

2015 18th International Conference on Electrical Machines and Systems (ICEMS 2015)

**Pattaya, Thailand
25-28 October 2015**

Pages 1-721



**IEEE Catalog Number: CFP15801-POD
ISBN: 978-1-4799-8806-8**

**Copyright © 2015 by the Institute of Electrical and Electronic Engineers, Inc
All Rights Reserved**

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

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

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

IEEE Catalog Number:	CFP15801-POD
ISBN (Print-On-Demand):	978-1-4799-8806-8

Additional Copies of This Publication Are Available From:

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

CURRAN ASSOCIATES INC.
proceedings
.com

TABLE OF CONTENTS

RESEARCH OF FOUR-SWITCH THREE-PHASE BLDC MOTOR CONTROL SCHEME BASED ON QUASI Z-SOURCE CONVERTER.....	1
<i>Kun Xia, Lirong Shen, Bin Dong, Yanneng Zeng, Shuzhi Sam Ge</i>	
SENSORLESS PMSM DRIVE FOR WIDE SPEEDS USING MODIFIED MRAS AND DC LINK QUANTITIES.....	7
<i>Jyoti Agrawal, Sanjay Bodkhe</i>	
SLIDING MODE OBSERVER-BASED PARAMETER ESTIMATION METHOD FOR PMSM	14
<i>X.G. Zhang, S.W. Fan</i>	
COMPARATIVE STUDY OF CONSTANT POWER SPEED RANGE OF THREE PERMANENT MAGNET BRUSHLESS MACHINES WITH DIFFERENT D-AXIS INDUCTANCE FOR ELECTRIC VEHICLES	18
<i>Weiwei Gu, Li Quan, Xiaoyong Zhu, Yi Du, Kai Shi</i>	
STUDY OF PERMANENT MAGNET MOTOR USING A THREE-DIMENSIONAL BEND CORE	23
<i>Yuichi Yoshikawa</i>	
DESIGN AND ANALYSIS OF OPEN-SLOT FAULT-TOLERANT PERMANENT-MAGNET MOTORS ...	29
<i>Qian Lei, Wenxiang Zhao, Jinghua Ji, Guohai Liu, Liang Xu</i>	
IMPROVED INSTANTANEOUS REACTIVE POWER COMPENSATOR APPLIED SENSORLESS CONTROL OF IPMSM WITH ADAPTIVE BACK EMF AND CURRENT MODEL OBSERVER	34
<i>Joon-Min Lee, Soon-Je Park, Woo-Hee Kim, Maeng Joo Won, Young-Seok Kim</i>	
EQUIVALENT VARIABLE PERMEANCE-NETWORKS ANALYSIS FOR OUT-ROTOR DOUBLE-SALIENT PERMANENT-MAGNET IN-WHEEL MOTORS	40
<i>Guizhuang Jiang, Li Quan, Xiaoyong Zhu, Yi Du</i>	
REDUCTION OF CORE LOSS IN THE DISTRIBUTED WINDING IPMSM FOR ISG APPLICATION	46
<i>Eung-Seok Park, Ye-Jun Oh, In-Gun Kim, Hyung-Woo Lee, Ju Lee</i>	
UNITY POWER FACTOR CONTROL OF DUAL PERMANENT MAGNET SYNCHRONOUS MOTORS FED BY FIVE-LEG INVERTER SYSTEM	50
<i>Zhaohui Fu, Yi Du, Yuxin Sun, Huangqiu Zhu</i>	
ANALYSIS AND INHIBITION OF TOOTH TIP LEAKAGE IN THE PMSM WITH THE SIMILAR SLOT AND POLE NUMBER	54
<i>T. Dong, R. Liang, L.F. Liu</i>	
A REFERENCE FLUX CALCULATION METHOD WITH STATOR FLUX LINKAGE SYNCHRONOUS FRAME FOR MTPA CONTROL IN DIRECT TORQUE CONTROLLED PMSM DRIVES	58
<i>Atsushi Shinohara, Yukinori Inoue, Shigeo Morimoto, Masayuki Sanada</i>	
DESIGN ASPECTS OF IPM SYNCHRONOUS WIND GENERATOR	64
<i>X. Feng</i>	

RESEARCH ON FIELD CURRENT CONTROL OF HYBRID EXCITATION PERMANENT MAGNET SYNCHRONOUS GENERATOR	70
<i>Xia Yonghong, Wang Shanming, Liu Junbo, Huang Shaogang</i>	
INVESTIGATION OF FLUX REGULATION PERFORMANCE OF A NOVEL HYBRID EXCITATION BRUSHLESS CLAW-POLE ALTERNATOR	75
<i>Changqing Zhu, Xiuhe Wang, Dongwei Qiao</i>	
RESEARCH OF BRUSHLESS PERMANENT MAGNET SYNCHRONOUS GENERATOR BASED ON INDUCED EXCITATION	79
<i>Bo Jiang, Changqing Zhu</i>	
DESIGN OF ELECTROMAGNETIC FIELD OF PERMANENT MAGNET GENERATOR FOR VTOL SERIES-HYBRID UAV	83
<i>Jun_Bo Yun, Sooyoung Cho, Huai_cong Liu, Hyung-Woo Lee, Ju Lee</i>	
EFFICIENCY EVALUATION OF RECTIFIER SYSTEM FOR PMSG WITH HIGHLY EFFICIENT SERIES REACTIVE COMPENSATOR	87
<i>Yosuke Yamada, Takanori Isobe, Ryuichi Shimada, Hiroshi Tadano</i>	
OPTIMAL DESIGN OF OUTER-ROTOR SPMSG FOR PERMANENT MAGNET REDUCTION USING OPTIMIZATION METHOD	93
<i>Jin_Hwan Lee, Jun-Young Song, Jong-Wook Kim, Yong-Jae Kim, Sang-Yong Jung</i>	
MEASUREMENT OF TORQUE HARMONICS OF A CAGE INDUCTION MACHINE UNDER ROTOR ECCENTRICITY	98
<i>Bishal Silwal, Paavo Rasilo, Ari Haavisto, Anouar Belahcen, Antero Arkkio</i>	
COUPLED ANALYTICAL AND 3D NUMERICAL THERMAL ANALYSIS OF A TEFC INDUCTION MOTOR	103
<i>Devi_Geetha Nair, Tapani Jokinen, Antero Arkkio</i>	
SYNTHESIZED MAGNETIC FLUX DENSITY IN THREE-PHASE CAGE INDUCTION MACHINES WITH MATLAB & SIMULINK	109
<i>W._M. Bischof, M._D. Hennen, R._M. Kennel</i>	
SENSORLESS CONTROL USING IMPROVED STATOR FLUX ESTIMATOR FOR HIGH-SPEED INDUCTION MOTORS	116
<i>Park, Byounggun, Dong-Jun Kim, Pil-Wan Han, Yon-Do Chun, Jae-Hak Choi</i>	
A STUDY OF THE CHARACTERISTIC OF THE HIGH-VOLTAGE INDUCTION MOTOR CONSIDERING THE MAGNETIC WEDGE EFFECT WITH POLES	122
<i>Jae-myung Cha, Rae-eun Kim, Jee-hun Choi, Jang-ho Yun</i>	
FIELD ORIENTED CONTROL OF 3 PHASE INDUCTION MOTOR DRIVE BY 2 PHASE INVERTER .	125
<i>Ufot_Ufot Ekong, Mamiko Inamori, Masayuki Morimoto</i>	
RESEARCH ON CONTROL STRATEGY FOR PARALLEL MULTI-SEGMENT LONG PRIMARY DOUBLE-SIDED LINEAR INDUCTION MOTOR	129
<i>Qin Liu, Ruihua Zhang, Yumei Du, Liming Shi</i>	

MAIN LOSSES STUDY OF CRYOGENIC INDUCTION MOTOR FOR SUBMERGED LIQUID NATURAL GAS PUMP	133
<i>Ai Chengliu, Huang Yuanfeng, Wang Haifeng</i>	
A TWO-STEP MODEL PREDICTIVE CONTROL STRATEGY FOR DUAL INDUCTION MOTOR DRIVE SYSTEM FED BY FIVE-LEG INVERTER	137
<i>Yang Mei, Zichen Yi, Zhengxi Li</i>	
AN ACCURATE STRAY LOSS CALCULATION METHOD OF SQUIRREL-CAGE INDUCTION MOTORS FOR EFFICIENCY OPTIMIZATION	143
<i>Qing Gu, Liqiang Yuan, Zhengming Zhao, Fang Liu, Jianning Sun</i>	
A STUDY OF THE EFFECT OF THE STATOR TOOTH SHAPE ON THE CHARACTERISTICS OF THREE-PHASE INDUCTION MOTOR WITH CONCENTRATED WINDINGS	150
<i>Yuta Funaki, Masanori Nakamura, Isao Hirotosuka, Kazuo Tsuboi, Makoto Yoshida</i>	
TWO SINGLE-PHASE INDUCTION MOTOR DRIVES USING A FIVE-LEG VOLTAGE SOURCE INVERTER	156
<i>Sirichai Dangeam, Vijit Kinnarees</i>	
ROTOR DESIGN OF A 150KW 6,000RPM/25,000RPM HIGH SPEED INDUCTION MOTOR FOR TESTING EQUIPMENT OF EV/HEV TRACTION MOTORS	163
<i>Takafumi Nagaoka, Masatsugu Takemoto, Satoshi Ogasawara</i>	
POWER FLOW AND EFFICIENCY ANALYSIS OF THREE-PHASE INDUCTION GENERATOR	169
<i>Chatchai Suppitaksakul, Phanuphol Pinrarainon, Sirichai Dangeam</i>	
A NEW HYBRID TRANSIENT ENERGY LIKE IMPROVEMENT FOR CURRENT FEATURE ANALYSIS OF INDUCTION MOTOR UNDER DYNAMIC MECHANICAL FAULTS USING WAVELET PACKET DECOMPOSITION	173
<i>Chamni Jaipradidtham, Thanapong Yampoo</i>	
DESIGN OF SURFACE PERMANENT MAGNET-TYPE VERNIER MOTOR USING HALBACH ARRAY MAGNET	177
<i>Yasuhiro Kataoka, Masakazu Takayama, Yoshitarou Matsushima, Yoshihisa Anazawa</i>	
STUDY OF REDUCING VIBRATION AND NOISE BY CLAW-POLE BRAZING FOR AUTOMOBILE CLAW-POLE ALTERNATORS	184
<i>Fan Yang, Xiaohua Bao, Chong Di, Zhiheng Chen</i>	
DRIVING PARAMETER SURVEY AND EXPERIMENT OF RAILWAY DRIVE SYSTEM BY TWO OR MORE PMSMS CONTROLLED BY ONE INVERTER	189
<i>Takuma Ito, Hiromi Inaba, Keiji Kishine, Keisuke Ishikura</i>	
STUDY TO REDUCE THE AMOUNT OF MAGNETIC MATERIALS IN IPM MOTOR WHICH FOCUSES ON THE RARE EARTH MAGNET USAGE AND DEMAGNETIZATION	195
<i>Mitsuhiko Satoh, Seiichi Kaneko, Mutuwo Tomita, Shinji Doki</i>	
RESEARCH ON PERMANENT MAGNET SYNCHRONOUS MOTOR WITH SEGMENTED PERMANENT MAGNET USED FOR SPINDLE	200
<i>Wang Xiaojie, Yang Kai, Pan Zhicheng</i>	

A NOVEL SPEED CONTROL OF HYBRID EXCITATION SYNCHRONOUS MOTOR BASED ON ANTI-WINDUP OF CURRENT REGULATOR	204
<i>Tang Jie, Liu Chuang, Ning Yinhang, Zhu Shushu, Gan Xingye</i>	
THE EVALUATION OF THE DESIGN AND OPERATION OF THE 400MW EVAPORATIVE COOLING HYDROGENERATOR IN LIJIAXIA HYDROPOWER STATION	209
<i>Ruan Lin, Liu Feihui, Gu Guobiao</i>	
IPMSM WITH FERRITE MAGNETS FOR HIGH SPEED	214
<i>Tanaka Tomohiro, Miki Ichiro</i>	
THE INFLUENCE OF PERMANENT MAGNET LENGTH ON ELECTROMAGNETIC PERFORMANCE IN FLUX SWITCHING MACHINES	218
<i>Guozhong Wu, Wei Hua</i>	
UNITY POWER FACTOR CONTROL STRATEGY OF ELECTRICALLY EXCITED SYNCHRONOUS MOTOR FED BY HIGH POWER BACK-TO-BACK CONVERTER	223
<i>Haibin Zhu, Lu Zhuao, Yang Liu, Liming Shi</i>	
THE OPTIMUM DESIGN OF INTERIOR PERMANENT MAGNET SYNCHRONOUS MOTOR FOR THE VIBRATION REDUCTION	227
<i>Gyeong-Deuk Lee, Gyu-Tak Kim, Heung-Kyo Shin</i>	
DESIGN OF A NOVEL FLUX-INTENSIFYING INTERIOR PERMANENT-MAGNET MOTOR FOR APPLYING TO REFRIGERANT COMPRESSOR	232
<i>Ming-Tsung Chui, Jui-An Chiang, Zew-Lee Gaing, Yao-Yang Hsien</i>	
INVESTIGATION OF DOUBLE-SIDE MULTI-TOOTH SWITCHED-FLUX LINEAR MOTOR	237
<i>Qinfen Lu, Huanwen Li, Xiaoyan Huang, Dingkuan Ye, Yunyue Ye</i>	
A NEW DOUBLE-SIDED PRIMARY WOUND FIELD FLUX-SWITCHING LINEAR MOTORS	243
<i>Yi Jin, Ruiwu Cao, Yanze Zhang, Xuefeng Jiang, Wenxin Huang</i>	
DEVELOPMENT OF SURFACE PERMANENT MAGNET-TYPE LINEAR VERNIER MOTOR	248
<i>Ming-Tsung Chui, Jui-An Chiang, Zew-Lee Gaing, Yao-Yang Hsien</i>	
OPTIMIZATION AND COMPARISON OF C-CORE AND E-CORE LINEAR SWITCHED-FLUX PM MACHINES WITH ODD PRIMARY POLES	254
<i>Jiabao Liu, Qinfen Lu, Yunyue Ye, Xiaoyan Huang</i>	
RESEARCH ON VELOCITY-MEASURING OF HIGH SPEED LINEAR MOTOR	260
<i>Laiyuan Zhang, Liming Zong, Ruihua Zhang, Qiongquan Ge, Liming Shi</i>	
LEVITATION PERFORMANCE ANALYSIS FOR BEARINGLESS SWITCHED RELUCTANCE MOTOR	264
<i>Bingkun Xue, Huijun Wang, Shaofei Tang, Jianing Liang</i>	
ANALYSIS OF FORCE CHARACTERISTIC OF A LINEAR INDUCTION MOTOR CONSIDERING SECONDARY OVERHANG EFFECT	271
<i>Jaewon Lim, Jae-Hoon Jeong, Jang-Young Choi, Doh-Young Park</i>	

