557
<i>Hugo M. Matoso, Lenin M. F. Morais, Porfírio C. Cortizo, Pedro F. Donoso-García</i>	
LED DRIVER WITH BIDIRECTIONAL SERIES CONVERTER FOR LF RIPPLE CANCELATION	4563
<i>Jorge Garcia, Douglas Camponogara, Marco A. Dalla-Costa, David Gacio, J. Marcos Alonso, Alexandre Campos</i>	
MODELING AND CONTROL OF AN ELECTRONIC BALLAST BASED ON DIFFERENTIAL CONNECTION OF FLYBACK CONVERTERS	4569
<i>Jacson Hansen, Diogo R. Vargas, André Luis Kirsten, Marco A. Dalla Costa, Alexandre Campos, Tiago B. Marchesan, Ricardo N. Do Prado</i>	
MODELLING AND CONTROL OF AN OPTIMIZED CASCADE STRUCTURE FOR LED STREET LIGHTING FIXTURES	4575
<i>Douglas Camponogara, Diogo. R. Vargas, Alexandre Campos, Marco A. Dalla Costa, Jorge García, Jose M. Alonso</i>	
OPTIMIZED CASCADE STRUCTURE APPLIED TO LED STREET LIGHTING	4581
<i>Douglas Camponogara, Diogo. R. Vargas, Alexandre Campos, Marco A. Dalla Costa, Jorge García, Jose M. Alonso, Fabio A. Berlitz</i>	
PROPOSAL OF A LOW-COST LED DRIVER FOR A MULTISTRING STREET LIGHTING LUMINAIRE	4586
<i>Pedro Almeida, João Márcio Jorge, Daniel Botelho, Henrique Braga, Danilo Pinto</i>	
PULSED CURRENT SOURCE TO DRIVE HIGH-BRIGHTNESS LED LAMPS	4591
<i>Christian Branas, Francisco J. Azcondo, Rosario Casanueva, Francisco J. Díaz, Victor M. Lopez, Alejandro Navarro</i>	
SINGLE-STAGE SEPIC-BUCK CONVERTER FOR LED LIGHTING WITH REDUCED STORAGE CAPACITOR	4597
<i>Marcelo R. Cosein, Paulo C. V. Luz, Marcelo F. Da Silva, Fábio E. Bisogno, José M. A. Alvarez, Ricardo N. Do Prado</i>	
TEMPERATURE EFFECTS ON THE SMALL-SIGNAL CHARACTERISTICS OF FLUORESCENT LAMPS	4604
<i>Javier Ribas, Ramon Diaz, Antonio Calleja, Jorge Garcia, Emilio Lopez-Corominas, Jesus Cardesin</i>	
USE OF CURRENT CONTROLLED MUTUAL INDUCTOR TO LIMIT RECYCLING CURRENT IN THE AHB-FLYBACK CONVERTER	4611
<i>Francesco Sichirollo, J. Marcos Alonso, Giorgio Spiazzi</i>	

INTEROPERABILITY IN CLOUD COMPUTING

THE DISTRIBUTION OF COMPUTING SERVICES FOR BUILDINGS DESIGN AND OPTIMAL MANAGEMENT: CLOUD COMPUTING BASED ON SOFTWARE COMPONENT STANDARD	4620
<i>Benoit Delinchant, Sana Gaaloul, Pierres Yves Gibello, Franck Verdière, Frederic Wurtz</i>	

DESIGN AND REAL-TIME IMPLEMENTATION OF OBSERVERS FOR INDUSTRIAL SYSTEMS

A FAULT DETECTION AND ISOLATION SCHEME FOR LATERAL VEHICLE DYNAMICS OF EVS USING A QUANTITATIVE PARITY SPACE APPROACH	4630
<i>Alexander Viehweider, Kanghyun Nam, Hiroshi Fujimoto, Yoichi Hori</i>	
A NOVEL APPROACH TO TORQUE ESTIMATION IN IPM SYNCHRONOUS MOTOR DRIVES	4637
<i>Matteo Carraro, Fabio Tinazzi, Mauro Zigliotto</i>	
AN ACCURATE EXTENDED KALMAN FILTER SCHEME FOR THE REDUCTION OF THE FLUX ANGLE TRACKING ERROR IN SENSORLESS INDUCTION MOTOR DRIVES	4642
<i>Sebastien Mariethoz</i>	
COMPARISON OF TWO BLACK-BOX MODEL IDENTIFICATION METHODS APPLIED ON A VSC WITH LCL FILTER	4648
<i>Francisco Huerta, Santiago Cóbrecas, F. Javier Rodríguez, Christina Clancey, Inés Sanz</i>	
SENSORLESS NONLINEAR CONTROL OF INDUCTION MOTORS USING UNSCENTED KALMAN FILTERING	4654
<i>Gerasimos Rigatos, Pierluigi Siano</i>	
UNSCENTED KALMAN FILTER FOR SENSORLESS PMSM DRIVE WITH OUTPUT FILTER FED BY PWM CONVERTER	4660
<i>Dariusz Janiszewski</i>	

EMBEDDED SYSTEMS AND RECONFIGURABLE SOCS

A TOOL TO SUPPORT BLUESPEC SYSTEMVERILOG CODING BASED ON UML DIAGRAMS	4670
<i>Sergio Durand, Vanderlei Bonato</i>	
ANALYSING STORAGE RESOURCES ON SYNCHRONOUS DATAFLOWS USING PETRI NET VERIFICATION TECHNIQUES	4676
<i>Jose-Inacio Rocha, Luis Gomes, Octavio Dias</i>	
DESIGNING FPGA-BASED EMBEDDED SYSTEMS WITH MARTE: A PIM TO PSM CONVERTER	4682
<i>Roberto De Medeiros Farias Filho, Marcilyanne Moreira Gois, Vanderlei Bonato</i>	

FPGA-BASED LASER CLADDING SYSTEM WITH INCREASED ROBUSTNESS TO OPTICAL DEFECTS.....	4688
<i>Jorge Rodriguez-Araujo, Juan J. Rodríguez-Andina, Jose Farina, Felix Vidal, Jose L. Mato, M. Angeles Montealegre</i>	
MODELING AND SIMULATION OF POWER CONVERTER SYSTEMS USING SYSTEMC SYSTEM-LEVEL DESCRIPTION LANGUAGE	4694
<i>Denis Navarro, Oscar Lucia, Isidro Urriza, Luis A. Barragan, Oscar Jimenez</i>	

INDUSTRIAL APPLICATIONS OF HOLONIC AND MULTI-AGENT SYSTEMS

A MULTI-AGENT SYSTEM FOR DATA COLLECTION FROM POWER GENERATORS AND WEATHER STATIONS IN HETEROGENEOUS ENVIRONMENTS	4704
<i>Shahid Mahmood Awan, Zubair Khan, Abdur Rehman, Waqar Mahmood</i>	
DEVIATION DETECTION IN DISTRIBUTED CONTROL SYSTEMS BY MEANS OF STATISTICAL METHODS.....	4709
<i>Petr Kadera, Pavel Vrba, Václav Jirkovský</i>	
INSTANTIATION OF THE OPEN-CONTROL CONCEPT IN FMS BASED ON POTENTIAL FIELDS.....	4715
<i>Pach Cyrille, Berger Thierry, Sallez Yves, Trentesaux Damien</i>	

INDUSTRIAL ELECTRONICS IN SMART GRIDS

A GENERALIZED POWER TRANSFER DISTRIBUTION FACTOR FOR POWER INJECTION ANALYSIS OF POWER GRIDS.....	4724
<i>Xiangjun Li, Xinghuo Yu</i>	
COMPARATIVE TRANSIENT RESPONSE ANALYSIS OF LLC RESONANT CONVERTER CONTROLLED BY ADAPTIVE PID AND FUZZY LOGIC CONTROLLERS.....	4729
<i>Concettina Buccella, Carlo Cecati, Hamed Latafat, Kaveh Razi</i>	
FRAMEWORK FOR INVESTIGATING THE IMPACT OF PHEV CHARGING ON POWER DISTRIBUTION SYSTEM AND TRANSPORTATION NETWORK	4735
<i>Wencong Su, Kuilin Zhang, Jianhui Wang, Mo-Yuen Chow</i>	
TERMINAL SLIDING-MODE CONTROL OF INDUCTION GENERATOR FOR WIND ENERGY CONVERSION SYSTEMS	4741
<i>Yong Feng, Bin Chen, Xinghuo Yu, Yongmin Yang</i>	