CHARACTERISTICS ANALYSIS OF SINGLE-SIDED IRONLESS LINEAR SYNCHRONOUS MOTOR BASED ON PERMANENT MAGNET HALBACH ARRAY	275
<i>Zhihua Zhang, Liming Shi, Qiongquan Ge, Yaohua Li</i>	
DESIGN AND OPTIMIZATION OF MODIFIED PROPORTIONAL-RESONANT CONTROLLER FOR CURRENT CONTROL OF A MAGNETICALLY SUSPENDED FLYWHEEL	279
<i>Zhenzhong Su, Dong Wang, Leitao Wu, Yongzhe Kang, Xianbiao Zhang</i>	
DRIVE PERFORMANCE EVALUATION OF LINEAR SWITCHED RELUCTANCE MOTOR USING A CURRENT SOURCE INVERTER	285
<i>Tadashi Hirayama</i>	
SHAPE OPTIMIZATION FOR MAXIMIZING FERROMAGNETIC REPULSIVE FORCE USING SHAPE SENSITIVITY AND ADAPTIVE LEVEL SET METHOD	290
<i>Seong_Hwan Lee, Seung_Geon Hong, Kang_Hyook Lee, Hong_Soon Choi, Il_Han Park</i>	
DESIGN AND PERFORMANCE ANALYSIS OF A DUAL STATOR LINEAR SWITCH RELUCTANCE MACHINE CONSIDERING FORCE RIPPLES	295
<i>Wang Daohan, Wang Xiuhe, Xiong Lixin</i>	
A NOVEL VARIABLE REACTOR BASED ON AN INVERTER-CONTROLLED TRANSFORMER	299
<i>Dayi Li, Kaihua Jing, Guoqing Yang, Guidong Yan, Weidong Li</i>	
OPTIMAL DESIGN OF COMPACT MAIN INSULATION STRUCTURE OF PETT	303
<i>Fangcheng Lü, Danrong Li, Yunxiang Guo, Chao Fu, Hui Wang</i>	
A HARMONICS ELIMINATION METHOD USING A NOVEL THREE-WINDING TRANSFORMER FOR HVDC TRANSMISSION SYSTEMS	307
<i>Ken-ichiro Yamashita, Yoshiki Kameda, Shoji Nishikata</i>	
RESEARCH ON THE KEY TECHNOLOGY OF CONTACTOR ELECTRICAL LIFE TEST	312
<i>Ming Zong, Yong_Heng Li, Dizhong Chen</i>	
ANALYSIS OF CONTACTLESS POWER TRANSFER SYSTEM CHARACTERISTICS INFLUENCED BY MULTI-PRIMARY MULTI-SECONDARY CONTACTLESS TRANSFORMER	316
<i>Yajie Zhao, Yumei Du, Hua Cai, Ruihua Zhang, Liming Shi</i>	
CALCULATION OF STRAY LOSSES IN POWER TRANSFORMER STRUCTURAL PARTS USING FINITE ELEMENT METHOD COMBINED WITH ANALYTICAL METHOD	320
<i>Fangcheng Lü, Danrong Li, Yunxiang Guo, Chao Fu, Hui Wang</i>	
GPU ACCELERATION OF EBE METHOD FOR 3-D LINEAR STEADY EDDY CURRENT FIELD	325
<i>Dongyang Wu, Xiuke Yan, Renyuan Tang, Dexin Xie</i>	
SOFTWARE DEVELOPMENT FOR POWER TRANSFORMER CONDITION EVALUATION USING DISSOLVED GAS ANALYSIS METHODS; PRACTICAL EXPERIENCE IN THAILAND	329
<i>Thanapong Suwanasri, Paiboon Sirimongkol, Cattareeya Suwanasri, Rattanakorn Phadungthin</i>	
DESIGN METHOD OF CROSS CURRENT SUPPRESSION CONTROL FOR PARALLEL OPERATION SYSTEM CONSTRUCTED WITH TWO ELECTRIC POWER CONVERTERS	334
<i>Keisuke Ishikura, Hiromi Inaba, Keiji Kishine, Takuma Ito, Kazuki Ikebata</i>	

SLIDING MODE AND PREDICTIVE CURRENT CONTROL FOR VIENNA-TYPE RECTIFIERS	340
<i>Chen Bing, Hui Ma, Yunxiang Xie, Yingpin Wang</i>	
ANALYSIS AND DESIGN OF A NEW SINGLE-PHASE II-TYPE 5-LEVEL INVERTER	345
<i>Yanshen Hu, Yunxiang Xie, Li Cheng</i>	
SMOOTH SHIFTING ON HYBRID PULSE WIDTH MODULATION STRATEGIES FOR HIGH POWER VARIABLE FREQUENCY AC DRIVES	350
<i>Ma Xun, Li Yao-hua, Ge Qiong-xuan, Zhao Lu, Zhao Zhen</i>	
A FAST STABLE CONTROL SCHEME FOR VIENNA RECTIFIER	355
<i>Yingpin Wang, Yunxiang Xie, Zeyu Shi, Hui Ma</i>	
IMPROVED QUASI-Z-SOURCE DUAL-INVERTER FOR OPEN-END WINDING INDUCTION MOTOR DRIVES	359
<i>Chunjie Li, Wenxin Huang, Feifei Bu</i>	
STUDY OF THREE INPUTS COMBINATION REACTOR OF PARALLEL OPERATION SYSTEM CONSTRUCTED WITH MULTIPLE ELECTRIC POWER CONVERTERS	366
<i>Kazuki Ikebata, Keisuke Ishikura, Hiromi Inaba, Keiji Kishine</i>	
PRECISE CONTROL LAW OF MMC AND ITS APPLICATION IN REDUCING CAPACITOR VOLTAGE RIPPLE BY INJECTING CIRCULATING CURRENT	371
<i>Kai Li, Chen Li, Fred_C. Lee, Mingkai Mu, Zhengming Zhao, Sizhao Lu, Liqiang Yuan, Ting Lu</i>	
VOLTAGE AND CURRENT BALANCE CONTROL FOR THE ISOP CONVERTER-BASED POWER ELECTRONIC TRANSFORMER	378
<i>Kai Xu, Chao Fu, Yi Wang, Hui Wang</i>	
A PASSIVITY-BASED POWER CONTROL FOR A THREE-PHASE THREE-LEVEL NPC RECTIFIER	383
<i>Zhang Zhi</i>	
RESEARCH ON NO LC FILTER CIRCUIT SINGLE-PHASE RECTIFIER TOPOLOGY BASED ON THE COUPLED INDUCTORS	387
<i>Lu Zhao</i>	
A MULTIFUNCTIONAL POWER QUALITY CONTROLLER FOR MICROGRID	391
<i>Weidong Li, Guoqing Yang, Guidong Yan, Kaihua Jing, Dayi Li</i>	
AN OPTIMAL DC-LINK VOLTAGE CONTROL STRATEGY OF SHUNT ACTIVE POWER FILTER ...	396
<i>Yuanpeng Guan, Yunxiang Xie, Yu Wang, Bing Chen</i>	
STUDY ON BLACK START STRATEGY OF MICROGRID WITH PV AND MULTIPLE ENERGY STORAGE SYSTEMS	402
<i>Zhirong Xu, Ping Yang, Qunru Zheng, Zhiji Zeng</i>	
DESIGN AND CONSTRUCTION OF MAGNETOSTRICTIVE ENERGY HARVESTER FOR POWER GENERATING FLOOR SYSTEMS	409
<i>Baiping Yan, Chengming Zhang, Liyi Li, He Zhang, Shuang Deng</i>	

EXPERIMENTAL INVESTIGATIONS ON POWER CONTROL OF A HYBRID WIND POWER PLANT CONSISTING OF SERIES-CONNECTED WIND TURBINE GENERATORS	413
<i>Nobunari Watanabe, Fujio Tatsuta, Shoji Nishikata</i>	
A MODEL PREDICTIVE CONTROL METHOD FOR THREE-LEVEL BI-DIRECTIONAL DC-DC CONVERTER FOR RENEWABLE GENERATION SYSTEM	417
<i>Yang Mei, Xiaoqing Li, Yuanyuan Qi</i>	
CONTROL STRATEGY OF ENERGY STORAGE SYSTEM FOR FREQUENCY SUPPORT OF AUTONOMOUS MICROGRID	422
<i>Zhuoli Zhao, Ping Yang, Zhirong Xu, Timothy_C. Green, Nathaniel Bottrell</i>	
OPERATION AND CONTROL OF ISOLATED MICROGRID WITH WIND TURBINES AND SEAWATER DESALINATION EQUIPMENT	427
<i>Xiangyu Zhang, Kui Huang, Yi Wang, Yan Xu</i>	
IMPROVED OPERATION ALGORITHM FOR PARALLEL THREE PHASE PWM CONVERTER AT LIGHT LOAD CONDITIONS	432
<i>Keun-Wan Koo, Cheol-Hun Kwak, Dong-Hee Kim, Byoung-Kuk Lee</i>	
MAXIMUM POWER POINT TRACKING FOR DIRECT DRIVING NINE-PHASE FSPM WIND GENERATOR	436
<i>Ying Fan, Zipeng Xia, Xuehao Zhao, Ming cheng</i>	
IMPROVEMENT OF THE SWITCHING SYSTEM IN THE POWER DISTRIBUTION FOR THREE-PHASE TO SINGLE-PHASE MATRIX CONVERTER SYSTEM WITH NEUTRAL LINE	442
<i>Keita Aoki, Naoki Yamamura, Muneaki Ishida</i>	
LIGHT-LOAD EFFICIENCY IMPROVING ALGORITHM IN CASCADED BUCK-BOOST CONVERTER	448
<i>Dong-Hee Kim, Jin Hur, Byoung-Kuk Lee</i>	
A NEW TOPOLOGY SCHEME AND CONTROL STRATEGY OF PHOTOVOLTAIC INVERTER WITH THE CURRENT-SHARING REACTOR	452
<i>Cheng Li, Yunxiang Xie, Yanshen Hu, Lu Xiang</i>	
EFFICIENCY ANALYSIS AND DESIGN OF HEATING STRUCTURE OF HIGH POWER ELECTROMAGNETIC THERMAL ENERGY STORAGE SYSTEM	458
<i>Fengge Zhang, Yonggang Jiao, Xiaoju Yin</i>	
THREE-PHASE HIGH PERFORMANCE RECTIFIER FOR 380V DC DISTRIBUTION SYSTEM IN DATA CENTER APPLICATION	463
<i>Zhida Zhou, Qiongquan Ge, Tingrui Cui, Liming Zong</i>	
HIGH EFFICIENCY POWER SUPPLY UNIT FOR SERVER POWER APPLICATION	469
<i>Jong-Mu Lee, Seung-Wook Hyun, Chung-Yuen Won</i>	
PHASE CURRENT COMPENSATION METHOD FOR 3-LEVEL NPC DUAL BATTERY PACK CHARGE/DISCHARGE SYSTEM	474
<i>Kwang-Su Na, Young-Sang Ko, Seung-Wook Hyun, Seok-Jin Hong, Chung-Yuen Won</i>	