REAL-TIME SIMULATION AND VALIDATION METHODS FOR POWER AND ENERGY SYSTEMS

APPLICATION OF POWER HARDWARE-IN-THE-LOOP FOR ELECTRIC VEHICLE PROPULSION EVALUATION: A CASE STUDY UTILIZING SWITCHED RELUCTANCE MACHINES.....	4750
<i>Chris S. Edrington, Troy Bevis, Jesse P. Leonard, Amin Hasanzadeh</i>	
COORDINATED CONTROL SCHEME OF BATTERY ENERGY STORAGE SYSTEM (BESS) AND DISTRIBUTED GENERATIONS (DGS) FOR ELECTRIC DISTRIBUTION GRID OPERATION	4758
<i>Seung Tae Cha, Haoran Zhao, Qiuwei Wu, Arshad Saleem, Jacob Østergaard</i>	
DESIGN, DEVELOPMENT AND OPERATION OF A PHIL ENVIRONMENT FOR DISTRIBUTED ENERGY RESOURCES.....	4765
<i>Panos Kotsampopoulos, Vasilis Klefakis, George Messinis, Nikos Hatzigiorgi</i>	
EXAMINATION OF LV GRID PHENOMENA BY MEANS OF PHIL TESTING	4771
<i>Georg Lauss, Felix Lehfuss, Benoit Bletterie, Thomas Strasser, Roland Bruendlinger</i>	
IMPLEMENTATION OF A MULTI-RATING INTERFACE FOR POWER-HARDWARE-IN-THE-LOOP SIMULATIONS.....	4777
<i>Felix Lehfuss, Georg Lauss, Thomas Strasser</i>	
MULTI-PLATFORM REAL-TIME REALIZATION OF ISOLATED PERMANENT MAGNET SYNCHRONOUS GENERATOR.....	4783
<i>Nicholas P. Stroupe, Amin Hasanzadeh, Chris S. Edrington, Troy L. Bevis</i>	
OVER-CURRENT RELAY MODEL IMPLEMENTATION FOR REAL TIME SIMULATION & HARDWARE-IN-THE-LOOP (HIL) VALIDATION	4789
<i>Muhammad Shoaib Almas, Rujiroj Leelarui, Luigi Vanfretti</i>	
POWER HARDWARE-IN-THE-LOOP TESTING OF A 500 KW PHOTOVOLTAIC ARRAY INVERTER.....	4797
<i>James Langston, Karl Schoder, Michael Steurer, Omar Faruque, John Hauer, Ferenc Bogdan, Richard Bravo, Barry Mather, Farid Katiraei</i>	

ADVANCED POWER CONVERTERS FOR ENERGY STORAGE SYSTEMS

BATTERY AND ULTRA-CAPACITOR HYBRID ENERGY STORAGE SYSTEM AND POWER MANAGEMENT SCHEME FOR SOLAR-POWERED WIRELESS SENSOR NODES	4806
<i>Jordan Varley, Matthew Martino, Shahab Poshtkouhi, Olivier Trescases</i>	

BUILDING AND HOME AUTOMATION AND CONTROL

A SURVEY ON CONSUMER ELECTRONIC PRODUCTS IN RESIDENTIAL HOME FOR DEMAND RESPONSE	4816
<i>Dawei He, Rui Xia, Weixuan Lin, Thomas Habetler</i>	
ACTUATORS AND SENSORS ALLOCATION FOR ADJACENT BUILDINGS VIBRATION CONTROL	4821
<i>Huijun Gao</i>	
BASONT - A MODULAR, ADAPTIVE BUILDING AUTOMATION SYSTEM ONTOLOGY	4827
<i>Joern Ploennigs, Burkhard Hensel, Henrik Dibowski, Klaus Kabitzsch</i>	
ESTIMATION OF THE NUMBER OF PEOPLE UNDER CONTROLLED VENTILATION USING A CO₂ CONCENTRATION SENSOR	4834
<i>Ito Seiya, Nishi Hiroaki</i>	
LIMITING CONSTRAINTS FOR ZIGBEE NETWORKS	4840
<i>Dominik Bunyai, Lukas Krammer, Wolfgang Kastner</i>	
RESOURCE-BASED MIDDLEWARE IN THE CONTEXT OF HETEROGENEOUS BUILDING AUTOMATION SYSTEMS	4847
<i>Laurent-Frederic Ducreux, Claire Guyon-Gardeux, Suzanne Lesecq, Francois Pacull, Safietou R. Thior</i>	
SENSORS, MODELS AND PLATFORM FOR AMBIENT CONTROL	4853
<i>Denis Stein, Matthias Lehmann, Joern Ploennigs, Klaus Kabitzsch</i>	
SOFTWARE COMPONENT ARCHITECTURE FOR CO-SIMULATION APPLIED TO THE COUPLING BETWEEN A BUILDING'S THERMAL ENVELOPE AND ITS INHABITANT BEHAVIOUR	4860
<i>Sana Gaaloul, Xuan Hoa Binh Le, Benoit Delinchant, Frederic Wurtz, Stephane Ploix</i>	
SUPPORT VECTOR MACHINE BASED METHODS FOR NON-INTRUSIVE IDENTIFICATION OF MISCELLANEOUS ELECTRIC LOADS	4866
<i>Liang Du, Yi Yang, Dawei He, Ronald G. Harley, Thomas G. Habetler, Bin Lu</i>	
USING SMART METERS FOR LOAD MONITORING AND ACTIVE POWER-FACTOR CORRECTION	4872
<i>Jason Anderson, Archana Sadhanala, Robert Cox</i>	

HIGH-EFFICIENCY MAGNETLESS ELECTRICAL MOTORS AND GENERATORS FOR VEHICULAR AND RENEWABLE APPLICATIONS

ARE WOUND-ROTOR SYNCHRONOUS MOTORS SUITABLE FOR USE IN HIGH EFFICIENCY TORQUE-DENSE AUTOMOTIVE DRIVES?	4880
<i>David G. Dorrell</i>	
HYBRID EXCITATION SYNCHRONOUS MOTOR CONTROL IN ELECTRIC VEHICLE WITH COPPER AND IRON LOSSES MINIMIZATION	4886
<i>Rita Mbayed, Georges Salloun, Lionel Vido, Eric Monmasson, Mohamed Gabsi</i>	
MODEL-PREDICTIVE DIRECT POWER CONTROL OF AC/DC CONVERTERS WITH ONE STEP DELAY COMPENSATION	4892
<i>Jiefeng Hu, Jianguo Zhu, Glenn Platt, David Dorrell</i>	
STABILITY ANALYSIS OF SENSORLESS BLDC MOTOR DRIVE USING DIGITAL PWM TECHNIQUE FOR ELECTRIC VEHICLES	4898
<i>Alireza Tashakori Abkenar, Mehran Motamed Ektesabi</i>	
TORQUE BASED DIRECT DRIVING FORCE CONTROL METHOD WITH DRIVING STIFFNESS ESTIMATION FOR ELECTRIC VEHICLE WITH IN-WHEEL MOTOR	4904
<i>Junya Amada, Hiroshi Fujimoto</i>	

MULTILEVEL CONVERTERS APPLICATIONS, TOPOLOGIES, CONTROL AND MODULATION TECHNIQUES

A TRANSFORMERLESS RESONANT MULTILEVEL DC-DC STEP-UP CONVERTER	4922
<i>Carlos A. Martins, Philippe Viarouge, Jerome Cros</i>	
ASYMMETRIC MULTILEVEL STATCOM TO COMPENSATE REACTIVE POWER AND CURRENT HARMONICS	4929
<i>Javier Munoz, Jose Espinoza, Carlos Baier, Luis Moran, Johan Guzman, Jaime Rohten</i>	
CAPACITOR VOLTAGE BALANCE OF MMC CONVERTERS IN BIDIRECTIONAL POWER FLOW OPERATION	4935
<i>Ricardo Lizana, Cristian Castillo, Marcelo A. Perez, Jose Rodriguez</i>	
CLAMPING DIODE CAUSED DISTORTION IN MULTILEVEL NPC FULL-BRIDGE AUDIO POWER AMPLIFIERS	4941
<i>Vicent Sala, Ramin Salehi, Manuel Moreno-Eguilaz, Mehdi Salehifar, Luis Romeral</i>	
CURRENT CONTROL OF THE THREE PHASE FIVE-LEVEL PUC-NPC CONVERTER	4949
<i>Youssef Ounejjar, Kamal Al-Haddad</i>	
DC-LINK CURRENT BALANCING AND RIPPLE REDUCTION FOR DIRECT PARALLEL CURRENT-SOURCE CONVERTERS	4955
<i>Anping Hu, David Xu, Jianhui Su, Bin Wu</i>	

DOUBLE-CARRIER-BASED MODULATION THEORY OF THREE-LEVEL INVERTERS AND A NEW DISCONTINUOUS PWM FOR NEUTRAL-POINT VOLTAGE BALANCING.....	4961
<i>Somboon Sangwongwanich</i>	
FREQUENCY-DOMAIN MODELING OF MODULAR MULTILEVEL CONVERTERS - WITH APPLICATION TO MAXIMIZING THE OPERATING REGION.....	4967
<i>Staffan Norrga, Kalle Ilves, Lennart Ångquist, Lennart Harnefors, Hans-Peter Nee</i>	
FUZZY LOGIC CONTROLLER FOR FIVE-LEVEL SHUNT ACTIVE POWER FILTER UNDER DISTORTED VOLTAGE CONDITIONS	4973
<i>Benaissa Amar, Rabhi Boualaga, Benkhoris Mohamed Fouad, Moussi Ammar, Le Claire Jean-Claude</i>	
GENERALIZED HARMONIC ELIMINATION METHOD FOR INTERLEAVED POWER AMPLIFIERS	4979
<i>Mark Caris, Henk Huisman, Jan Schellekens, Jorge Duarte</i>	
MINIMIZATION OF THE CAPACITOR VOLTAGE FLUCTUATIONS OF A MODULAR MULTILEVEL CONVERTER BY CIRCULATING CURRENT CONTROL	4985
<i>Ricard Picas, Josep Pou, Salvador Ceballos, Vassilios Agelidis, Maryam Saeedifard</i>	
REDUCING HARMONICS AND DC-LINK CAPACITORS IN CASCADED MULTILEVEL CONVERTERS USING INTER-CELL MAGNETIC COUPLINGS.....	4992
<i>Carlos R. Baier, Jose Espinoza, Javier Muñoz, Pedro Melin, Johan Guzman</i>	
SINGLE DC-LINK CASCADED H-BRIDGE MULTILEVEL MULTISTRING PHOTOVOLTAIC ENERGY CONVERSION SYSTEM WITH INHERENT BALANCED OPERATION	4998
<i>Samir Kouro, Carlos Fuentes, Marcelo Perez, Jose Rodriguez</i>	
VOLTAGE BALANCING OF A FIVE-LEVEL FLYING CAPACITOR CONVERTER USING OPTIMUM SWITCHING TRANSITIONS	5006
<i>Amer Mohammad Yusuf Mohammad Ghias, Josep Pou, Mihai Ciobotaru, Vassilios Agelidis</i>	
VOLTAGE BALANCING STRATEGY FOR A FIVE-LEVEL FLYING CAPACITOR CONVERTER USING PHASE DISPOSITION PWM WITH SAWTOOTH-SHAPED CARRIERS.....	5013
<i>Amer Mohammad Yusuf Mohammad Ghias, Josep Pou, Mihai Ciobotaru, Vassilios Agelidis</i>	

PREDICTIVE CONTROL FOR POWER CONVERTERS AND DRIVES

A MODEL PREDICTIVE CONTROL STRATEGY FOR THE CASCADED H-BRIDGE MULTILEVEL RECTIFIER BASED ON ENUMERATION	5024
<i>Petros Karamanakos, Konstantinos Pavlou, Stefanos Manias</i>	
CONSTRAINED PREDICTIVE CONTROL OF A THREE-PHASE VOLTAGE SOURCE CONVERTERS WITH EXPLICIT PERFORMANCE SPECIFICATIONS	5030
<i>Dae Keun Yoo, Liuping Wang</i>	
DEAD-TIME COMPENSATION IN MODEL PREDICTIVE INSTANTANEOUS-CURRENT CONTROL.....	5037
<i>Akihiro Imura, Tomoya Takahashi, Masami Fujitsuna, Tadanao Zanma, Shinji Doki</i>	
ENHANCED DISCRETE TIME MODEL FOR AC INDUCTION MACHINE MODEL PREDICTIVE CONTROL	5043
<i>Pavel Vaclavek, Petr Blaha</i>	
GEOMETRICAL APPROACH FOR A PREDICTIVE CURRENT CONTROLLER APPLIED TO A THREE-PHASE TWO-LEVEL FOUR-LEG INVERTER	5049
<i>Ana M. Llor, Marco Rivera, Maurice Fadel, Jose Rodriguez, Aziz Ziani</i>	
ROBUST NONLINEAR PREDICTIVE CONTROL OF A PERMANENT MAGNET SYNCHRONOUS MOTOR	5057
<i>Rachid Errouissi, Mohand Ouhrouche, Wen-Hua Chen</i>	

DESIGN AND CONTROL OF HIGH POWER CONVERTERS FOR RENEWABLE ENERGY SYSTEMS

A ZERO-SEQUENCE COMPONENT INJECTED PWM METHOD WITH REDUCED SWITCHING LOSSES AND SUPPRESSED COMMON-MODE VOLTAGE FOR A THREE-PHASE FOUR-LEG VOLTAGE SOURCE INVERTER.....	5068
<i>Min Zhang, David Atkinson, Matthew Armstrong</i>	
CASCADED H-BRIDGE & NEUTRAL POINT CLAMPED HYBRID ASYMMETRIC MULTILEVEL INVERTER TOPOLOGY FOR GRID INTERACTIVE TRANSFORMERLESS PHOTOVOLTAIC POWER PLANT	5074
<i>Sumit K Chattopadhyay, Chandan Chakraborty, Bikash C Pal</i>	
MODIFIED MPPT WITH USING MODEL PREDICTIVE CONTROL FOR MULTILEVEL BOOST CONVERTER.....	5080
<i>Mostafa Mosa, Haitham Abu Rub, Mahrous Ahmed, José Rodríguez</i>	
PERFORMANCE AND LOSS EVALUATION OF A HARD AND SOFT SWITCHED 2.4 MW, 4 KV TO 6 KV ISOLATED DC-DC CONVERTER FOR A WIND ENERGY APPLICATION.....	5086
<i>Maziar Mobarrez, Majid Fazlali, M. Amin Bahmani, Torbjörn Thiringer</i>	

DIAGNOSTIC OF AC MACHINE BASED COMPLEX ELECTROMECHANICAL SYSTEMS

AN IMPROVEMENT OF A DIAGNOSIS PROCEDURE FOR AC MACHINES USING TWO EXTERNAL FLUX SENSORS BASED ON A FUSION PROCESS WITH BELIEF FUNCTIONS	5096
<i>Remus Pusca, Cristian Demian, David Mercier, Eric Lefevre, Raphael Romary</i>	

DETECTION OF STATOR SHORT CIRCUITS IN INVERTER-FED INDUCTION MOTORS	5102
<i>Lucia Frosini, Luca Girometta, Ezio Bassi</i>	
DIAGNOSIS OF ECCENTRICITY IN INDUCTION MACHINES WORKING UNDER FLUCTUATING LOAD CONDITIONS, THROUGH THE INSTANTANEOUS FREQUENCY	5108
<i>Francisco Vedreño-Santos, Martín Riera-Guasp, Humberto Henao, Manuel Pineda-Sanchez, José Alfonso Antonino-Daviu</i>	
MISFIRE FAULT DETECTION IN SI ENGINE USING SLIDING MODE OBSERVER	5114
<i>M A Rizvi, Syed Sajjad Zaidi, Muhammad Amin Akram, Aamer I Bhatti</i>	
NON INTRUSIVE OPERATIONAL HEALTH IDENTIFICATION OF IN-SERVICE ELECTRICAL MACHINE	5120
<i>Syed Sajjad Zaidi, Elias G Strangas</i>	
NOVEL METHODOLOGY FOR IMPROVING PERFORMANCE OF SENSORLESS SPEED OBSERVERS IN INDUCTION MOTORS AT VARIABLE LOAD CONDITIONS	5126
<i>Jesus A. Carino-Corrales, Omar J. Osuna-Paez, Jesus Villalpando-Osuna, Rene J. Romero-Troncoso, Eduardo Cabal-Yepetz, Arturo Garcia-Perez, Roque A. Osornio-Rios</i>	
STATOR CURRENT BI-SPECTRUM PATTERNS FOR INDUCTION MACHINES MULTIPLE-FAULTS DETECTION	5132
<i>Lofii Saidi, Farhat Fnaiech, Gérard Capolino, Humberto Henao</i>	