ANALYSIS OF THE EFFICIENCY CHARACTERISTICS OF AN LLC RESONANT CONVERTER HAVING A CURRENT DOUBLER RECTIFICATION CIRCUIT	480
<i>Donghyun Lee, Jung_yoon Shin, Soon_Sang Hwang, Hag_Wone Kim, Byung_Kuk Lim</i>	
NOVEL, SIMPLE REACTIVE POWER CONTROL STRATEGY WITH CONSTANT DC CAPACITOR VOLTAGE CONTROL FOR ACTIVE LOAD BALANCER ON THREE-PHASE FOUR-WIRE DISTRIBUTION FEEDERS UNDER DISTORTED SOURCE VOLTAGE CONDITIONS	485
<i>Su_Hlaing Wint, Yoshihiro Hisada, Hiroaki Yamada, Toshihiko Tanaka, Masayuki Okamoto, Seong_Ryong Lee</i>	
SMART CHARGER FOR ELECTRIC VEHICLES ON SINGLE-PHASE THREE-WIRE DISTRIBUTION FEEDERS WITH CONSTANT DC-CAPACITOR VOLTAGE CONTROL BASED STRATEGY UNDER MULTIPLE HOUSEHOLD CUSTOMERS	492
<i>Fuka Ikeda, Hidenori Tanaka, Hiroaki Yamada, Toshihiko Tanaka, Masayuki Okamoto</i>	
A NEW POSITION LOOP STIFFNESS TESTING METHOD FOR LINEAR MOTOR SERVO SYSTEMS	498
<i>He Zhang, Baoquan Kou, Chaoning Zhang</i>	
THE COMPARISON STUDY OF TWO SERVO DYNAMIC STIFFNESS DEFINITIONS FOR LINEAR MOTOR SERVO SYSTEMS	503
<i>Chaoning Zhang, He Zhang, Baoquan Kou</i>	
CONSTRUCTION OF A ROTATING POWER ELECTRONIC CONVERTER FOR INDUCTION MACHINE OPERATION	507
<i>Alija Cosic, Yanmei Yao, Chandur Sadarangani, Naveed-Ur-Rehman Malik</i>	
PERFORMANCE AND CONTROL METHOD OF PMSMS TRACTION SYSTEM IN HIGH SPEED TRAIN UNDER PASSING NEUTRAL SECTION CONDITION	512
<i>Xinxing Huang, Yihua Yao, Qinfen Lu, Xiaoyan Huang, Youtong Fang</i>	
A PROPOSAL OF AN EMERGENCY STOP SYSTEM UTILIZING ELEVATOR'S DOUBLE-CAGE STRUCTURE	517
<i>Takato Uchida, Toshiko Nakagawa</i>	
HYBRID PFC-INVERTER TOPOLOGY FOR BIDIRECTIONAL ON BOARD CHARGER FOR RANGE EXTENDED ELECTRIC VEHICLE	521
<i>Yun-Sung Kim, Gwi-Chul Park, Jung-Hoon Ahn, Byoung-Kuk Lee</i>	
RESEARCH ON COORDINATED CHARGING FOR ELECTRIC VEHICLES	525
<i>Yang Yong, Liu Zhizhen, Cong Min</i>	
AN EV QUICK CHARGER BASED ON CHADEMO STANDARD WITH GRID-SUPPORT FUNCTION	531
<i>Phoompat Jampeethong, Surin Khomfoi</i>	
OPTIMAL HYSTERESIS CONTROL METHOD FOR CCM DRIVING OF A SINGLE-STAGE PFC FLYBACK CONVERTER WITHOUT ELECTRICAL CAPACITORS FOR LED LIGHTINGS	537
<i>Choon-Tack Kim, Min-Cheol Chae, Young-Seok Kim</i>	
A MODULAR BATTERY EQUALIZER BASED ON ZERO-VOLTAGE-SWITCHING CONVERTERS ..	543
<i>Gao Zhigang, Jiang Fenlin, Gao Han</i>	

NEUTRAL-POINT BALANCING CONTROL OF VIENNA-TYPE RECTIFIER BASED ON CORRELATION BETWEEN CARRIER-BASED PWM AND SVM	547
<i>Hui Ma, Yunxiang Xie, Zeyu Shi, Bing Chen</i>	
AN ENERGY-BASED MULTI-LOOPS CONTROL STRATEGY FOR MODULAR MULTILEVEL CONVERTER	553
<i>Sizhao Lu, Liqiang Yuan, Zhengming Zhao, Fred_C. Lee, Renle Huang</i>	
HYSTERESIS CONTROL WITH CONSTANT SWITCHING FREQUENCY OF SINGLE PWM RECTIFIER	559
<i>Gao Zhigang, Fan Hui</i>	
ISOLATED MULTI-PORT DC-DC CONVERTER BASED ON A HIGH-FREQUENCY TRANSFORMER	564
<i>Gao Zhigang, Jiang Fenlin</i>	
THREE LEVEL SINGLE-PHASE HALF-BRIDGE NPCVSI INDUCTION HEATING WITH COMBINED PHASE SHIFT PWM AND PFM DIGITAL POWER CONTROL	569
<i>Sittichok Kaewoonruan, Santi Nuratch, Wanchak Lenwari</i>	
COMPARISON OF SVPWM FOR FIVE LEVEL NPC H-BRIDGE INVERTER AND TRADITIONAL FIVE LEVEL NPC INVERTER BASED ON LINE-VOLTAGE COORDINATE SYSTEM	574
<i>Haotian Chang, Rong Wei, Qiongquan Ge, Xiaoxin Wang, Haibin Zhu</i>	
THE AFFECT OF DEAD-TIME TO ZVS PHASE-SHIFTED FULL-BRIDGE CONVERTER	578
<i>Wen-tie Yang, Pan Geng, Yulin Wang, Ping Zhang, Xu Zhengxi</i>	
SUPPRESSION OF COMPENSATION VOLTAGE PULSATIONS FOR VOLTAGE SAG/SWELL COMPENSATOR UTILIZING SINGLE-PHASE MATRIX CONVERTOR	581
<i>Kichiro Yamamoto, Yu Tsurusaki, Sho Ehira, Minoru Ikeda</i>	
PHYSICAL MODEL WITH PARAMETER EXTRACTION METHOD FOR FUJI ELECTRIC 1.7KV IGBT	587
<i>Shiqi Ji, Ting Lu, Zhengming Zhao, Tatsuhiko Fujihira, Seiki Igarashi</i>	
DESIGN AND IMPLEMENTATION OF AC-DC HYBRID MULTI-PORT ENERGY ROUTER FOR POWER DISTRIBUTION NETWORKS	591
<i>Liqiang Yuan, Shusheng Wei, Junjie Ge, Zhengming Zhao, Renle Huang</i>	
HYBRID COMMUNICATION TOPOLOGY AND PROTOCOL FOR DISTRIBUTED-CONTROLLED CASCADE H-BRIDGE MULTILEVEL STATCOM	597
<i>Chao Zhang, Hua Geng, Shuzhen Li, Geng Yang, Lei Dong</i>	
DEVELOPMENT OF QUASI 36-STEP VOLTAGE SOURCE INVERTER BY INJECTING HARMONICS	603
<i>Mamoru Kasuga, Shigeo Masukawa</i>	
A STUDY ON THE ARC DETECTION METHOD WITH RSSI	608
<i>Seung_Kook Yang, Yeon_Su Kim, In-Gun Kim, Taejun Choi, Ju Lee</i>	

ANALYSIS OF PERIOD-DOUBLING BIFURCATION AND CHAOS USING PHYSICS-BASED SIC DIODE MODEL	612
<i>Fen Xu, Pingan Tan</i>	
3-D SPACE VECTOR PWM FOR THREE-PHASE FOUR-WIRE ACTIVE FILTER	616
<i>Yang Ping, Tang Cheng</i>	
ANALYSIS OF TEMPERATURE FIELD DISTRIBUTION OF MAGNETIC-FLUID BEARING FOR HIGH-SPEED TRAINS	620
<i>Ji-tuo Chen, Ji-en Ma, You-tong Fang, Ting Li</i>	
AN ENHANCED REPETITIVE CURRENT CONTROL STRATEGY FOR THREE-PHASE SHUNT ACTIVE POWER FILTER	624
<i>Biaoguang Sun, Yunxiang Xie</i>	
AN IMPROVED REPETITIVE CONTROL SCHEME FOR ACTIVE POWER FILTER WITH FREQUENCY-ADAPTIVE CAPABILITY	630
<i>Biaoguang Sun, Yunxiang Xie</i>	
ANALYTICAL DETERMINATION OF OPTIMAL SPLIT RATIO FOR HIGH-SPEED PERMANENT MAGNET BRUSHLESS MOTORS	636
<i>Quanwu Li, Manfeng Dou, Chun Fang</i>	
INTERNAL MODEL CONTROL OF PERMANENT MAGNET SYNCHRONOUS MOTOR USING DISCRETE EVENT SYSTEM APPROACH	641
<i>Jayarama Pradeep, R. Devanathan</i>	
ONLINE Q-AXIS INDUCTANCE AND RESISTANCE IDENTIFICATION OF IPM SYNCHRONOUS MOTOR BASED ON RELATIONSHIP BETWEEN ITS PARAMETER MISMATCH AND CURRENT ...	648
<i>Xiang Ji, Toshihiko Noguchi</i>	
POSITION ESTIMATION OF INTERIOR PERMANENT-MAGNET SYNCHRONOUS MOTORS BASED ON FICTITIOUS INDUCED EMF WITH SWITCHING-FREQUENCY SIGNAL INJECTION	654
<i>Supachoke Techaudomtaworn, Somboon Sangwongwanich</i>	
EFFECT OF MAGNET MATERIALS ON OPTIMAL DESIGN OF A HIGH SPEED PMSM	661
<i>Floran Martin, Mohamed_El-Hadi Zaïm, Anouar Belahcen</i>	
MODELING OF SWITCHED RELUCTANCE MACHINE WITH FEW SAMPLES BASED ON CHAOTIC FUZZY NEURAL NETWORK	668
<i>Shoujun Song, Lefei Ge</i>	
OPTIMIZATION FOR SHORT-CIRCUIT FAULT-TOLERANT MATHEMATICAL MODEL OF SINGLE-WINDING BEARINGLESS SWITCHED RELUCTANCE MOTOR	672
<i>Lei Zhang, Zhiquan Deng, Xin Cao, Han Yang</i>	
IMPACT OF ZERO-VOLT LOOP ON EFFICIENCY OF SWITCHED RELUCTANCE MOTORS	677
<i>Tetsuya Kojima, Rik_W_De Doncker</i>	
VERNIER RELUCTANCE DUAL-STATOR INNER-ROTOR MACHINES WITH CLOSE SLOT	682
<i>Linyuan Xiao, Jian Li, Ronghai Qu, Dawei Li, Yuting Gao</i>	

FINITE ELEMENT ANALYSIS FOR BEARINGLESS OPERATION OF A MULTI FLUX BARRIER SYNCHRONOUS RELUCTANCE MOTOR	688
<i>Victor Mukherjee, Jenni Pippuri, Anouar Belahcen, Seppo_E. Saarakkala, Marko Hinkkanen, Kari Tammi</i>	
ANFIS-BASED MAXIMUM POWER POINT TRACKING CONTROL OF PV MODULES WITH DC-DC CONVERTERS	692
<i>Chu, Yuan-Ting, Yuan, Li-Qiang, Chiang, Hsin-Han</i>	
APPLICATION OF THE DC-LINK CURRENT SENSORS OF THE BACK-TO-BACK CONVERTERS FOR THE OPERATION OF A DOUBLY-FED INDUCTION GENERATOR	698
<i>Warachart Suwan-ngam, Surin Khomfoi</i>	
LIGHTWEIGHT DESIGN OF ROTOR SUPPORTING STRUCTURE OF LARGE PM WIND GENERATOR BASED ON RESPONSE SURFACE MODEL	705
<i>Zhenyu Wu, Ronghai Qu, Jian Li, Haiyang Fang, Zansong Fu</i>	
DYNAMIC PERFORMANCES OF A PRACTICAL SCALE WIND POWER PLANT CONSISTING OF SERIES-CONNECTED TEN WIND TURBINE GENERATORS	711
<i>Fujio Tatsuta, Shoji Nishikata, Katsumi Suzuki</i>	
WIND TURBINE SIMULATOR BASED GRID CONNECTED ASYMMETRICAL TWO-PHASE INDUCTION GENERATOR	717
<i>Narongchai Thodsaporn, Chaiwut Choorak, Vijit Kinnarees</i>	
STATOR DEFORMATION CAUSED BY MAGNETIC FORCES IN LARGE SUBMERSIBLE TUBULAR MOTORS	722
<i>Chong Di, Xiaohua Bao, Hanfeng Wang, Fan Yang, Lang Wang</i>	
DYNAMIC MODELING AND SIMULATION OF INDUCTION MOTORS WITH DIFFERENT BEARING FAULTS	726
<i>Mansour Ojaghi, Mahdi Sabouri</i>	
LOSS MODELING OF THREE-LEG VOLTAGE SOURCE INVERTER FED ASYMMETRICAL TWO-PHASE INDUCTION MOTOR	732
<i>Prayad Kongsuk, Vijit Kinnarees</i>	
VECTOR CONTROL SYSTEM FOR ASYMMETRICAL TWO-PHASE INDUCTION MOTOR DRIVES	737
<i>Navee Rujidam, Watcharin Promkhun, Rungwicha Chaiyot, Vijit Kinnarees</i>	
PERFORMANCE EVALUATION OF THREE-PHASE INDUCTION GENERATOR OPERATING AS GRID CONNECTED SINGLE-PHASE INDUCTION GENERATOR USING ELECTRONIC CAPACITOR	743
<i>Sawat Yukhalang, Budhapon Sawetsakulanond, Vijit Kinnarees</i>	
BATTERY CHARGE EQUALIZER WITH AN AUXILIARY CIRCUIT AND A VOLTAGE DOUBLER RECTIFIER	748
<i>Chih-Chiang Hua, Yi-Hsiung Fang, Yan-Liang Chen</i>	
HARMONIC RESONANCE ASSESSMENT OF 1X25KV, 50HZ TRACTION POWER SUPPLY SYSTEM FOR SUVARNABHUMI AIRPORT RAIL LINK	752
<i>Bancha Lutrakulwattana, Mongkol Konghirun, Anawach Sangswang</i>	