NEW TRENDS IN CONVERTER TOPOLOGIES AND CONTROL METHODS FOR ACTIVE POWER DISTRIBUTION GRIDS

ASSESSMENT OF A BATTERY CHARGER FOR ELECTRIC VEHICLES WITH REACTIVE POWER CONTROL	5142
<i>Vitor Monteiro, J. G. Pinto, Bruno Exposto, Henrique Gonçalves, João C. Ferreira, Carlos Couto, João L. Afonso</i>	
BATTERY MONITORING USING HIGH FREQUENCY IMPEDANCE MODULATION THROUGH SERIES POWER LINE	5148
<i>Andrew Stepanov, Maksim Vorobyov, Ilya Galkin</i>	
COMPARATIVE EVALUATION OF BIDIRECTIONAL BUCK-TYPE PFC CONVERTER SYSTEMS FOR INTERFACING RESIDENTIAL DC DISTRIBUTION SYSTEMS TO THE SMART GRID	5153
<i>Mircea F. Vancu, Thiago B. Soeiro, Jonas Mühlenthaler, Johann W. Kolar, Daniel Aggeler</i>	
COMPARISON OF CURRENT SOURCE AND VOLTAGE SOURCE SHUNT ACTIVE POWER FILTERS FOR HARMONIC COMPENSATION AND REACTIVE POWER CONTROL	5161
<i>Gabriel Pinto, Bruno Exposto, Vitor Monteiro, Luis Monteiro, Carlos Couto, João Afonso</i>	
COMPARISON OF TWO POWER FLOW CONTROL STRATEGIES FOR PHOTOVOLTAIC INVERTERS	5167
<i>Carlos Roncero-Clemente, Enrique Romero-Cadaval, Pedro Roncero Sánchez-Elípe, Eva González-Romera</i>	
DIMENSIONING OF ELECTRICITY STORAGE ACCORDING TO SMALL WIND TURBINE POWER GENERATION AND HOUSEHOLD LOAD PATTERNS	5173
<i>Argo Rosin, Ivo Palu, Kai Rosin, Aivar Auväärt</i>	
EXPERIMENTAL VERIFICATION OF DC/DC CONVERTER WITH FULL-BRIDGE ACTIVE RECTIFIER	5179
<i>Andrei Blinov, Volodymyr Ivakhno, Volodymyr Zamaruev, Dmitri Vinnikov, Oleksandr Husev</i>	
FAULT DETECTION AND DIAGNOSIS OF GRID-CONNECTED POWER INVERTERS USING PCA AND CURRENT MEAN VALUE	5185
<i>Joao Martins, Vitor Pires, Celson Lima, Armando Pires</i>	
HIGH POWER, GRID INTERFACING AC-DC PWM CONVERTERS WITH POWER CONDITIONING CAPABILITIES	5191
<i>Daniel Wojciechowski</i>	
HYBRID HIGH-FREQUENCY-SIC AND LINE-FREQUENCY-SI BASED PEBB FOR MV MODULAR POWER CONVERTERS	5197
<i>Marek Adamowicz, Ryszard Strzelecki, Zbigniew Krzeminski</i>	
IDA-PBC CONTROL OF A THREE-PHASE FRONT-END CONVERTER	5203
<i>Federico Serra, Cristian De Angelo, Daniel Forchetti</i>	
IMPACT OF COMPONENT LOSSES ON THE EFFICIENCY OF THE BI-DIRECTIONAL CURRENT DOUBLER RECTIFIER BASED ISOLATION-STAGE	5209
<i>Viktor Beldjajev, Indrek Roasto</i>	
IMPACT OF PHASE-SHIFT MODULATION ON THE PERFORMANCE OF A SINGLE-STAGE BIDIRECTIONAL ELECTRIC VEHICLE CHARGER	5215
<i>Diogo Varajão, Rui Esteves Araujo, Carlos Moreira, Joao Peças Lopes</i>	
INTELLIGENT ELECTRONIC DEVICE FOR SMART GRID: STATISTICAL APPROACH APPLIED TO EVENT DETECTION	5221
<i>Isabel Moreno-García, Antonio Moreno-Munoz, Francisco Domingo-Perez, Victor Pallares-Lopez, Rafael Real-Calvo, Juan Jose Gonzalez-De-La-Rosa</i>	
REACTIVE POWER COMPENSATION USING ON BOARD STORED ENERGY IN ELECTRIC VEHICLES	5227
<i>Carlos Silvestre, Duarte Sousa, António Roque</i>	
SOFT-SWITCHING TECHNIQUES FOR MV ISOLATED BIDIRECTIONAL DC/DC CONVERTERS IN SOLID STATE TRANSFORMERS	5233
<i>Gabriel Ortiz, Bortis Dominik, Johann Walter Kolar, Oscar Apeldoorn</i>	
STATE OF THE ART OF ACTIVE POWER ELECTRONIC TRANSFORMERS FOR SMART GRIDS	5241
<i>Indrek Roasto, Enrique Romero-Cadaval, Joao Martins, Robert Smolenski</i>	

THE APPLICATION OF S-TRANSFORM IN FAULT DETECTION AND DIAGNOSIS OF GRID-CONNECTED POWER INVERTERS	5247
<i>João Martins, Rui Lopes, Vitor Pires, Armando Pires, Celson Lima</i>	
THREE-PHASE SINGLE STAGE PHOTOVOLTAIC INVERTER WITH ACTIVE FILTERING CAPABILITIES	5253
<i>Victor Miñambres-Marcos, Enrique Romero-Cadaval, Miguel Ángel Guerrero-Martínez, María Isabel Milanés-Montero</i>	
TRANSIENT RESPONSE ASSESSMENT OF VECTOR PI CURRENT CONTROLLERS IN RENEWABLE ENERGY APPLICATIONS	5259
<i>Ana Vidal, Francisco D. Freijedo, Alejandro G. Yepes, Jano Malvar, Oscar Lopez, Jesus Doval-Gandoy</i>	

IMPEDANCE SOURCE INVERTERS (ZSIS) AND THEIR MODIFIED AND IMPROVED TOPOLOGIES

ANALYSIS OF SPACE VECTOR MODULATIONS FOR THREE-PHASE Z-SOURCE / QUASI-Z-SOURCE INVERTER	5268
<i>Yushan Liu, Haitham Abu-Rub, Baoming Ge, Fangzheng Peng</i>	
CARRIER-BASED PWM FOR Z-SOURCE INVERTERS	5274
<i>Arturo A. Arias M., Wilfried Hofmann</i>	
COMPREHENSIVE ANALYSIS OF Z SOURCE DC/DC CONVERTERS FOR DC POWER SUPPLY SYSTEMS	5280
<i>Saravanan Vasudevan</i>	
DSP BASED PWM CONTROL OF SWITCHED BOOST INVERTER FOR DC NANOGRIID APPLICATIONS	5285
<i>Ravindranath Adda, Olive Ray, Santanu Mishra, Avinash Joshi</i>	
EMULATION OF A MICRO-HYDRO-TURBINE FOR STAND-ALONE POWER PLANTS WITH Z-SOURCE INVERTER	5291
<i>Manuel Steinbring, Mario Pacas, Mohammed Alnajjar</i>	
INDIRECT FIELD-ORIENTED CONTROL OF AN INDUCTION MOTOR FED BY A BIDIRECTIONAL QUASI-Z-SOURCE INVERTER	5297
<i>Omar Ellabban, Haitham Abu-Rub</i>	
QUASI-Z-SOURCE MATRIX CONVERTER BASED INDUCTION MOTOR DRIVES	5303
<i>Shuo Liu, Baoming Ge, Haitham Abu-Rub, Fang Z. Peng, Yushan Liu</i>	

INVERTER-BASED DISTRIBUTED GENERATORS AS MULTIFUNCTION DEVICE

A NOVEL TRANSFORMERLESS HYBRID SERIES ACTIVE FILTER	5312
<i>Alireza Javadi, Handy Fortin Blanchette, Kamal Al-Haddad</i>	
AN ADVANCED CONTROL ALGORITHM FOR SERIES HYBRID ACTIVE FILTER ADOPTING UPQC BEHAVIOR	5318
<i>Alireza Javadi, Handy Fortin Blanchette, Kamal Al-Haddad</i>	
HARMONIC COMPENSATION USING RESIDENTIAL PV INTERFACING INVERTER	5324
<i>Md Shirajum Munir, Yun Wei Li</i>	
INTERLINE PHOTOVOLTAIC (I-PV) POWER PLANTS FOR VOLTAGE UNBALANCE COMPENSATION	5330
<i>Ahmed Moawwad, Vinod Khadkikar, James Kirtley</i>	
NOVEL CONTROL STRATEGIES FOR SSR MITIGATION AND DAMPING POWER SYSTEM OSCILLATIONS IN A SERIES COMPENSATED WIND PARK	5335
<i>Mohamed El Moursi, Vinod Khadkikar</i>	

DESIGN, MODELING, SIMULATION AND PERFORMANCE MEASUREMENT

A COMPARISON OF MACHINE MODELING METHODS FOR REAL TIME APPLICATIONS	5346
<i>Fletcher E. Fleming, Chris S. Edrington</i>	
A SINGLE PHASE PSCAD ELECTRIC ARC FURNACE MODEL	5352
<i>Leonard White, Subhashish Bhattacharya</i>	
ACCURATE MATLAB/SIMULINK MODEL OF A POWER GENERATION SYSTEM BASED ON FUEL CELLS	5357
<i>Adriano Carvalho, Maria Teresa Outeiro</i>	
ANALYSIS OF TRANSIENT PROCESSES OF BUCK-BOOST CONVERTER: THEORETICAL ANALYSIS, PHYSICAL EXPERIMENTS, MODELING AND SIMULATION	5365
<i>Arthur Shoihet, Michael Slonim</i>	
INVESTIGATION OF THE ELECTROMAGNETIC SIMULATION RESULTS VARIATION OF A HYDRO ELECTRICAL GENERATOR	5370
<i>Ana Aguiar, Arezki Merkhoul, Claude Hudon, Kamal Al-Haddad</i>	
MODEL-BASED FAULT DETECTION AND ISOLATION ALGORITHM OF CURRENT SENSOR FOR IPMSM	5376
<i>Byunghwan Lee, Namju Jeon, Hyeongcheol Lee</i>	
MULTICONDUCTOR CABLE MODELING FOR EMI SIMULATIONS IN POWER ELECTRONICS	5382
<i>Ivica Stevanovic, Bernhard Wunsch, Gian Luigi Madonna, Mircea-Florian Vancu, Stanislav Skibin</i>	
OPTIMAL ENERGY CONVERSION THROUGH PERFORMING COMPRESSED AIR SYSTEMS	5388
<i>Norma Anglani, Giusi Quartarone, Michele Bossi</i>	

OUTPUT SHORT CIRCUIT SPARK DISCHARGING MODELING OF QUASI-Z-SOURCE BUCK CONVERTER	5394
<i>H. Cheng, C. Wang, J. Zhu, B. Ge</i>	
PHOTOVOLTAIC MODEL FOR CIRCUIT SIMULATION	5399
<i>Jan Leuchter, Pavol Bauer, Karel Zaplatilek</i>	