INDUCTIVE SUPPLY FOR HIGHLY INSULATED DEVICE	756
<i>Paolo Germano, Jonathan Chavanne, Yoan Civet, Yves Perriard</i>	
NEW ON-LINE LIFEPO4 BATTERY PACK BALANCING APPROACH WITH STATE OF CHARGE AS CRITERION	762
<i>Xiudong Cui, Weixiang Shen, Jinchuan Zheng</i>	
A NEW LLC CONVERTER FOR ELECTRIC VEHICLES BATTERY CHARGER	768
<i>Chih-Chiang Hua, Yi-Hsiung Fang, Cheng-Wei Lin</i>	
OPTIMAL DESIGN OF FLUX-BARRIER TO IMPROVE TORQUE PERFORMANCE OF IPMSM FOR ELECTRIC SPINDLE	773
<i>Zhicheng Pan, Kai Yang, Xiaojie Wang</i>	
ON THE REDUCTION OF ROTOR LOSSES IN INTERIOR PERMANENT MAGNET MOTOR DESIGN AND CONSTRUCTION	779
<i>Sisuda Chaithongsuk, Phatipat Thounthong, Noureddine Takorabet, Babak Nahid-Mobarakeh</i>	
A SIMPLE INITIAL ROTOR POSITION IDENTIFICATION METHOD FOR PMSM	786
<i>Wei Wang, Jinghao Zhang, Ming Cheng</i>	
THERMAL ANALYSIS OF A “V”-SHAPE SANDWICHED FLUX SWITCHING PERMANENT MAGNET MACHINE FOR ELECTRIC VEHICLES	790
<i>Hui Zhou, Li Quan, Xiaoyong Zhu, Yi Du</i>	
CORE LOSS INCREASE DUE TO INVERTER CARRIER FREQUENCY IN AN INTERIOR PERMANENT MAGNET SYNCHRONOUS MOTOR	795
<i>Nicolas Denis, Kouhei Fujitani, Yoshiyuki Kato, Masaharu Ieki, Keisuke Fujisaki</i>	
AN IMPROVED PREDICTIVE CURRENT CONTROL FOR PMLSM CONSIDERING PARAMETER VARIATION	801
<i>Mingyi Wang, Liyi Li, Donghua Pan, Chengming Zhang, Qingbo Guo</i>	
V/F CONTROL OF SPMSM WITH THE STABILIZING LOOP USING A REDUCED ORDER OBSERVER	805
<i>Soon-Je Park, Joon-Min Lee, Woo-Hee Kim, Young-Seok Kim</i>	
RESEARCH ON TORQUE PERFORMANCE OF SIX-PHASE PMSM WITH SIMILAR POLE AND SLOT NUMBER	810
<i>T. Dong, F._H. Li, B. Peng, R._Q. Wang</i>	
SPEED AND POSITION SENSORLESS CONTROL FOR PERMANENT MAGNET SYNCHRONOUS MOTOR USING MRAS METHOD	814
<i>Eung-Seok Park, Kyoung_Jin Joo, In-Gun Kim, Hyung-Woo Lee, Ju Lee</i>	
ENERGY MANAGEMENT CONTROL STRATEGY FOR PLUG-IN HYBRID ELECTRIC VEHICLE WITH BRUSHLESS DUAL-ROTOR FLUX-SWITCHING PERMANENT MAGNET MOTOR	818
<i>Yingpin Wang, Yunxiang Xie, Zeyu Shi, Hui Ma</i>	

ESTIMATION FOR OPERATION REGION OF INTERIOR PERMANENT MAGNET SYNCHRONOUS MOTOR CONSIDERING HARMONICS	824
<i>Byungkwan Son, Gyeong-Jae Park, Yong-Jae Kim, Sang-Yong Jung</i>	
DESIGN OF AXIAL TYPE SLOT-LESS PMSM AND SYSTEMS FOR ELECTRIC WHEELBARROW ...	830
<i>Keisuke Okada, Kan Akatsu</i>	
NEW STATOR STRUCTURE MITIGATING VIBRATION AND NOISE IN SWITCHED RELUCTANCE MOTOR	836
<i>Luan Ru</i>	
ELECTROMAGNETIC STUDY ON NOVEL COAXIAL DOUBLE FLUX-SWITCHING PERMANENT MAGNET MACHINES	840
<i>Guangkun Lian, Guobiao Gu, Yunkai Cheng, Sixiang Wang, Jie Tao</i>	
COMPARATIVE STUDY ON SWITCHED RELUCTANCE AND FLUX-SWITCHING MACHINES WITH SEGMENT ROTORS	845
<i>Guangkun Lian, Guobiao Gu, Yunkai Cheng, Jie Tao, Sixiang Wang</i>	
DECOUPLING PRINCIPLE, MODEL AND ROTOR DESIGN OF A NOVEL 12/4 BEARINGLESS SWITCHED RELUCTANCE MOTOR	849
<i>Zeyuan Liu, Xiaoyuan Chen, Xin Cao</i>	
DEVELOPMENT OF 8/4 HIGH-SPEED TWO-PHASE SRM USED IN A GRINDING MACHINE	854
<i>Changlong Wu, Yanliang Xu, Dongshan Fu, Yun Zhang</i>	
DESIGN OF LOW COST TWO-PHASE SWITCHED RELUCTANCE MOTOR SYSTEM BASED ON PARAMETERS OPTIMIZATION	858
<i>Dongshan Fu, Yanliang Xu, Yun Zhang</i>	
INVESTIGATION OF DIRECT TORQUE CONTROL AND TORQUE SHARING FUNCTION STRATEGY FOR SWITCHED RELUCTANCE MOTOR APPLICATION	864
<i>Qingguo Sun, Jianhua Wu, Chun Gan, Mengjie Shen, Yihua Hu</i>	
PRESENTATION AND ANALYSIS OF A NOVEL HYBRID STEPPING MOTOR WITH STATOR-PERMANENT-MAGNET STRUCTURE	869
<i>Binglin Lu, Yanliang Xu, Feng Xin</i>	
DEVELOPMENT OF A HIGH EFFICIENT ELECTRIC DRIVE WITH SYNCHRONOUS RELUCTANCE MOTOR	876
<i>Vladimir Dmitrievskii, Vladimir Prakht, Vadim Kazakbaev, Andrey Pozdeev, Safarbek Oshurbekov</i>	
FLEXIBLE DESIGN OF RELUCTANCE SYNCHRONOUS MACHINES USING CONSTRAINED GENETIC ALGORITHM OPTIMIZATION	882
<i>Thomas Hubert, Michael Reinlein, Andreas Kremser, Hans-Georg Herzog</i>	
A DESIGN OF SWITCHED RELUCTANCE MOTOR AND DRIVE SYSTEM FOR HIGH PERFORMANCE ELECTRIC MOTORCYCLE	888
<i>Seubsuang Kachapornkul, Sangkla Kreuawan, Nattapon Chayopitak , Pakasit Somsiri, Prasit Champa</i>	

FABRICATION OF TRANSVERSALLY AND AXIALLY LAMINATED ANISOTROPIC SYNCHRONOUS RELUCTANCE MOTOR BASED ON 3D PRINTING	894
<i>Zhi-Yong Zhang, Mi-Ching Tsai, Jian-Mi Huang, Po-Wei Huang</i>	
EXPERIMENTAL INVESTIGATION OF CONTROL PARAMETERS OF SRM DRIVES IN CONTINUOUS CONDUCTION MODE	898
<i>Chavana Yoopakdee, Nisai Fuengwarodsakul</i>	
NONLINEAR RELUCTANCE NETWORK METHOD FOR SYNCHRONOUS RELUCTANCE MACHINE ANALYSIS.....	904
<i>Thomas Hubert, Richard Steckel, Michael Reinlein, Andreas Kremser, Hans-Georg Herzog</i>	
OPTIMUM DESIGN OF A SWITCHED RELUCTANCE MOTOR BASED ON DIRECT INSTANTANEOUS TORQUE CONTROL	911
<i>Yulin Wang, Wei Zhang, Shuchun Yao, Bojian Chen</i>	
DESIGN CONSIDERATION OF THE OFFSET OF THE CYLINDRICAL SHAPE ROTOR SWITCHED RELUCTANCE MOTOR FOR HYBRID ELECTRIC VEHICLES	914
<i>Kyohei Kiyota, Akira Chiba</i>	
RESEARCH ON POSITION DETECTION OF SPHERICAL MOTOR BASED ON MAGNETIC FIELD MEASUREMENT	920
<i>Shan Ma, Guoli Li, Qunjing Wang, Zhe Qian, Hao Meng</i>	
A HIGH-SPEED ELECTROMAGNETIC OSCILLATORY ACTUATOR WITH MULTIPLE MOVERS AND MULTIPLE RESONANT FREQUENCIES	925
<i>Yinggang Bu, Tsutomu Mizuno, Zhihui Duan</i>	
SLIP TORQUE INVESTIGATION AND MAGNETIC REDESIGN OF MOTOR INTEGRATED PERMANENT MAGNET GEAR	929
<i>Tommy Frandsen, Peter_Omand Rasmussen</i>	
A NEW SINGLE-PHASE FLUX REVERSAL MOTOR WITH THE CORES MADE OF SOFT MAGNETIC COMPOSITE MATERIALS	936
<i>Vladimir Dmitrievskii, Vladimir Prakht, Alexandr Mikhailitsyn</i>	
THE RESEARCH ON MECHANICAL PROPERTIES OF DIRECT DRIVE HIGH-SPEED PERMANENT-MAGNET MACHINE FOR COMPRESSION	940
<i>Tianyu Wang, Zhenjie Ma, Chen Zhang, Fengge Zhang, Xiaowei Yin</i>	
DYNAMIC MODEL OF COAXIAL MAGNETIC PLANETARY GEAR	944
<i>Oleg Molokanov, Pavel Dergachev, Ahmed Alami, Pavel Kurbatov</i>	
INFLUENCE OF FERROMAGNETIC POLE-PIECES ON MAGNETIC TRANSMISSIONFOR CONVERTING BETWEEN ROTARY AND RECTILINEAR MOTION	949
<i>Xinghe Fu, Biao Wang, Kai Liu, Mingyao Lin, Nian Li</i>	
A NOVEL VECTOR CONTROL STRATEGY FOR VARIABLE FREQUENCY AC POWER SYSTEM BASED ON THE DUAL STATOR-WINDING INDUCTION GENERATOR	953
<i>Ning Su, Wenxin Huang, Shenglun Zhuang</i>	

METHODOLOGY OF PREDICTION THE ROTOR POSITION OF SPHERICAL PERMANENT MAGNET SYNCHRONOUS MOTOR	958
<i>Yun-Soo Kim, Dong-Woo Kang, Ju Lee</i>	
OPTIMIZATION OF THE ROTOR GEOMETRY OF THE HIGH-SPEED INTERNAL PERMANENT MAGNET BEARINGLESS MOTOR WITH SEGMENTED MAGNETS	962
<i>Pekko Jaatinen, Rafal Jastrzebski, Hiroya Sugimoto, Olli Pyrhönen, Akira Chiba</i>	
DESIGN AND ANALYSIS OF HIGH SPEED BLDC MOTOR FOR CENTRIFUGE	968
<i>Hyeon-Myeong Yang, Jin-Wook Cha, Bok-Hyun Baik, Byung-Il Kwon</i>	
A RADIAL-INSERTED PERMANENT MAGNET-MAGNETIC COUPLING DESIGN BASED ON ADDITIVE MANUFACTURING	973
<i>Guan-Min Tseng, Mi-Ching Tsai, Po-Wei Huang</i>	
COMPARISON STUDY ON DOUBLE-C STATOR-HOOP TRANSVERSE FLUX PERMANENT MAGNET GENERATOR CONSIDERING POLE-PAIR NUMBER	977
<i>Zhou Jia, Weifeng Chen, Lei Huang</i>	
3-D PARALLEL FINITE ELEMENT METHOD WITH PRISMATIC EDGE ELEMENTS FOR DYNAMIC ANALYSIS OF ELECTROMAGNETS	981
<i>Tadashi Yamaguchi, Yoshihiro Kawase, Shunsuke Hori, Yoshiki Iwai</i>	
NUMERICAL ANALYSIS OF STRANDED WIRE COIL WITH MAGNETIC SUBSTRATE USING 3-D FINITE ELEMENT METHOD	985
<i>Yoshihiro Kawase, Tadashi Yamaguchi, Daichi Kato, Shota Tsukada, Koichi Ida, Kazuhiro Ito, Yoshinari Fukui, Noriaki Nishikawa</i>	
A NEW APPROACH OF DC BIAS ELIMINATION AND HARMONIC SUPPRESSION TECHNOLOGY IN POWER TRANSFORMER	989
<i>Zhiwei Chen, Bai Baodong, Dezhi Chen</i>	
LOSSES CALCULATION AND TEMPERATURE FIELD ANALYSIS OF ELECTRICALLY EXCITED BRUSHLESS SYNCHRONOUS MOTOR	995
<i>Fengge Zhang, Yang Zheng, Guanglong Jia, Shi Jin</i>	
THE RESONANT POWER TRANSFER CHARACTERISTIC ANALYSIS OF SYSTEM ARCHITECTURES WITH MULTI-RECEIVER COILS	1000
<i>Jing Zhou, Xiaoyan Huang, Yuqing Gao, Youtong Fang, Shihou Cao</i>	
THERMAL ANALYSIS OF 3MW PERMANENT MAGNET EMBEDDED SALIENT POLE WIND GENERATOR	1005
<i>Yujing Guo, Ping Jin, Yue Yuan, Zhenfei Chen, Baocheng Guo</i>	
RESEARCH ON THE METHOD OF AC CURRENT ZERO-CROSSING DETECTION BASED ON HALL SWITCHES	1010
<i>Ming Zong, Tonglin Liu, Dizhong Chen, Tongtong Wu</i>	
DEVELOPMENT OF VERTICAL RING HIGH GRADIENT MAGNETIC SEPARATOR WITH EVAPORATIVE COOLING SYSTEM	1015
<i>Fuchuan Song, Fengfei Luan, Jiayi Yuan, Biao Chen, Fengliang Liu</i>	