COMPLIANT ROBOTICS

CONTROL OF ROBOTIC JOINT BY USING ANTAGONISTIC PAIR OF TWIST DRIVE ACTUATORS	5410
<i>Takashi Sonoda, Kazuo Ishii, Amir A. F. Nassiraei, Ivan Godler</i>	
DESIGN OF A HIGH-THRUST DENSITY SPIRAL MOTOR USING FINITE ELEMENT ANALYSIS	5416
<i>Takahiro Mikami, Yasutaka Fujimoto</i>	
DEVELOPMENT OF SNAKE-LIKE ROBOT CLIMBING UP SLOPE IN CONSIDERATION OF CONSTRAINT FORCE	5422
<i>Ken Tashiro, Syunsuke Nansai, Masami Iwase, Shosiro Hatakeyama</i>	
HIGH BANDWIDTH ATTITUDE CONTROL BASED ON MUSCULOSKELETAL SYSTEM WITH BIARTICULAR MUSCLES	5428
<i>Toshiaki Tsuji, Tomonori Yokoo, Sho Sakaino</i>	
MOTION CONTROLLER DESIGN OF BIPED ROBOT FOR HUMAN-LIKE WALKING WITH STRETCHED KNEE	5434
<i>Naoki Oda, Osamu Yanada</i>	

AIRCRAFT SYSTEMS MODELING, SIMULATION AND OPTIMIZATION

CIVIL TURBOFAN ENGINES THRUST GENERIC MODEL	5444
<i>Luis Fajardo Rodriguez, Ruxandra Mihaela Botez</i>	
LOW-SPEED AERODYNAMIC CHARACTERISTICS IMPROVEMENT OF ATR 42 AIRFOIL USING A MORPHING WING APPROACH	5451
<i>Olivia Sugar Gabor, Andreea Koreanschi</i>	
MATLAB/SIMULINK SOFTWARE IMPLEMENTATION AND INTERFACING OF A STRAP-DOWN INERTIAL ATTITUDE METHOD	5457
<i>Teodor Lucian Grigorie, Radu Obreja, Jenica Ileana Corcau, Liviu Dinca</i>	
MULTIDOMAIN HIGH-DETAILED MODELING OF AN ELECTRO-HYDROSTATIC ACTUATOR AND ADVANCED POSITION CONTROL	5463
<i>Martin Gendrin, Louis Dessaint</i>	
OPTIMAL FLIGHT CONTROL ON THE HAWKER 800 XP BUSINESS AIRCRAFT	5471
<i>Yamina Boughari, Ruxandra Botez</i>	
SIMULATION AND ANALYSIS OF A FUEL CELL/BATTERY HYBRID POWER SUPPLY FOR MORE-ELECTRIC AIRCRAFT	5477
<i>Jenica Ileana Corcau, Teodor Lucian Grigorie, Liviu Dinca</i>	
VERTICAL PROFILE OPTIMIZATION FOR THE FLIGHT MANAGEMENT SYSTEM CMA-9000 USING THE GOLDEN SECTION SEARCH METHOD	5482
<i>Roberto Salvador Félix Patrón, Ruxandra Mihaela Botez, Dominique Labour</i>	
WEIGHT FUNCTIONS METHOD APPLICATION ON A DELTA-WING X-31 CONFIGURATION	5489
<i>Nicoleta Anton, R. Botez</i>	

GRID FREQUENCY AND VOLTAGE SUPPORT USING POWER GENERATORS BASED ON RENEWABLE ENERGY SOURCES

UNDERVOLTAGE/OVERCURRENT COORDINATION IN SMART GRIDS	5502
<i>Juan Gomez, Medhat Morcos</i>	

CURRENT STATUS OF INTELLIGENT SPACES/CONVERSION OF ROBOTICS, MECHATRONICS, CONTROL AND INTERFACES

AESTHETIC MARKER DESIGN FOR HOME ROBOT LOCALIZATION	5510
<i>Zita V. Farkas, Daniel Illy, Peter Korondi, Lorant Fodor</i>	
BUILDING A HUMAN-DOG INTERACTION INSPIRED EMOTIONAL ENGINE MODEL	5516
<i>Csanad Szabo, Andras Roka, Tamas Farago, Marta Gaesi, Adam Miklosi, Peter Korondi</i>	
DESIGN OF SOCIAL BEHAVIOR OF PHYSICAL AGENT IN INTELLIGENT SPACE	5523
<i>Mihoko Niitsuma, Takuya Ichikawa, Ryuichi Numakunai, Akira Onodera, Peter Korondi, Hideki Hashimoto</i>	
DEVELOPMENT OF WIRELESS IMAGE SENSOR NODES BASED ON FPGA FOR HUMAN TRACKING IN INTELLIGENT SPACE	5529
<i>Hajime Kikuchi, Kazuyuki Morioka</i>	
NEW HOPFIELD NEURAL NETWORK FOR JOINT JOB SHOP SCHEDULING OF PRODUCTION AND MAINTENANCE	5535
<i>Nader Fnaiech, Hayfa Hammami, Amel Yahyaoui, Christophe Varnier, Farhat Fnaiech, Noureddine Zerhouni</i>	

PROPOSAL OF SLEEP-PROMOTING ROBOT USING VIBRATORY PRESSURE AND SOUND STIMULATION	5542
<i>Sousuke Nakamura, Takuma Nakano, Noriki Mochizuki, Hitomi Araki, Hideki Hashimoto</i>	
SAFETY ASPECTS AND GUIDELINES FOR ROBOT COMPATIBLE ENVIRONMENT	5547
<i>Zita V. Farkas, Peter Korondi, Lorant Fodor</i>	

ADVANCED AND EMERGING TECHNOLOGY FOR HANDICAP AND DISABILITY POPULATION

A KINEMATIC MODEL TO ANALYZE AND SIMULATE WHEELCHAIR PROPULSION	5562
<i>Nicolas Louis, Philippe Gorce</i>	
APPLICATION OF ROBOTIC INDICES TO EVALUATE HUMAN UPPER-LIMB FORCE CAPACITIES	5568
<i>Nasser Rezzoug, Julien Jacquier-Bret, Vincent Hernandez, Philippe Gorce</i>	

AEROSPACE CONTROL

A SWITCHED CONTROL FOR UAVS	5578
<i>Ricardo Sandoval, Ilse Cervantes, Manuel Adam, Irwin Diaz</i>	
PURELY AERODYNAMIC PITCH CONTROL FOR HIGH-ANGLE-OF-ATTACK MISSILES	5584
<i>Yoonsoo Kim, Byoung Soo Kim</i>	
ROBUST PITCH AUTOPILOT DESIGN FOR AGILE MISSILES AT HIGH ANGLE OF ATTACK	5589
<i>Yoonsoo Kim, Byoung Soo Kim</i>	

MICROGRIDS

A SYNCHRONIZATION TECHNIQUE FOR MICROGRID RECLOSING AFTER ISLANDING OPERATION	5596
<i>Mario Rizo, Francisco Huerta, Marco Liserre, Jorge Perez, Emilio Bueno</i>	
ANALYSIS OF PROTECTION SYSTEM FOR A MICROGRID SUPPLYING IRRIGATION LOAD IN TOSHKÁ AREA	5602
<i>Mazen Abdel-Salam, Adel Ahmed, Hamdy Zidan, Mahmoud Amery, Mohamed Swify, Rashad Kamel</i>	
BATTERY MANAGEMENT FUZZY CONTROL FOR A GRID- TIED MICROGRID WITH RENEWABLE GENERATION	5607
<i>Diego Arcos-Aviles, Francesc Guinjoan, Javier Barricarte, Luis Marroyo, Pablo Sanchis-Gurpide, Hugo Valderrama-Blavi</i>	
COMPARATIVE ANALYSIS OF TWO CONTROL SCHEMES FOR REDUCTION OF THE THD IN VOLTAGE APPLIED TO A SINGLE-PHASE INVERTER WITH NONLINEAR LOADS	5613
<i>Ruben Ortega Gonzalez, Gabriel Garcera Sanfeliu, Emilio Figueres Amoros, Oscar Carranza Castillo</i>	
COOPERATIVE CONTROL WITH VIRTUAL SELECTIVE HARMONIC CAPACITANCE FOR HARMONIC VOLTAGE COMPENSATION IN ISLANDED MICROGRIDS	5619
<i>Alexander Micallef, Maurice Apap, Cyril Spiteri-Staines, Josep Guerrero</i>	
DC NETWORK STABILITY AND DYNAMIC ANALYSIS USING VIRTUAL IMPEDANCE METHOD	5625
<i>Dong Chen, Lie Xu, Liangzhong Yao</i>	
DESIGN AND EXPERIMENTAL VALIDATION OF A DUAL MODE VSI CONTROL SYSTEM FOR A MICRO-GRID WITH MULTIPLE GENERATORS	5631
<i>Andrés Vargas-Serrano, Doris Sáez, Lorenzo Reyes, Bernardo Severino, Rodrigo Palma-Behnke, Roberto Cárdenas</i>	
DISTRIBUTED SECONDARY CONTROL FOR MICROGRIDS	5637
<i>Qobad Shaffiee, J. Vasquez, J. Guerrero</i>	
ENERGY STORAGE DESIGN FOR PRIMARY FREQUENCY CONTROL FOR ISLANDING MICRO GRID	5643
<i>Jiravan Mongkoltanatas, Delphine Riu, Xavier Lepivert</i>	
MINIMUM LOSS CONTROL OF LOW-VOLTAGE RESIDENTIAL MICROGRIDS	5650
<i>Paolo Tenti, Alessandro Costabeber, Paolo Mattavelli, Francesco Sichirollo</i>	
MODULE INTEGRATED DC-DC CONVERTER FOR INTEGRATION OF PHOTOVOLTAIC SOURCE WITH DC MICRO-GRID	5657
<i>Vishal Vekhande, B. G. Fernandes</i>	
ORGANICALLY GROWN MICRO-GRIDS: DEVELOPMENT OF A SOLAR NEIGHBOURHOOD MICRO-GRID CONCEPT FOR OFF-GRID COMMUNITIES	5663
<i>Kurtis Unger, Mehrdad Kazerani</i>	
POWER MANAGEMENT USING MODEL PREDICTIVE CONTROL IN A HYDROGEN-BASED MICROGRID	5669
<i>Luis Valverde, Carlos Bordons, Felipe Rosa</i>	
SOC-BASED DYNAMIC POWER SHARING METHOD WITH AC-BUS VOLTAGE RESTORATION FOR MICROGRID APPLICATIONS	5677
<i>Xiaonan Lu, Kai Sun, Josep M. Guerrero, Lipei Huang</i>	
STABILITY ANALYSIS AND DESIGN OF DROOP CONTROL METHOD IN DQ FRAME FOR CONNECTION IN PARALLEL OF DISTRIBUTED ENERGY RESOURCES	5683
<i>Estefanía Planas, Asier Gil De Muro, Jon Andreu, Inigo Kortabarria, Inigo Martínez De Alegria</i>	
STEADY-STATE MODELING AND CONTROL OF A MICROGRID SUPPLYING IRRIGATION LOAD IN TOSHKÁ AREA	5689
<i>Mazen Abdel-Salam, Hamdy Zidan, Rashad Kamel, Khairy Sayed, Mahmoud Amery, Mohamed Swify, Adel Ahmed</i>	