SQUIRREL CAGE INDUCTION MOTOR CAST ROTOR DEFECT DETECTION WITH MAGNETIC FIELD ANALYSIS	1019
<i>Scott_W. Clark, Daniel Stevens</i>	
3-COIL RESONANCE STRUCTURE WIRELESS POWER TRANSFER FOR 5KV IMPLANTABLE DEVICE	1024
<i>Jiantao Zhang, Chunbo Zhu, Paolo Germano, Yves Perriard</i>	
QUASI-UNIFORM MAGNETIC FIELD GENERATED BY MULTIPLE TRANSMITTERS OF RESONANT WIRELESS POWER TRANSFER	1030
<i>Yiming Zhang, Ting Lu, Zhengming Zhao, Fanbo He, Kainan Chen</i>	
LOW-COST ENERGY MANAGEMENT CIRCUIT BASED ON PRIMARY FEEDBACK SELF-OSCILLATING FLYBACK CONVERTER FOR PIEZOELECTRIC ENERGY HARVESTING	1035
<i>Bundit Khemmanee, Don Isarakorn</i>	
COMPARATIVE STUDY OF CONTROL STRATEGIES FOR A NOVEL DUAL-STATOR BRUSHLESS DOUBLY-FED INDUCTION GENERATOR IN WIND ENERGY APPLICATIONS	1039
<i>Xinchi Wei, Ming Cheng, Peng Han, Wei Wang, Rensong Luo</i>	
DIRECT POWER RIPPLE REJECTION OF GRID-CONNECT INVERTER UNDER HARMONICALLY DISTORTED VOLTAGE CONDITIONS	1046
<i>Xing Wang, Zhen Xie</i>	
DYNAMIC BEHAVIOR OF DFIG DURING ASYMMETRICAL VOLTAGE DIPS IN A COUPLED SIMULATION	1051
<i>Aimeng Wang, Siwan Shu, Yi Wang</i>	
ASYMMETRIC FAULT RIDE-THROUGH CHARACTERISTIC ANALYSIS OF DUAL STATOR-WINDING INDUCTION GENERATOR WIND POWER SYSTEM	1059
<i>Kai Shi, Zengqiang Wan, Peifeng Xu, Kerong Liu</i>	
STEADY-STATE VOLTAGE STABILITY ANALYSIS AND IMPROVEMENT STRATEGIES OF MICROGRID WITH DOUBLE FED INDUCTION WIND GENERATOR	1063
<i>Zhuoli Zhao, Ping Yang, Timothy_C. Green, Yiwei Ma, Zhirong Xu</i>	
ZERO DEAD-TIME PWM IMPLEMENTATION METHOD FOR REDUCING TOTAL HARMONIC DISTORTION IN 3-LEVEL NPC INVERTER	1069
<i>Yong Kan, Seung-Wook Hyun, Seok-Jin Hong, Chung-Yuen Won</i>	
ANALYSIS OF DC BUS OVERVOLTAGE IN PARALLEL PHOTOVOLTAIC SYSTEMS	1074
<i>Lan Wang, Zhenxing Wu, Liang Zhou, Jun Kang</i>	
FUZZY CONTROL STRATEGY OF ENERGY STORAGE FOR WIND-STORAGE SYSTEM	1080
<i>Xiao Yang, Chunjuan Jia, Pei Zhang, Fengjun Yi, Zike Sun</i>	
THE OPERATING METHOD OF MICRO-GRID INCLUDING DISTRIBUTED POWER.....	1086
<i>Min-Ho Shin, Kyu-Bum Kim, Young-Hoon Park, Chung-Yuen Won</i>	

COMPARISON BETWEEN MECHANICAL CIRCUIT BREAKER AND SOLID STATE CIRCUIT BREAKER UNDER ABNORMAL CONDITIONS FOR LOW VOLTAGE SYSTEMS	1091
<i>Supawat Kamtip, Krischonme Bhumkittipich</i>	
OPERATING CHARACTERISTICS OF DIFFERENT INNER EVAPORATIVE COOLING SYSTEMS OF GENERATORS	1097
<i>Haihong Dong, Lin Ruan, Shuqin Guo</i>	
MAXIMUM EFFICIENCY POINT TRACKING OF WIRELESS POWER TRANSFER SYSTEM FOR BATTERY CHARGING OF ELECTRIC VEHICLES	1101
<i>Liqiang Yuan, Boyang Li, Yiming Zhang, Fanbo He, Zhengming Zhao</i>	
APPLIED TO SUPERCONDUCTING MOTOR ROTOR MICROVOLT DC VOLTAGE DETECTION TECHNOLOGY RESEARCH	1108
<i>Jie Tao, Guobiao Gu, Guangkun Lian, Yunkai Cheng, Sixiang Wang</i>	
THE OPTIMIZATION DESIGN OF NEW-TYPE ENERGY-SAVING COPPER-CLAD ALUMINUM BUSBAR	1111
<i>Sixiang Wang, Guobiao Gu, Guangkun Lian, Yunkai Cheng, Jie Tao</i>	
A DISTRIBUTED CHARGING COORDINATION OF PLUG-IN ELECTRIC VEHICLES BASED ON POTENTIAL GAME CONSIDERING FEEDER OVERLOAD CONSTRAINT	1114
<i>Renzhi Yu</i>	
MECHANICS CHARACTERISTIC OF MAGNETICALLY SHAPE MEMORY ALLOY VIBRATING SENSOR	1119
<i>Jun Lu, Zhongma Wang, Xia Li, Qingyang Yu, Lin Gao</i>	
DATA MONITORING SYSTEM FOR EVAPORATIVE COOLING ECR BASED ON LABVIEW	1123
<i>Shuqin Guo, Lin Ruan, Bin Xiong, Haihong Dong, Zhenguo Li</i>	
DESIGNING ELECTRO MAGNETIC MOTOR SKEW STRUCTURE AND METHOD TO SKEW ANALYSIS USING FEM	1127
<i>Jun_Bo Yun, Gang-Seok Lee, Huai_cong Liu, Hyung-Woo Lee, Ju Lee</i>	
HIGH SPEED 2-PHASE 4/3 SWITCHED RELUCTANCE MOTOR FOR AIR-BLOWER APPLICATION: DESIGN, ANALYSIS, AND EXPERIMENTAL VERIFICATION	1131
<i>Pham_Trung Hieu, Dong-Hee Lee, Jin-Woo Ahn</i>	
ELECTROMAGNETIC AND THERMAL COUPLING ANALYSIS OF A WATER-COOLED DOUBLE-SIDED PERMANENT MAGNET LINEAR SYNCHRONOUS MOTOR	1136
<i>Yi Chen, Yihua Yao, Qinfen Lu, Yunyue Ye, Xiaoyan Huang</i>	
ANALYSIS OF THRUST RIPPLE OF PERMANENT MAGNET LINEAR SYNCHRONOUS MOTOR WITH SKEWED PMS	1141
<i>Yihua Yao, Yi Chen, Qinfen Lu, Xiaoyan Huang, Yunyue Ye</i>	
COGGING FORCE REDUCTION FOR THE LINEAR FLUX-SWITCHING PERMANENT MAGNET MACHINES BASED ON A TWISTED STATOR	1147
<i>Wenjuan Hao, Zhiquan Deng, Yu Wang</i>	

NEW TWO-AXIS MODEL BASED FIELD ORIENTED CONTROL STRATEGY FOR SINGLE-SIDED LINEAR INDUCTION MOTORS	1151
<i>Wei Xu, Dong Hu, Chaoxu Mu</i>	
ULTRA-HIGH TEMPERATURE (250°C / 500°F) BEARINGLESS PUMP FOR FLUID HANDLING IN THE SEMICONDUCTOR INDUSTRY	1158
<i>T. Wellerdieck, P. Peralta, T. Nussbaumer, J.W. Kolar</i>	
GENERALIZED REGRESSION NETWORKS FOR PARTIAL DISCHARGE CLASSIFICATION	1165
<i>Norasage Pattanadech, Phethai Nimsanong, Siriwat Potivejkul, Pearawut Yutthagowith, Sompob Polmai</i>	
ANALYSIS OF ROTOR EDDY CURRENT LOSS WITH DIFFERENT MAGNETIZATION DIRECTIONS IN PM BLDC MOTOR	1170
<i>Hla_Nu Phyu, Jiang Quan</i>	
PARTIAL DISCHARGE CLASSIFICATION USING PROBABILISTIC NEURAL NETWORK MODEL	1176
<i>Norasage Pattanadech, Phethai Nimsanong, Peerawut Yutthagowith, Pearawut Yutthagowith, Sompob Polmai</i>	
OPTIMIZATION AND ANALYSIS OF PERMANENT-MAGNET SYNCHRONOUS MACHINE WITH ECCENTRIC MAGNETIC POLE SHAPE	1181
<i>Zhenfei Chen, Zhixin Li, Hongzhong Ma, Yujing Guo</i>	
ANALYSIS OF MAGNETIC FIELD EFFECTS OPERATORS WORKING A POWER TRANSMISSION LINE USING 3-D FINITE ELEMENT METHOD	1187
<i>Arak Bunmat, Padej Pao-la-or</i>	
STATOR WINDING INTER-TURN SHORT CIRCUIT FAULTS SEVERITY DETECTION CONTROLLED BY OW-SVPWM WITHOUT CMV OF FIVE-PHASE FTFSCW-IPM	1192
<i>Ying Fan, Weixia Zhu, Xiangyang Zhang, Li Zhang</i>	
DESIGN OF AIRBORNE ELECTRICAL LOAD MANAGEMENT CENTER WITH HIGH RELIABILITY BASED ON DISSIMILAR REDUNDANT TECHNIQUE	1198
<i>Xiaolin Kuang, Hong Guo, Jinquan Xu, Tong Zhou</i>	
OPEN-CIRCUIT FAULT DIAGNOSIS OF A DUAL-WINDING FAULT-TOLERANT PERMANENT MAGNET MOTOR DRIVE FOR AEROSPACE APPLICATIONS	1204
<i>Xuefeng Jiang, Wenxin Huang, Ruiwu Cao, Pengcheng Zhu, Wen Jiang</i>	
FAULT DIAGNOSIS OF DUAL REDUNDANCY BLDC MOTOR	1209
<i>Fu Zhaoyang</i>	
INTER-TURN FAULT DETECTION FOR THE INVERTER-FED INDUCTION MOTOR BASED ON THE TEAGER-KAISER ENERGY OPERATION OF SWITCHING VOLTAGE HARMONICS	1214
<i>He Liu, Yan Sun, Jin Huang, Zhaowen Hou, Tong Wang</i>	
INSTABILITY ANALYSIS OF FORCED CIRCULATION EVAPORATIVE COOLING ECRIS SOLENOIDS	1220
<i>Ruan Lin, Liu Feihui</i>	

THERMAL ANALYSIS AND COOLING SYSTEM DESIGN OF FLUX SWITCHING PERMANENT MAGNET MACHINE	1224
<i>Wei Li, Ming Cheng, Wei Hua</i>	
EXPERIMENTAL STUDY AND CFD COUPLING SIMULATION OF SPRAY COOLING PHYSICAL PROCESS	1230
<i>Peng Zhang, Lin Ruan, Xu Chen</i>	
COMPARATIVE STUDY ON THERMO-MECHANICAL INSULATION AGING OF EVAPORATIVE COOLED AND AIR COOLED STATOR BAR	1234
<i>Jinxu Chen, Lin Ruan</i>	
VENTILATION AND THERMAL IMPROVEMENT OF RADIAL FORCED AIR-COOLED FSCW PERMANENT MAGNET SYNCHRONOUS WIND GENERATOR	1241
<i>Xinggong Fan, Ronghai Qu, Bin Zhang, Jian Li</i>	
COMPARATIVE STUDY ON CONCENTRATED-WINDINGS PERMANENT MAGNET SYNCHRONOUS MACHINES WITH DIFFERENT ROTOR STRUCTURES FOR AIRCRAFT GENERATOR APPLICATION	1246
<i>Lijun Zhou, Yongmei Wu, Weiwei Geng, Zhuoran Zhang, Chuang Liu</i>	
OZONE GENERATOR FOR PROLONGING FRUITS USING A FULL-BRIDGE INVERTER WITH HIGH FREQUENCY TRANSFORMER	1252
<i>Watanyu Meesrisuk, Anuwat Jangwanitlert</i>	
NOISE AND VIBRATION REDUCTION OF DIRECT DRIVE PERMANENT MAGNET SYNCHRONOUS WIND POWER GENERATOR	1257
<i>Y. Liu, X. Zhang</i>	
ANALYSIS AND TESTING OF LC3L TYPE BIDIRECTIONAL DC-DC CONVERTER FOR CONSTANT VOLTAGE	1261
<i>Sangeun, Park</i>	
MODELING OF AN AXIAL-FLUX INTERIOR PMS MACHINE FOR AN AUTOMOTIVE APPLICATION USING MAGNETIC EQUIVALENT CIRCUIT	1266
<i>Raouf Benlamine, Frederic Dubas, Sid-Ali Randi, Dominique</i>	
INVESTIGATION OF SHAPE FILTER FOR ELECTROMAGNETIC DEVICE BY STRUCTURAL OPTIMIZATION WITH GP	1272
<i>Kosuke Ukita, Kota Ishikawa, Wataru Kitagawa, Takaharu Takeshita</i>	
A NOVEL ANALYTICAL METHOD USING VIRTUAL PM BLOCKS TO OPTIMIZE MAGNET SEGMENTATIONS IN SURFACE-MOUNTED PM SYNCHRONOUS MACHINES	1278
<i>T._L. Tiang, D. Ishak, C._P. Lim, M. Kamarol</i>	
INFLUENCE OF THE FIELD CURRENT ON THE TORQUE-ANGLE CHARACTERISTIC OF A NEW PARALLEL HYBRID EXCITATION MACHINE	1284
<i>Zhou Miao, Yongmei Wu, Zhuoran Zhang, Kui Jiang, Weiwei Geng</i>	
CORE LOSS ESTIMATION OF SPMSM BASED ON FIELD RECONSTRUCTION METHOD	1290
<i>Lei Gu, Devendra Patil, Eva Cosoroaba</i>	

ONE DESIGN OF MOTOR SPEED CONTROL SYSTEM BASED ON MEMS GYROSCOPE	1297
<i>Wang Decheng</i>	
RESEARCH OF SPEED-TORQUE CHARACTERISTICS OF BRUSHLESS DC MOTOR BASED ON BACK ELECTROMOTIVE FORCE	1301
<i>Hou Hongsheng, Liu Weiguo</i>	
IMPLEMENTING ADVANCED AC DRIVE CONTROLS USING AUTO-CODING METHODS	1307
<i>Shang-Chuan Lee, S._Gagas Brent, Yukai Wang, Robert_D. Lorenz</i>	
ANFIS INVERSE KINEMATICS METHOD IN BILATERAL CONTROL SYSTEM BASED ON DOB OF DELTA ROBOT	1314
<i>Nakhon Niramitvasu, Napol Varachitchai, Chowarit Mitsantisuk</i>	
OBJECT IDENTIFICATION USING REACTION FORCE FROM DISTURBANCE OBSERVER IN A TELE-OPERATED ROBOT SYSTEM	1319
<i>Watcharada Hamontree, Chowarit Mitsantisuk, Jantanee</i>	
THE EMI IMPROVEMENT ON ACTIVE FILTER USING COMMON-MODE NOISE CIRCUITS BALANCED METHOD	1325
<i>Nimit Boonpirom</i>	
ELECTROMAGNETIC FORCE ACQUISITION DISTRIBUTED IN ELECTRIC MOTOR TO REDUCE VIBRATION	1329
<i>Toru Ito, Kan Akatsu</i>	
NOISE AND COGGING TORQUE REDUCTION IN BRUSHLESS DC CEILING FAN	1334
<i>Anchal Saxena, B._G. Fernandes</i>	
THE IMPORTANCE OF LOAD PULSE TIMING IN AIRCRAFT GENERATION	1339
<i>Constanza Ahumada, Seamus Garvey, Tao Yang, Patrick Wheeler, Herve Morvan</i>	
ANALYTICAL CALCULATION OF THE NOVEL STATOR CAGE MACHINE	1346
<i>Dieter Gerling, Gurakuq Dajaku, Florian Bachheibl, Adrian Patzak</i>	
ANALYTICAL CALCULATION OF MAGNETIC FIELD IN A FLUX-MODULATED PERMANENT-MAGNET BRUSHLESS MACHINE	1353
<i>Xiaoxu Zhang, Xiao Liu, Zhe Chen</i>	
LEVITATION CONTROL OF NOVEL BEARINGLESS SWITCHED RELUCTANCE MOTOR WITH BIASED PERMANENT MAGNET	1360
<i>Shaofei Tang, Huijun Wang, Bingkun Xue, Jianing Liang</i>	
ANGULAR GRINDER WITH NEW FLUX REVERSAL MOTOR	1366
<i>Vladimir Dmitrievskii, Vladimir Prakht, Andrey Pozdeev, Vladimir Klimarev, Aleksandr Mikhailsyn</i>	
RESEARCH OF A LEAF SPRING ULTRASONIC MOTOR	1372
<i>Xiaoxiao Dong, Chunrong Jiang</i>	
LIFETIME MANAGEMENT METHOD OF LITHIUM-ION BATTERY FOR ENERGY STORAGE SYSTEM	1375

Il-Kuen Won, Do-Yun Kim, Jun-Ha Hwang, JungHyo Lee, Chung-Yuen Won

DESIGN OPTIMIZATION OF ELECTRICAL TRANSFORMER USING ARTIFICIAL INTELLIGENCE TECHNIQUES	1381
--	-------------

Duanraem Phaengkiao, Somporn Ruangsinchaiwanich

THE APPLICATION OF INRUSH CURRENT RESTRAINING TECHNOLOGY IN TRANSFORMER ECONOMIC OPERATION	1386
--	-------------

Yang Yong, Liu Zhizhen, Cong Min

CFD CALCULATION OF PRESSURE RISE AND ENERGY FLOW OF HOT GASES DUE TO SHORT-CIRCUIT FAULT ARC IN SWITCHGEARS	1390
---	-------------

Mikimasa Iwata, Shin-ichi Tanaka, Tsukasa Miyagi, Tadashi Amakawa, Gerhard_J. Pietsch

RESEARCH ON THE ROTOR SUSPENSION FORCE OF BEARINGLESS FLUX-SWITCHING MACHINE	1395
--	-------------

Yangzhong Zhou, Tianyun Zhong, Ming Cheng

DEADBEAT CONTROL OF PERMANENT MAGNET SYNCHRONOUS MOTOR BASED ON SLIDING ACTIVE DISTURBANCE REJECTION CONTROLLER	1402
---	-------------

Hongyu Tang, Wenxiang Zhao

THE EFFICIENCY COMPARISON BY EXCITING WAVEFORM OF THE SQUARE-WAVE BRUSHLESS DC MOTOR	1407
--	-------------

Shunsuke Noguchi, Kenji Suzuki, Hideo Dohmeki

THERMAL PREDICTION OF A FAULT TOLERANT PERMANENT MAGNET VERNIER MACHINE	1414
---	-------------

Liang Xu, Guohai Liu, Wenxiang Zhao, Jinghua Ji

DIRECT TORQUE CONTROL OF PERMANENT MAGNET SYNCHRONOUS MOTOR USING A SLIDING-MODE OBSERVER	1419
---	-------------

Woo-Hee Kim, Joon-Min Lee, Soon-Je Park, Young-Seok Kim

REGENERATIVE BRAKE OF BRUSHLESS DC MOTOR FOR LIGHT ELECTRIC VEHICLE	1423
---	-------------

Jiaqun Xu, Haotian Cui

A NOVEL PREDICTED CURRENT CONTROL SCHEME OF BLDCMS FOR COMMUTATION TORQUE RIPPLE REDUCTION	1429
--	-------------

JunHwi Park, Yunchang Kwak, Jin-Woo Ahn, Dong-Hee Lee

ANALYSIS OF THREE-PHASE SHORT CIRCUIT FOR DUAL-REDUNDANCY PMSM WITH LOW THERMAL COUPLING AND NON-ELECTROMAGNETIC COUPLING BETWEEN WINDINGS	1434
--	-------------

Chen Yiguang, Lv Xiaowei, Shen Yonghuan

RESEARCH AND DESIGN OF BRUSHLESS DC MOTOR CONTROL SYSTEM USED FOR TREADMILL BASED ON LOW COST SINE-WAVE DRIVING METHOD	1439
--	-------------

Song Ruipeng, Wang Zhongdong, Li Wei, Su Huiling, Shao Xuesong

BRAKING ALGORITHM CONSIDERING VOLTAGE LIMIT CONDITION FOR SURFACE MOUNTED PM SYNCHRONOUS MOTOR	1443
--	-------------

Myung_Joon Nam, Kwan_Yuhl Cho, Hag_Wone Kim, Byung_Moon Han, Hui_Seok Chung

A STUDY OF VOLTAGE CONTROL METHOD FOR TORQUE PULSATION FACTOR REDUCTION FOR HOME APPLICATIONS INTEGRATED BLDC MOTOR DRIVE	1448
---	-------------

Seung-Han Kam, Jae-Deok Seo, Tae-Uk Jung

SIMULATION AND EXPERIMENT ON REDUCING ELECTROMAGNETIC VIBRATION AND NOISE OF CLAW-POLE ALTERNATORS	1452
--	-------------

Fan Yang, Xiaohua Bao, Chong Di, Zhiheng Chen

MECHANIC AND TEMPERATURE ANALYSIS OF HIGH-SPEED CLAW POLE MOTOR WITH OUTER PERMANENT MAGNETIC ROTOR	1459
---	-------------

Fengge Zhang, Shuangyi Wang, Guangwei Liu, Guanghui Du

RESEARCH ON THE HIGH EFFICIENCY EXTERNAL ROTOR PERMANENT MAGNET MOTOR BASED ON HALBACH ARRAY	1463
--	-------------

Liyi Li, Zhang Jiangpeng, Zhang Chengming, Yu Jikun

PERFORMANCE IMPROVED DESIGN OF FAN MOTOR USING FLUX CONCENTRATION TYPE ..	1468
---	-------------

Jae-Woong Jung, Sung-Gu Lee, Taejun Choi, Ju Lee

RESEARCH ON VARIABLE LEAKAGE FLUX FUNCTION FOR A SELF-ADAPTIVE PASSIVE FLUX-WEAKENING PMSM	1471
--	-------------

Chunyan Li, Chunhong Li

DESIGN ON NOTCH STRUCTURE OF STATOR TOOTH TO REDUCE OF COGGING TORQUE OF SINGLE-PHASE BLDC MOTOR	1475
--	-------------

Seo_Jae Deok, Yoo_Jin Hyung, Jung_Tae Uk

A NOVEL SUPPRESSION METHOD OF 6TH-ORDER TORQUE RIPPLE OF PERMANENT MAGNET SYNCHRONOUS MOTOR WITHOUT TORQUE METER	1479
--	-------------

Sho Nakata, Takashi Yamaguchi, Nobukazu Hoshi

DEMAGNETIZATION DIAGNOSIS OF PERMANENT MAGNET SYNCHRONOUS MOTOR BY USING CONTINUOUS WAVELET TRANSFORM	1486
---	-------------

J._H. Yoo, C._S. Park, T._U. Jung

EFFICIENCY MAP PREDICTION OF FLUX SWITCHING MACHINE	1490
---	-------------

Sahas_Bikram Shah, Antero Arkkio

A STUDY ON TRACTION MOTOR DESIGN FOR A TRAM-TRAIN WHICH TAKES INTO CONSIDERATION OF A PERMANENT MAGNET SCATTERING	1494
---	-------------

Seung-Kook Yang, Geo-Chul Jeong, Huai-Cong Liu, Chan-Bae Park, Hyung-Woo Lee, Ju Lee and

A ROTOR DESIGN METHOD OF EXTERNAL ROTOR SURFACE PERMANENT MAGNET MACHINE FOR IN-WHEEL APPLICATION	1498
---	-------------

Qi Li, Tao Fan, Xuhui Wen, Puqi Ning

A NEW 12/11-POLE DUAL THREE-PHASE FLUX-SWITCHING PERMANENT MAGNET MACHINE	1502
---	-------------

Lingyun Shao, Wei Hua, Ming Cheng

2D ANALYTICAL SUBDOMAIN MODEL FOR HIGH-SPEED PERMANENT-MAGNET MACHINES **1508**

Adrien Gilson, Stephane Tavernier, Frederic Dubas, Daniel Depernet, Christophe Espanet

A PASSIVITY-BASED CONTROL METHOD FOR A SINGLE-PHASE THREE-LEVEL INVERTER ... **1515**

Zhang Zhi

A CARRIER-BASED PWM METHOD WITH ZERO-SEQUENCE CURRENT ELIMINATION FOR
MULTIPHASE DOUBLE-END WINDING DRIVES **1519**

Zicheng Liu, Zedong Zheng, Yongdong Li, Ling Peng, Boran Fan

RESTRAINED SEARCH PREDICTIVE CONTROL METHOD FOR FIVE-LEG INVERTER FED DUAL
INDUCTION MOTOR DRIVES **1524**

Yang Mei, Zichen Yi, Zhengxi Li

VOLTAGE BALANCE CONTROL OF MODULAR MULTILEVEL CONVERTER FOR AC MOTOR
DRIVE **1530**

Xiaoxin Wang, Qiongquan Ge, Xiaomei Lv, Yang Yu

AN ACCELERATED SIMULATION MODEL FOR THE ISOLATION STAGE OF SMART ENERGY
ROUTER SYSTEM **1537**

Sun Zhandong, Li Yaohua, Wang Ping, Li Zixin, Haibin Zhu

RESEARCH ON RECTIFIER SYSTEM IN HIGH POWER IGCT THREE-LEVEL PWM CONVERTERS
..... **1541**

Wang Pan, Li Chongjian, Ge Gang, Zhu Chunyi, Wang Chengsheng

A BI-DIRECTIONAL Z-SOURCE CONVERTER OPERATING WITH SMALL INDUCTOR AT WIDE-
RANGE LOAD **1547**

Gao Zhigang, Fan Hui

DUAL-FREQUENCY SVPWM STRATEGY FOR FIVE-PHASE VOLTAGE SOURCE INVERTER **1554**

Xu Haijun, Bu Feifei, Huang Wenxin, Liu Haozhe, Zhao Yong

A COMMON-MODE VOLTAGE REDUCTION METHOD FOR A BACK-TO-BACK FOUR-LEVEL
HYBRID-CLAMPED CONVERTER **1558**

Kui Wang, Yongdong Li, Zedong Zheng, Lie Xu, Boran Fan

PERFORMANCE EVALUATION AS GRID CONNECTED INDUCTION GENERATOR SYSTEM OF DC-
LINK USING BATTERY AND PHOTOVOLTAIC PANEL **1564**