EFFICIENT POWER CONVERTERS FOR PHOTOVOLTAIC AND WIND POWER CONVERSION

A MODULAR APPROACH FOR CURRENT-SOURCE MULTI-PHASE INVERTER	5698
<i>Sudip Mazumder, Priyadarshini Sivasubramanian</i>	
ACTIVE COMMON-MODE FILTER FOR PHOTOVOLTAIC TRANSFORMERLESS INVERTERS	5702
<i>Giampaolo Buticchi, Davide Barater, Emilio Lorenzani, Andrea Salati</i>	
ADAPTIVE DISTRIBUTED MPPT ALGORITHM FOR PHOTOVOLTAIC SYSTEMS	5708
<i>Fabrizio Scarpetta, Marco Liserre, Rosa A. Mastromauro</i>	
EFFICIENCY ANALYSIS OF DCM-232 THREE-PHASE PV TOPOLOGY	5714
<i>Raúl Santiago Muñoz Aguilar, Pedro Rodríguez, Gerardo Vázquez, Ignacio Candela, Emiliano Aldabas</i>	
HIGH EFFICIENCY CONTROL METHOD FOR INTERLEAVED FLYBACK INVERTER WITH SYNCHRONOUS RECTIFIER BASED ON PHOTOVOLTAIC AC MODULES	5720
<i>Jin-Woo Jang, Young-Ho Kim, Dong-Kyun Ryu, Chung-Yuen Won, Yong-Che Jung</i>	
MAXIMUM POWER POINT SEARCHING METHOD FOR PARTIAL SHADED PV STRINGS	5726
<i>Gerardo Escobar, Carl N. M. Ho, Sami Pettersson</i>	
MAXIMUM POWER POINT TRACKER FOR SMALL NUMBER OF SOLAR CELLS CONNECTED IN SERIES	5732
<i>Sebastian Strache, Jan Hemming Mueller, Dominik Platz, Ralf Wunderlich, Stefan Heinen</i>	
MULTILEVEL OPEN-ENDED TRANSFORMER BASED GRID FEEDING INVERTER FOR SOLAR PHOTOVOLTAIC APPLICATION	5738
<i>Sandeep Anand, B. G. Fernandes</i>	
NOVEL HIGH EFFICIENCY, HIGH GAIN FRONT END DC-DC CONVERTER FOR LOW INPUT VOLTAGE SOLAR PHOTOVOLTAIC APPLICATIONS	5744
<i>Moumita Das, Vivek Agarwal</i>	
ONE NOVEL VARIABLE STEP-SIZE MPPT ALGORITHM FOR PHOTOVOLTAIC POWER GENERATION	5750
<i>Lei Tang, Wei Xu, Cengbi Zeng, Jinhua Lu, Jinwei He</i>	
TRANSFORMERLESS GRID-CONNECTED CONVERTER FOR PV PLANTS WITH CONSTANT COMMON MODE VOLTAGE AND ARBITRARY POWER FACTOR	5756
<i>Davide Barater, Giampaolo Buticchi, Emilio Lorenzani, Veronica Malori</i>	

TECHNOLOGIES AND ARCHITECTURES FOR FUTURE CLOUD BASED INDUSTRIAL SYSTEMS

A SOA-BASED ARCHITECTURE FOR EMPOWERING FUTURE COLLABORATIVE CLOUD-BASED INDUSTRIAL AUTOMATION	5766
<i>Stamatis Karnouskos, Armando Walter Colombo, Thomas Bangenman, Keijo Manninen, Roberto Camp, Marcel Tilly, Petr Stluka, Francois Jammes, Jerker Delsing, Jens Eliasson</i>	
INTEGRATING DPWS AND OPC UA DEVICE-LEVEL SOA FEATURES INTO IEC 61850 APPLICATIONS	5773
<i>Stjepan Sucic, Bernard Bony, Laurent Guise, Francois Jammes, Ante Marusic</i>	
LEVERAGING TINYOS FOR INTEGRATION IN PROCESS AUTOMATION AND CONTROL SYSTEMS	5779
<i>Per Lindgren, Henrik Makitaavola, Johan Eriksson, Jens Eliasson</i>	
MIGRATION OF INDUSTRIAL PROCESS CONTROL SYSTEMS INTO SERVICE ORIENTED ARCHITECTURE	5786
<i>Jerker Delsing, Fredrik Roseqvist, Oscar Carlsson, Armando W. Colombo, Thomas Bangemann</i>	
OPC-UA INFORMATION MODEL FOR LARGE-SCALE PROCESS CONTROL APPLICATIONS	5793
<i>Pavel Trnka, Petr Kodet, Vladimir Havlena</i>	
TECHNOLOGIES FOR SOA-BASED DISTRIBUTED LARGE SCALE PROCESS MONITORING AND CONTROL SYSTEMS	5799
<i>Francois Jammes, Bernard Bony, Philippe Nappey, Armando W. Colombo, Jerker Delsing, Jens Eliasson, Stamatis Karnouskos, Petr Siluka, Marcel Tilly</i>	
TOWARDS A LIGHTWEIGHT CEP ENGINE FOR EMBEDDED SYSTEMS	5805
<i>Pawel Pietrzak, Per Lindgren, Henrik Makitaavola</i>	
TOWARDS AN ENERGY MANAGEMENT SYSTEM OF SYSTEMS. AN INDUSTRIAL CASE STUDY	5811
<i>Dorian Oswaldo Mora Sanchez, Marco Taisch, Armando Walter Colombo</i>	

POWER ELECTRONICS INTERFACING OF RENEWABLE ENERGY SOURCES AND ADJUSTABLE SPEED DRIVES? MODELLING RELIABILITY ISSUES AND OPERATION UNDER GRID VOLTAGE FAULTS

COMPREHENSIVE STUDY OF POWER QUALITY CRITERIA GENERATED BY PV CONVERTERS AND THEIR IMPACTS ON DISTRIBUTION TRANSFORMERS	5820
<i>Amin Hasanazadeh, Chris S. Edrington, Troy Bevis</i>	
EXPERIMENTAL VERIFICATION OF VARIABLE SPEED WIND POWER GENERATION SYSTEM USING PERMANENT MAGNET SYNCHRONOUS GENERATOR BY WIND TURBINE EMULATOR	5827
<i>Sirichai Tammaruckwattana, Kazuhiro Ohyama</i>	
POWER SYSTEM FLICKER ANALYSIS, MODELING AND PROTOTYPE IMPLEMENTATION	5833
<i>Vasudeo Virulkar, Mohan Aware</i>	
ROBUST CONTROL OF GRID CONNECTED AC-DC CONVERTER FOR DISTRIBUTED GENERATION	5840
<i>Szymon Piasecki, Marek Jasinski, Grzegorz Wrona, Waldemar Chmielak</i>	
SHORT TIME POWER SMOOTHING OF A LOW POWER WAVE ENERGY SYSTEM	5846
<i>Samir Hazra, Subhashish Bhattacharya</i>	

SINGLE PHASE THREE-LEVEL QUASI-Z-SOURCE INVERTER WITH A NEW BOOST MODULATION TECHNIQUE	5852
<i>Oleksandr Husev, Serhii Stepenko, Carlos Roncero-Clemente, Enrique Romero-Cadaval, Dmitri Vinnikov</i>	
THERMAL ANALYSIS OF MULTI-MW TWO-LEVEL WIND POWER CONVERTER	5858
<i>Dao Zhou, Frede Blaabjerg, Mogens Lau, Michael Tonnes</i>	

THERMOELECTRIC GENERATORS

DIMENSIONAL OPTIMIZATION OF THERMOELECTRIC MODULES FOR SOLAR POWER GENERATION	5868
<i>Takeyuki Fujisaka, Ryosuke Suzuki</i>	
POWER GENERATION USING THE FLUIDS BLOWN PERPENDICULAR TO THE TE PANEL	5873
<i>Ryosuke O. Suzuki, Yuto Sasaki, Takeyuki Fujisaka, Min Chen</i>	