Sawat Yukhalang

A DIRECT TORQUE CONTROL FOR THREE-LEG VOLTAGE SOURCE INVERTER FED
ASYMMETRICAL SINGLE-PHASE INDUCTION MOTOR **1569**

Sirichai Dangeam, Vijit Kinnares

COMPARATIVE ANALYSIS ON EFFICIENCY OF BRUSHLESS DC MOTOR CONSIDERING
HARMONIC COMPONENT OF PHASE CURRENT AND IRON LOSS **1575**

Wonseok Han, Tae-Yong Lee, Yong-Jae Kim, Sang-Yong Jung

**TORQUE MODELING AND OPTIMIZATION OF DC MACHINE BASED ON RELUCTANCE NETWORK
TAKING INTO ACCOUNT ARMATURE REACTION MAGNETIC FIELD 1580**

Sara Bazhar, Julien Fontchastagner, Noureddine Takorabet, Nicolas Labbe, Raphael Andreux

A NOVEL MULTIPLE LINEAR MOTOR CONTROL SYSTEM BASED ON NIOS II 1587

Yanwu Xu, Jiwen Zhao, Juncai Song, Jian Huang, Fei Dong

**RESEARCH ON PMSM ACTIVE DISTURBANCE REJECTION CONTROLLER BASED ON MODEL
COMPENSATION 1593**

Zhou Tong, Guo Hong, Xu Jinquan, Kuang Xiaolin, Qian Hao

**SENSORLESS VECTOR CONTROL OF COMPLEMENTARY AND MODULAR LINEAR FLUX-
SWITCHING PERMANENT MAGNET MOTOR BASED ON MRAS 1597**

Ming Cheng, Longtao Kong, Bangfu Zhang, Zheng Wang

ROBUST SENSORLESS LOAD ANGLE CONTROL FOR STEPPING MOTORS 1603

Stijn Derammelaere, Florian Verbelen, Kurt Stockman

**A CLOSED-LOOP I/F SENSORLESS CONTROL BASED ON CURRENT VECTOR ORIENTATION FOR
PERMANENT MAGNET SYNCHRONOUS MOTORS 1609**

Jufeng Yang, Wenxin Huang, Ruiwu Cao, Xuefeng Jiang

**THE INFLUENCE OF PHASE INDUCTANCE HARMONICS ON PMSM POSITION ESTIMATION USING
HIGH FREQUENCY SIGNAL INJECTION 1615**

Xin Qiu, Jianfei Yang, Jianping Si, Jihong Chen, Aiqing Guo

**A POSITION-SENSORLESS VECTOR CONTROL FOR DOUBLY-FED INDUCTION MACHINES USING
ADAPTIVE REDUCED-ORDER OBSERVERS 1619**

Somrat Smiththisomboon, Jirat Udomsri, Surapong Suwankawin

**A SYNCHRO-PERSPECTIVE HIGH-FREQUENCY SIGNAL INJECTION METHOD FOR POSITION-
SENSORLESS VECTOR CONTROL OF DOUBLY-FED INDUCTION MACHINES 1626**

Surapong Suwankawin, Anuwat Srivorakul

**INDUCTION MOTOR STATES AND PARAMETERS ESTIMATION USING EXTENDED KALMAN
FILTER WITH REDUCED NUMBER OF MEASUREMENTS 1631**

Jirasak Laowanitwattana, Sermak Uatrongjit

**A NEW CONTROL METHOD FOR SUPPRESSING THE DISTURBANCE FROM GRID VOLTAGE ON
THE GRID-CONNECTED INVERTER WITH LCL FILTER 1636**

Cheng Li, Yunxiang Xie, Lu Xiang

**EVALUATION OF VARIOUS NEAR AND FAR WAKE MODELS FOR WIND POWER GENERATION
..... 1643**

Yinyin Li, Sizhuang Liang, Xiaoyan Huang

**DESIGN AND IMPLEMENTATION OF HIGH EFFICIENT TWO-STAGE THREE-PHASE/LEVEL
ISOLATED PV CONVERTER 1649**

Wei Shusheng, Fanbo He, Liqiang Yuan, Zhengming Zhao, Ting Lu, Junchao Ma

LARGE-SCALE PHOTOVOLTAIC POWER STATION RELIABILITY MODEL AND ENERGY-YIELD SENSITIVITY ANALYSIS	1655
<i>Yuning Wang, Xiaorong Zhu, Yi Wang</i>	
REDUCTION OF COMMON-MODE CURRENT IN PARALLEL CONNECTED PV INVERTERS WITH NEGATIVE GROUNDING	1660
<i>Liang Zhou, Lan Wang, Zhenxing Wu, Guangsen Wang</i>	
RESEARCH ON A CONTROL STRATEGY OF THE FLUX-SWITCHING PERMANENT MAGNET LINEAR GENERATOR FOR WAVE ENERGY EXTRACTION	1666
<i>Jian Yang, Lei Huang, Minqiang Hu</i>	
ANALYSIS OF INDUCED VOLTAGE FOR FERROHYDRODYNAMIC ENERGY HARVESTER USING SLOSHING MOTION	1671
<i>Dong_Yoon Sohn, Yong_Hi Kwon, Young_Sun Kim</i>	
RAMP RATE CONSIDERATION OF A BESS USING ACTIVE POWER CONTROL FOR PV GENERATION	1676
<i>Krisada Prompinit, Surin Khomfoi</i>	
CONTROL STRATEGY OF ENERGY STORAGE SYSTEM IN MUTI-MODES OF MICROGRID	1681
<i>HaiPing Guo, JianShe Zhang, Ping Yang, Zhirong Xu, Qunru Zheng</i>	
AN ARC FAULT DETECTION SYSTEM FOR THE HOUSEHOLD PHOTOVOLTAIC INVERTER ACCORDING TO THE DC BUS CURRENTS	1687
<i>Kun Xia, Zihui He, Yin Yuan, Yiming Wang, Po Xu</i>	
FAULT DIAGNOSIS OF HIGH-RESISTANCE CONNECTION IN NINE-PHASE FLUX-SWITCHING PERMANENT MAGNET MACHINE	1691
<i>Jun Hang, Jianzhong Zhang, Ming Cheng</i>	
A NOVEL OPEN-CIRCUIT FAULT DIAGNOSTIC METHOD FOR DUAL-WINDING FAULT-TOLERANT PERMANENT MAGNET MOTOR DRIVE SYSTEM	1697
<i>Wen Jiang, Wenxin Huang, Xuefeng Jiang</i>	
FEEDFORWARD COMPENSATION METHOD OF OUTPUT VOLTAGE FOR THE IMPROVING DYNAMIC CHARACTERISTIC OF AC/DC PWM CONVERTER IN DC DISTRIBUTION	1702
<i>Seok-Jin Hong, Chun-Bok Lee, Hak-Sung Kim, Jung-Hyu Lee, Chung-Yuen Won</i>	
A SENSOR-LESS METHOD FOR ONLINE THERMAL MONITORING OF SWITCHED RELUCTANCE MACHINE	1709
<i>Chao Wang, Hui Liu, Xiao Liu, Xiaoxu Zhang, Zhe Chen</i>	
PULSATING TORQUE ANALYSIS & REDUCTION METHODS ON A SINE-WAVE PM MACHINE .	1716
<i>Xiaodong Hu, Hanchang Chen</i>	
A NOVEL NON-ZERO SEQUENCE CHOKE AND ITS APPLICATION IN OUTPUT EMI FILTERS FOR PWM INVERTERS	1722
<i>Pennapa Pairodamonchai, Somboon Sangwongwanich</i>	

EFFECT OF STATOR LAMINATION ASYMMETRIES ON MAGNETIC VIBRATIONS AND ACOUSTIC NOISE IN SYNCHRONOUS MACHINES	1729
---	------

Le_Besnerais Jean

A STUDY OF RADIAL DISTRIBUTION OF ELECTROMAGNETIC VIBRATION AND NOISE ON A THREE-PHASE SQUIRREL-CAGE INDUCTION MOTOR	1734
--	------

Isao Hirotsuka, Daisuke Hayashi, Masanori Nakamura, Kazuo Tsuboi, Yousuke Takahashi

HEAT TRANSFER CHARACTERISTICS OF SPRAY EVAPORATIVE COOLING SYSTEM FOR LARGE ELECTRICAL MACHINES	1740
---	------

Li Zhenguo, Ruan Lin

STUDY ON THE FLOW DISTRIBUTION CHARACTERISTICS OF PARALLEL INCLINED HOLLOW CONDUCTORS IN THE EVAPORATIVE COOLING WIND POWER GENERATOR	1744
---	------

Jing Yan, Shunzhou Yu, Biao Chen

STRUCTURE IMPROVEMENT AND OPTIMIZATION OF TURBOGENERATOR BASED ON EVAPORATIVE COOLING TECHNOLOGY	1748
--	------

Liu Zhi, Ruan Lin

OPTIMIZATION OF MOTOR HEAT DISSIPATION SYSTEMS BASED ON THREE DIMENSIONAL FLOW FIELD ANALYSIS	1752
---	------

Tong Li, Youtong Fang, Jien Ma, Sizhuang Liang, Cenwei Shi

DESIGN AND MANUFACTURING CONSIDERATIONS OF FLUX-SWITCHING PERMANENT MAGNET MACHINES FOR MASS PRODUCTIONS USED IN EVS AND HEVS	1757
---	------

Gan Zhang, Wei Hua, Minghao Tong, Ming Cheng

Γ-RAY TEST VOID RATIO OF GAS-LIQUID TWO-PHASE FLOW AND ITS ERROR ANALYSIS IN EVAPORATIVE COOLING GENERATOR	1764
--	------

Shunzhou Yu, Jing Yan

A DECOUPLED ACTIVE DISTURBANCE REJECTION CONTROLLER FOR PMSM SPEED-REGULATION SYSTEM WITH POSITION FEEDBACK	1769
---	------

Zuo Yuefei, Liu Chuang, Fu Hui, Zhang Tao, Hu Ye

ONLINE PARAMETER IDENTIFICATION METHOD FOR IPMSM DRIVE WITH MTPA	1775
--	------

Sudchai Boonto, Mongkol Konghirun

TORQUE IMPULSE BALANCE CONTROL STRATEGY OF FT-FSPM MACHINE UNDER OPEN-CIRCUIT CONDITION	1781
---	------

Wenyan Xiao, Yu Wang, Zhiquan Deng, Wenjuan Hao

THE CURRENT DYNAMIC IMPROVING METHOD OF IPMSM USING PREDICTIVE CURRENT CONTROL FOR EV	1786
---	------

Jun-ha Hwang, Il-Kuen Won, Do-Yun Kim, Young-Real Kim, Chung-Yuen Won

DESIGN AND ANALYSIS OF AN AXIAL-FLUX PM VERNIER MACHINE FOR AUTO-FOCUSING SYSTEMS	1792
---	------

Min-Soo Kim, Fei Zhao, Byung-Il Kwon

WINDINGS CONFIGURATIONS FOR VERNIER RELUCTANCE DUAL-STATOR INNER-ROTOR AXIAL FLUX MACHINES	1797
<i>Linyuan Xiao, Jian Li, Ronghai Qu, Shaofeng Jia, Shuying Guo</i>	
VERSATILE SENSORLESS DRIVE OF SWITCHED RELUCTANCE MOTOR	1803
<i>Longfei Wu, Zaiping Pan</i>	
A NOVEL 6/4 CONICAL BEARINGLESS SWITCHED RELUCTANCE MOTOR	1807
<i>Heng Zhou, Xin Cao, Yanchen Qiao, Zhiquan Deng, Zeyuan Liu</i>	
TRANSIENT ANALYSIS AND STABILITY LIMITS OF SYNCHRONOUS RELUCTANCE MOTORS CONSIDERING SATURATION EFFECTS	1812
<i>M._N. Ibrahim, E._M. Rashad, P. Sergeant</i>	
A DESIGN METHOD OF SWITCHED RELUCTANCE MOTOR FOR AUTOMOBILE AUXILIARY MOTORS DRIVEN BY A VOLTAGE SINGLE PULSE DRIVE	1817
<i>Kohei Aiso, Kan Akatsu</i>	
ENERGY COORDINATIVE CONTROL OF MICROGRID BASED ON RECEDING HORIZON OPTIMIZATION WITH EACOP	1824
<i>Changbin Hu, Shanna Luo, Zhengxi Li, Lisha Chen, Xinbo Liu</i>	
MODELING AND CONTROL OF A WIND-TURBINE-DRIVE DFIG DURING GRID VOLTAGE DIPS BASED ON DIGSILENT/POWERFACTORY	1831
<i>Jixing Qiu, Zaiping Pan</i>	
SINGLE-PHASE GRID-CONNECTED PV SYSTEM SUPPLYING NONLINEAR LOAD WITH MPPT .	1836
<i>Prakit Liengpradis, Vijit Kinnarees</i>	
VOLTAGE RISE SUPPRESSION AND LOAD BALANCING BY PV PCS WITH CONSTANT DC CAPACITOR VOLTAGE CONTROL BASED STRATEGY ON SINGLE-PHASE THREE-WIRE DISTRIBUTION FEEDERS	1840
<i>Mitsumasa Ushiroda, Takaki Wakimoto, Hiroaki Yamada, Toshihiko Tanaka, Masayuki Okamoto, Kouji Kawahara</i>	
ELECTROMAGNETIC FIELD ANALYSIS OF ALUMINUM CAGE INDUCTION MOTORS BY CONSIDERING MECHANICAL STRESS, TEMPERATURE RISE, AND BUILDING EFFECT	1846
<i>Katsumi Yamazaki, Yuya Sakurai</i>	
PARAMETER SENSITIVITY ANALYSIS OF A WOUND ROTOR INDUCTION MACHINE USING A ROTOR INTEGRATED CONVERTER WITH A FLOATING CAPACITOR	1851
<i>Yanmei Yao, Alija Cosic, Chandur Sadarangani</i>	
SPEED CONTROL OF AN ASYMMETRICAL PARAMETER TYPE TWO-PHASE INDUCTION MOTOR USING DISCONTINUOUS SPACE VECTOR PULSE WIDTH MODULATION	1858
<i>Watcharin Promkhun, Vijit Kinnarees</i>	
PERFORMANCE EVALUATION OF PERMANENT SPLIT-CAPACITOR SINGLE-PHASE INDUCTION MOTOR FOR CEILING FAN APPLICATION	1865
<i>Sook_Kuan Choy, Dahaman Ishak, Tow_Leong Tiang</i>	