ADVANCED CONTROL AND DEVELOPMENT OF SWITCHED RELUCTANCE MOTOR DRIVES FOR INDUSTRIAL APPLICATIONS

REDUCING THE SAMPLING FREQUENCY FOR THE CONTROL OF THE SWITCHED RELUCTANCE MACHINE	5882
<i>Xavier Rain, Mickaël Hilaiet, Antoni Arias</i>	

ADVANCED CONTROL THEORIES APPLIED TO POWER ELECTRONICS CONVERTERS

A CONTROL LYAPUNOV FUNCTION-BASED CONTROLLER FOR A TWO-STAGE AC/DC CONVERTER	5892
<i>Majid Pahlevaninezhad, Suzan Eren, Alireza Bakhshai, Praveen Jain</i>	
A FAULT-TOLERANT SWITCHING SCHEME FOR A HIGH-POWER HIGH-FREQUENCY-LINK INVERTER	5898
<i>Alireza Tajfar, Sudip Mazumder</i>	
A NEW MAGNETICALLY COUPLED BALANCING TOPOLOGY FOR SERIAL CONNECTION OF MULTIPLE SWITCHED MODE POWER SUPPLIES FOR HIGH VOLTAGE APPLICATION	5904
<i>M. Reza Dehbozorgi, Cedric Somers, Kamal Al-Haddad</i>	
A RESONANT CONTROLLER WITH ROBUST FEATURES FOR DIGITAL IMPLEMENTATIONS AT LOW SAMPLING FREQUENCY	5910
<i>Masoud Karimi Ghartemani, Sayed Ali Khajehoddin, Mohsen Mojiri, Praveen Jain, Alireza Bakhshai</i>	
A REVIEW ON ENERGY EFFICIENCY OPTIMIZATION IN SMART GRID	5916
<i>Sepide Rafiei, Alireza Bakhshai</i>	
ADAPTIVE CONTROL DESIGN FOR THE BUCK-BOOST CONVERTER WITH DESIRED POLE/ZERO ASSIGNMENT	5920
<i>Ming-Fa Tsai, Chung-Shi Tseng, Zen-Chen Zhou</i>	
ADAPTIVE TRANSIENT POWER CONTROL STRATEGY FOR PARALLEL-CONNECTED INVERTERS IN AN ISLANDED MICROGRID	5926
<i>Mohammad Hassanzahraee, Alireza Bakhshai</i>	
COMPARISON OF ORTHOGONAL QUANTITY GENERATION METHODS USED IN SINGLE-PHASE GRID-CONNECTED INVERTERS	5932
<i>Mohammad Ebrahimi, Hamid R. Karshenas, Mohammad Hassanzahraee</i>	
FEEDBACK QUANTIZER VS SIGMA-DELTA MODULATOR FOR VOLTAGE SOURCE INVERTERS	5938
<i>Galina Mirzaeva, Graham Goodwin</i>	
FIXED-BAND FIXED-FREQUENCY HYSTERESIS CURRENT CONTROL EMPLOYED IN APFS	5944
<i>Hani Vahedi, Ehsan Pashajavid, Kamal Al-Haddad</i>	
MODELING OF RESONANT INVERTERS WITH HIGH HARMONIC CONTENT USING THE EXTENDED DESCRIBING FUNCTION METHOD	5949
<i>Alberto Dominguez, Aranzazu Otin, Luis Angel Barragan, Oscar Lucia, Jose Ignacio Artigas</i>	
MULTI LOOP DEADBEAT+REPETITIVE AND ADAPTIVE CONTROL FOR POWER CONVERTERS WITH LCL FILTERS	5955
<i>Marcelo Hahn Durgante, Márcio Stefanello</i>	
ON THE DIRECT DEADBEAT CONTROL OF SWITCHED-MODE POWER CONVERTERS	5961
<i>Albert Iskhakov, Vladimir Pospelov, Valery Kobylansky, Sergey Skovpen</i>	
POWER MANAGEMENT AND CONTROL OF A WIND ENERGY CONVERSION SYSTEM (WECS) WITH A FUZZY LOGIC BASED MAXIMUM POWER POINT TRACKING (MPPT)	5966
<i>Joanne Hui, Praveen K. Jain</i>	
SEQUENCE-BASED LYAPUNOV STABILITY OF POWER-ELECTRONIC CONVERTERS	5972
<i>Sudip Mazumder, Alireza Tajfar</i>	

RFID TECHNOLOGY AND WIRELESS SENSORS

A MONITORING SYSTEM FOR IDENTIFICATION AND VALIDATION OF THE ENERGETIC MODEL OF A BUILDING USING WIRELESS SENSOR NETWORKS	5984
<i>Elena Aguilar, Antonio Torralba, Ramon Gonzalez, Joaquín Cabezas, Jose Sanchez, Jose Manuel Salmeron</i>	
A NEURAL NETWORK APPROACH FOR RADIO FREQUENCY BASED INDOORS LOCALIZATION	5990
<i>Abilio Azenha, Luis Peneda, Adriano Carvalho</i>	
AUTOMATED METER READING BASED ON IEEE 802.15.4	5996
<i>José Peral, Emilio Merlo, Ricardo Labrador, Antonio Torralba, Ramón G. Cavajal, María Gil, Daniel Villalba, Alfonso Grande, Manuel Moreno, Jesús Viguera</i>	
DEVELOPMENT OF A CASCADE TOPOLOGY BASED ON IEEE 802.15.4 FOR A VERTICAL TRANSPORTATION SYSTEM.....	6002
<i>David Daza, Elena Aguilar, Ramón G. Carvajal, Carlos Rubia-Marcos</i>	
GAME THEORETIC CHANNEL ASSIGNMENT FOR WIRELESS SENSOR NETWORKS WITH GEOGRAPHIC ROUTING.....	6007
<i>Carlos Henrique Barriuello, Gustavo Weber Denardin, Alexandre Campos, Ricardo Nederson Do Prado</i>	
HARDWARE-SOFTWARE INTEGRATION PLATFORM FOR A WSN TESTBED BASED ON COOKIES NODES.....	6013
<i>Gabriel Mujica, Victor Rosello, Jorge Portilla, Teresa Riesgo</i>	
ON THE DESIGN OF WIRELESS SENSOR NETWORKS FOR AUTONOMOUS HELIOSTATS IN SOLAR TOWER POWER PLANTS.....	6019
<i>Joaquin Cabezas, Elena Aguilar, Alejandro Pastor, Alejandro Méndez, Antonio Torralba, Ramon G. Carvajal, Evaristo Aranda, Jesus Viguera</i>	
SIMULATION TOOL AND CASE STUDY FOR PLANNING WIRELESS SENSOR NETWORK	6024
<i>Danping He, Gabriel Mujica, Jorge Portilla, Teresa Riesgo</i>	
SMART PARKING SERVICES BASED ON WIRELESS SENSOR NETWORKS	6029
<i>Jihoon Yang, Jorge Portilla, Teresa Riesgo</i>	
WIRELESS STRUCTURAL HEALTH MONITORING SYSTEM BASED ON AUTOREGRESSIVE MODELS.....	6035
<i>Eduardo Hidalgo, Fernando Muñoz, Alfonso Guerrero De Mier, Ramón Gonzalez, Antonio Torralba, Rafael Castro, Rafael Gallego</i>	

MATRIX CONVERTERS

4-LEG MATRIX CONVERTER INTERFACE FOR A VARIABLE-SPEED DIESEL GENERATION SYSTEM.....	6044
<i>Roberto Cardenas, Jon Clare, Patrick Wheeler</i>	
AN OPERATIVE COMPARISON OF TWO DVR TOPOLOGIES BASED ON MATRIX CONVERTER WITHOUT ENERGY STORAGE	6050
<i>José M. Lozano, M. Hernandez-Figueroa, J. Ramirez</i>	
CHALLENGES OF HIGH SPEED DIGITAL CONTROL IN A SIC JFET MATRIX CONVERTER IMPLEMENTATION	6057
<i>Liliana De Lillo, Lee Empringham, Pat Wheeler, Martin Schulz</i>	
COMPARISON OF MODEL BASED PREDICTIVE CONTROL AND FUZZY LOGIC CONTROL OF A DFIG WITH AN INDIRECT MATRIX CONVERTER	6063
<i>Christian F. Calvillo, Alejandro Olloqui, Fernando Martell Chávez, José Luis Elizondo Carrales, Alfonso Ávila, Manuel Eduardo Macías García, Marco Rivera, José Rodríguez</i>	
DYNAMICS AND STABILITY OF MATRIX-CONVERTER BASED PERMANENT MAGNET WIND TURBINE GENERATOR.....	6069
<i>Bingsen Wang, Giri Venkataramanan</i>	
EFFICIENCY ANALYSIS FOR RB-IGBT BASED MATRIX CONVERTERS.....	6076
<i>Thomas Schulte, Günter Schröder</i>	
FAULT LOCATION IN MATRIX CONVERTERS USING LOW FREQUENCY MODULATION MATRICES FOR SVM BASED MODULATION TECHNIQUES.....	6082
<i>Christopher Brunson, Liliana De Lillo, Lee Empringham, Pat Wheeler, Jon Clare</i>	
IMPROVED TWO-STEPS VOLTAGE-COMMUTATION STRATEGY UNDER NON-1 INPUT POWER FACTOR IN MATRIX CONVERTER	6088
<i>Wei Cai, Bi He, Mingzhong Qiao, Xiaofeng Zhang</i>	
MATRIX CONVERTER WITH A SERIES Z-SOURCE	6093
<i>Ekrem Karaman, Mehdi Farasat, Andrzej M. Trzynadlowski</i>	
NOVEL TOPOLOGIES FOR THREE-LEVEL BACK-TO-BACK CONVERTERS BASED ON MATRIX CONVERTER THEORY	6099
<i>Korawich Niyomsatian, Surachet Samermurn, Surapong Suwankawin, Somboon Sangwongwanich</i>	
REDUCTION OF COMMON-MODE VOLTAGE IN AN INDIRECT MATRIX CONVERTER WITH IMPOSED SINUSOIDAL INPUT/OUTPUT WAVEFORMS.....	6105
<i>Marco Rivera, Jose Rodriguez, Jose Espinoza, Bin Wu</i>	
SPACE VECTOR MODULATION FOR SINGLE-INPUT DUAL-OUTPUT INDIRECT MATRIX CONVERTER.....	6111
<i>Tuyen D. Nguyen, Hong-Hee Lee</i>	

PETRI NETS FIFTY YEARS AFTER: APPLICATIONS AND THEORY FOR INDUSTRY ELECTRONICS

EXTENDING A NET SPLITTING OPERATION FOR DECOMPOSITION OF HIGH-LEVEL PETRI NETS	6120
<i>Filipe Moutinho, Luis Gomes</i>	
FINDING BEST URBAN ROUTES BASED ON ANALYSES OF HIGH LEVEL AND IOPT PETRI NET MODELS	6126
<i>Henrique Dezani, Luis Gomes, Furio Damiani, Norian Marranghello</i>	
MODEL COMPOSITION BY REUSING PETRI NET BASED MODULES	6132
<i>Aniko Costa, Luis Gomes, Joao Paulo Barros</i>	
ON THE VERIFICATION OF NON-AUTONOMOUS PETRI NET MODELS USING AUTONOMOUS PETRI NET TOOLS	6138
<i>Joao Paulo Barros, Luis Gomes, Aniko Costa</i>	
SERVICE-ORIENTED SCADA AND MES SUPPORTING PETRI NETS BASED ORCHESTRATED AUTOMATION SYSTEMS	6144
<i>Armando W. Colombo, J. Marco Mendes, Paulo Leitao, Stamatis Karnouskos</i>	
WEB BASED IOPT PETRI NET EDITOR WITH AN EXTENSIBLE PLUG-IN ARCHITECTURE TO SUPPORT GENERIC NET OPERATIONS	6151
<i>Fernando Pereira, Filipe Moutinho, José Ribeiro, Luis Gomes</i>	

INFORMATION TECHNOLOGY IN AUTOMATION

AUTOMATION SYSTEMS - FORMAL MODELING OF TEMPORAL CHANGE OF PHYSICAL STRUCTURE	6160
<i>Markus Göring, Alexander Fay</i>	
ENGINEERING OF AUTOMATED MANUFACTURING SYSTEMS WITH MECHATRONIC OBJECTS	6166
<i>Michael Weyrich, Philipp Klein</i>	
INVESTIGATION OF THE USE OF EMBEDDED WEB SERVICES IN SMART METERING APPLICATIONS	6172
<i>Vlado Altmann, Jan Skodzik, Frank Golasowski, Dirk Timmermann</i>	
NAVIGATING BETWEEN TOOLS IN HETEROGENEOUS AUTOMATION SYSTEMS ENGINEERING LANDSCAPES	6178
<i>Richard Mordinyi, Thomas Moser, Dietmar Winkler, Stefan Biffl</i>	
SUPPORTING INTEGRATED DEVELOPMENT OF CLOSED-LOOP PLC CONTROL SOFTWARE FOR PRODUCTION SYSTEMS	6185
<i>Susanne Rösch, Daniel Schütz, Gülden Bayrak, Birgit Vogel-Heuser</i>	

INNOVATIONS IN ELECTRICAL MACHINE DESIGN FOR VARIABLE-SPEED AND POWER DRIVES

EVALUATION OF THE MAGNETIZATION DIRECTION EFFECTS ON FERRITE PM BRUSHLESS FRACTIONAL MACHINES	6194
<i>Luca Ferraris, Paolo Ferraris, Emir Poskovic, Alberto Tenconi</i>	
OPTIMAL DESIGN AND IMPLEMENTATION OF A PERMANENT MAGNET LINEAR VERNIER MACHINE FOR DIRECT-DRIVE WAVE ENERGY EXTRACTION	6200
<i>Wenlong Li, K. T. Chau, Christopher H. T. Lee</i>	
REDUCTION IN CURRENT HARMONICS OF ELECTROLYTIC CAPACITOR-LESS DIODE RECTIFIER USING INVERTER-CONTROLLED IPM MOTOR	6206
<i>Hiroaki Utsugi, Kiyoshi Ohishi, Hitoshi Haga</i>	
RESEARCH ON LIGHTNING OVER-VOLTAGE IN 1000KV GAS INSULATED SWITCHGEAR SUBSTATION	6212
<i>Yu Zhang, Wei Xu, Nian Liu, Yunhong Zhang, Jiefeng Hu, Jianguo Zhu</i>	
THEORETICAL RESEARCH ON SHORT CIRCUIT FAULT OF ROTOR INNER WINDING IN LARGE TURBO GENERATOR	6218
<i>Bin Qin, Wei Xu, Nian Liu, Yunhong Zhang, Jiefeng Hu, Jianguo Zhu</i>	

INTEGRATED CIRCUIT DESIGNS FOR WIRELESS COMMUNICATIONS

A DESIGN METHODOLOGY OF LOSSY TRANSCONDUCTANCE FILTERS	6228
<i>Pradeep Dandamudi, Timothy A. Brown, Xing Wu, Marcin Jagiela, Bogdan M. Wilamowski</i>	
A 100MHZ FIFTH-ORDER LOW-PASS OTA-C FILTER USING FOLDED STAGES	6234
<i>Xin Jin, Fa Dai</i>	
A HARMONIC REJECTION MIXER IN WIDEBAND TRANSMITTER	6240
<i>Yuehai Jin, Fa Foster Dai</i>	
EFFECT OF CMOS DEVICE SIZING ON CIRCUIT NOISE PERFORMANCE	6244
<i>Hossein Noori, Fa F. Dai</i>	
OPERATIONAL AMPLIFIER DESIGN WITH GAIN-ENHANCEMENT DIFFERENTIAL AMPLIFIER	6248
<i>Phuoc T. Tran, Herbert L. Hess, Kenneth V. Noren</i>	

PANEL ON EMERGING TECHNOLOGY IN INDUSTRIAL ELECTRONICS

A COMPREHENSIVE ANALYSIS OF HYBRID ACTIVE POWER FILTER FOR POWER QUALITY ENHANCEMENT 6258
Salem Rahmani, Abdelhamid Hamadi, Kamal Al-Haddad

CURRENT TRENDS IN IN-VEHICLE ELECTRICAL ENGINEERING APPLICATIONS..... 6268
Parameshwaran Gnanachchelvi, Jiao Yu, Michael Pukish

CURRENT TRENDS IN INDUSTRIAL CONTROL..... 6274
Xing Wu, Hao Yu, Tiantian Xie, Michael S. Pukish

CURRENT TRENDS IN POWER AWARE DESIGN 6280
Philip Reiner, Tiantian Xie

LATEST TRENDS IN INTEGRATING BUILDING AUTOMATION AND SMART GRIDS - SURVEY PAPER..... 6285
Dietmar Bruckner, Jan Haase, Peter Palensky, Gerhard Zucker

NEW APPROACHES TO SELECTED PROBLEMS OF PRECISE SPEED AND POSITION CONTROL OF DRIVES..... 6291
Stefan Brock, Krzysztof Zawirski

RECENT ADVANCES IN ENERGY HARVESTING TECHNOLOGY AND TECHNIQUES 6297
Michael C. Hamilton

RECENT ADVANCES IN THE APPLICATION OF REAL-TIME COMPUTATIONAL INTELLIGENCE TO INDUSTRIAL ELECTRONICS..... 6305
Michael S. Pukish, Philip Reiner, Xing Wu

RECENT DEVELOPMENTS IN WIRELESS HARDWARE DESIGN, MODELING, AND ANALYSIS FOR INDUSTRIAL APPLICATIONS..... 6315
Michael S. Pukish, Parameshwaran Gnanachchelvi, Xing Wu

SERIES ACTIVE CONDITIONNERS FOR RELIABLE SMART GRID: A COMPREHENSIVE REVIEW 6320
Alireza Javadi, Nicolas Geiss, Handy Fortin Blanchette, Kamal Al-Haddad

SWITCH-MODE POWER CONVERTERS FOR HARMONICS MITIGATION IN POWER SYSTEMS - TECHNOLOGY PROGRESS 6328
Hadi Y. Kanaan, Kamal Al-Haddad, Salem Rahmani

Author Index