IMPLEMENTATION OF AN ADAPTIVE FULL-ORDER OBSERVER FOR SPEED-SENSORLESS INDUCTION MOTOR DRIVES	1871
<i>Apirach Rattanaudompisut, Sakorn Po-Ngam</i>	
A COMPARISON BETWEEN LEVEL- AND PHASE-SHIFT SPACE VECTOR DUTY-CYCLE MODULATIONS USING A NINE-SWITCH INVERTER FOR AN ASD	1877
<i>Neerakorn Jarutus, Yuttana Kumsuwan</i>	
SINGLE-PHASE PWM RECTIFIER BASED ON ADRC AND PR CONTROL	1884
<i>Chao Fu, Yuwei Sun, Kai Xu, Xiankai Liu, Gang Xu</i>	
A BRANCH ENERGY CONTROL METHOD BASED ON OPTIMIZED NEUTRAL-POINT VOLTAGE INJECTION FOR A HEXAGONAL MODULAR MULTILEVEL DIRECT CONVERTER (HEXVERTER)	1889
<i>Boran Fan, Kui Wang, Yongdong Li, Zedong Zheng, Lie Xu</i>	
LOW COST CONTROL OF TWO THREE-PHASE PMSMS IN INTEGRATED MOTOR DRIVES AND BATTERY CHARGERS FOR ELECTRIC VEHICLE APPLICATION	1894
<i>Lei Huang</i>	
EXPERIMENTAL LOSS ESTIMATE FOR MATRIX CONVERTER USING ARCP SOFT SWITCHING TECHNIQUE	1898
<i>Shota Morisaki, Takashi Abe, Tsuyoshi Higuchi</i>	
SENSORLESS SPEED VECTOR CONTROL BASED ON MRAS OF ASYMMETRICAL TWO-PHASE INDUCTION MOTOR USING THREE-LEG VOLTAGE SOURCE INVERTER	1903
<i>Rungwicha Chaiyot, Vijit Kinnarees</i>	
SENSORLESS CONTROL OF SWITCHED RELUCTANCE MOTORS BASED ON CROSSING POINT OF TRANSFORMER EMF AND MOTIONAL BEMF	1908
<i>Jie Shao, Zhiquan Deng</i>	
DESIGN OF THE PLL FOR THE SPEED SENSORLESS STATOR-FLUX-ORIENTED CONTROL OF INDUCTION MOTORS	1913
<i>Le Sun, Zhenxing Wu, Fei Xiao, Xinjian Cai, Shuxiu Wang</i>	
SENSORLESS CURRENT SHARING IN TWO-PHASE INPUT-PARALLEL OUTPUT-PARALLEL DC-DC CONVERTERS	1919
<i>Lin Yifei, Wang Yubin, Wang Shanshan</i>	
SENSORLESS POWER BALANCE CONTROL FOR CASCADED MULTILEVEL CONVERTER BASED SOLID STATE TRANSFORMER	1925
<i>Wang Shanshan, Wang Yubin, Lin Yifei</i>	
DYNAMIC ANALYSIS OF ROTATIONAL MACHINE SYSTEMS BY FUNCTIONAL MODEL	1930
<i>Kento Omura, Tatsuhito Aihara, Yasunobu Uchino, Mitsuo Iwahara, Gaku Minorikawa</i>	
ASYMMETRICAL MODEL OF DWIG FOR AIRCRAFT VARIABLE FREQUENCY AC GENERATING SYSTEM	1935
<i>Feifei Bu, Yong Zhao, Wenxin Huang, Haijun Xu, Haozhe Liu</i>	

A STUDY OF DYNAMIC TORQUE RIPPLES USING AN INTEGRATED SIMULATION MODEL OF BRUSHLESS DC MOTOR AND DRIVE SYSTEMS	1939
<i>Sarayut Amornwongpeeti, Sangkla Kreuawan, Nattapon Chayopitak, Seubsuang Kachapornkul, Mongkol Ekpanyapong</i>	
APPLYING PROPER ORTHOGONAL DECOMPOSITION TO REDUCE ORDER OF PERMANENT MAGNET MACHINE MODEL	1945
<i>Mehrnaz Farzam-far, Paavo Rasilo, Florian Martin, Anouar Belahcen</i>	
NONLINEAR MODELING OF SOLAR ARRAY DRIVE SYSTEM CONSIDERING BACKLASH AND FRICTION	1950
<i>Zhou Tong, Guo Hong, Xu Jinquan, Kuang Xiaolin</i>	
SPACE-VECTOR MODELS FOR TORSIONAL VIBRATION OF CAGE INDUCTION MOTORS	1956
<i>Antero Arkkio, Timo P. Holopainen</i>	
NATURAL FREQUENCIES ANALYTICAL MODELING OF SMALL INDUSTRIAL RADIAL FLUX PERMANENT MAGNET MOTORS	1963
<i>Guillaume Verez, Christophe Espanet</i>	
BEARING FAULT DETECTION BASED ON TIME-FREQUENCY REPRESENTATIONS OF VIBRATION SIGNALS	1970
<i>Khang Huynh, Hamid Reza Karimi, Kjell Gunnar Robbersmyr</i>	
A STUDY OF AN ACTIVE EMI FILTER FOR SUPPRESSION OF LEAKAGE CURRENT IN MOTOR DRIVE SYSTEMS	1976
<i>Pennapa Pairodamonchai</i>	
RESEARCH ON VIBRATION CHARACTERISTICS FOR THE SYSTEM OF LARGE PIPELINE MOTOR AND IT'S FIXING BASE BRACKET	1983
<i>Quanfeng. li, Linhong. Li, Surong. Huang</i>	
A DETAILED DYNAMIC MODEL FOR SINGLE-PHASE SHADED POLE INDUCTION MOTORS	198
<i>Mansour Ojaghi, Sina Daliri ard</i>	
QUALITY FACTOR AND VIBRATION AMPLITUDE ESTIMATION OF A PIEZOELECTRIC-ACTUATED SYSTEM USING IMPEDANCE MEASUREMENTS	1993
<i>Xinchang Liu, Yoan Civet, Yves Perriard</i>	
A NOVEL VOICE COIL MOTOR USED IN NANO-POSITIONING DEVICE	1997
<i>Liang Dong, Jinhua Chen, Chi Zhang, Dingbing Wu, Guanwei Yu</i>	
VARIABLE FIELD FLUX CHARACTERISTICS OF A NOVEL CLAW POLE TYPE HALF-WAVE RECTIFIED VARIABLE FIELD FLUX MOTOR	2003
<i>Takashi Abe, Kyosuke Maeda, Tsuyoshi Higuchi</i>	
DESIGN OF A BEARINGLESS 100KW ELECTRIC MOTOR FOR HIGH-SPEED APPLICATIONS	2008
<i>R._P. Jastrzebski, P. Jaatinen, H. Sugimoto, O. Pyrhönen, A. Chiba</i>	
ENGINEERING ECONOMIC ANALYSIS BETWEEN HIGH POWER LED AND HYDRARGYRUM MEDIUM-ARC IODIDE LUMINARIES IN STUDIO LIGHTING APPLICATION	2015
<i>Jirasak Prechaveerakul, Chow Chompoo-inwai ard</i>	

DC CURRENT CARRYING CHARACTERISTICS OF HTS TAPES EXPOSED TO EXTERNAL MAGNETIC FIELD AT 77K	2021
<i>Yongzhe Kang, Junquan Chen</i>	
DESIGN OPTIMIZATION OF PERMANENT MAGNET ARRAY IN ROTARY INDUCTION HEATER	2025
<i>Xiaoliang Jin, Rongxiang Zhao, Huan Yang, Taiying Zhen</i>	
ONLINE ANALYSIS AND EARLY-WARNING METHOD OF SUBSYNCHRONOUS RESONANCE BASED ON TIME-DOMAIN SIMULATION	2030
<i>Du Ning, Song Ruihua, Chen Jilin, Chen Zhenzhen, Zhou Zhiqiang, Qin Changfeng</i>	
NONSINGULAR TERMINAL SLIDING MODE CONTROL FOR THE SPEED REGULATION OF PERMANENT MAGNET SYNCHRONOUS MOTOR WITH PARAMETER UNCERTAINTIES AND TORQUE CHANGE	2034
<i>Wei Xu, Yajie Jiang, Chaoxu Mu</i>	
ANALYSIS OF THE ROTOR LOSS IN A HIGH SPEED PERMANENT MAGNET MOTOR FOR FLYWHEEL ENERGY STORAGE SYSTEM	2040
<i>Wang Gengji, Qin Qinglei, Wang Ping, Wang Xiaoyuan</i>	
SIZE AND WEIGHT REDUCTION OF AN IN-WHEEL AXIAL-GAP MOTOR USING FERRITE PERMANENT MAGNETS FOR ELECTRIC CITY COMMUTERS	2045
<i>Tomohira Takahashi, Masatsugu Takemoto, Satoshi Ogasawara, Wataru Hino, Kenichi Takezaki</i>	
PROPOSAL OF PM MOTOR DRIVING SYSTEM CONSIST OF PWM INVERTER WITH VOLTAGE BOOSTER FOR APPLYING TO AUTOMATED GUIDED VEHICLE	2052
<i>Akihiro Imakiire, Masayuki Hikita, Kichiro Yamamoto</i>	
POSITION ESTIMATION OF SURFACE PERMANENT-MAGNET SYNCHRONOUS MOTORS BASED ON A NEW REDUCED-ORDER MODEL WITH GUARANTEED GLOBAL STABILITY	2058
<i>Prachuab Iamsamang, Somboon Sangwongwanich</i>	
OPTIMIZATION DESIGN FOR SRM BASED ON OPTIMIZED REGULATION METHOD OF AMPERE DENSITY AND COIL SPACE FACTOR	2065
<i>Peng Sun, Chi Zhang, Jinhua Chen, Zhe Jiang</i>	
OPTIMAL DESIGN OF AN AXIAL FLUX SWITCHED RELUCTANCE MOTOR WITH GRAIN ORIENTED ELECTRICAL STEEL	2071
<i>Jimin Ma, Ronghai Qu, Jian Li</i>	
A POSITION CONTROL METHOD USING MEASURED TORQUE CURVES FOR SWITCHED RELUCTANCE MOTOR	2078
<i>Yuichi Okada, Takashi Abe, Tsuyoshi Higuchi</i>	
DESIGN AND ANALYSIS OF BRUSHLESS DOUBLY FED RELUCTANCE MACHINE SUITABLE FOR WIND GENERATION APPLICATIONS	2082
<i>Soumitra Kunte, Mandar Bhawalkar, N. Gopalakrishnan, Yogesh Nerkar</i>	

A HIGH EFFICIENCY TORQUE CONTROL METHOD OF SWITCHED RELUCTANCE MOTORS USING LOW LOSS COMMUTATION CONTROL	2089
<i>Yulin Wang, Wei Zhang</i>	
DROOP CONTROL STRATEGY OF AC MICROGRID IN ISLANDING MODE	2093
<i>Somkiart Khongkhachat, Surin Khomfoi</i>	
CURRENT-FED TWO-INDUCTOR BI-DIRECTIONAL DC/DC CONVERTER WITH WIDE OUTPUT VOLTAGE RANGE	2099
<i>Yong-Su Noh, Seong-Chon Choi, Eun-Jung Ha, Bum-Jun Kim, Chung-Yuen Won</i>	
DESIGNED SIMULATION AND EXPERIMENT OF A PIEZOELECTRIC ENERGY HARVESTING SYSTEM BASED ON FLOW AROUND A BLUNT BODY	2104
<i>Pan Feifei, Xu Zhike, Jin Long, Gao Xiu</i>	
SOLID STATE TRANSFORMER USING A MODULAR MULTILEVEL INVERTER FOR PV FARM APPLICATIONS	2108
<i>Panya Khemmook, Surin Khomfoi</i>	
ANALYSIS AND DESIGN OF CURRENT-FED TWO INDUCTOR BI-DIRECTIONAL DC-DC CONVERTER USING RESONANCE FOR HIGH EFFICIENCY AND HIGH STEP-UP APPLICATION	2112
<i>Eun-Jung Ha, Yong-Su Noh, Min-Seuk Oh, Bum-Jun Kim, Chung-Yuen Won</i>	
A NOVEL APPROACH TO CALCULATE THE LOSS OF INVERTER POWER DEVICE AND DESIGN OF WATER-COOLED RADIATOR	2117
<i>Liu Guiquan, Cai Zhiyuan, Bai Baodong, Chen Dezhi</i>	
THE CONFIGURATION OF EV SYSTEM USING BATTERY MODULE BALANCING METHOD	2122
<i>Do-Yun Kim, Chang-Hyun Shin, Jun-Ha Hwang, Young-Real Kim, Chung-Yuen Won</i>	
EFFICIENT MODEL PREDICTIVE POWER CONTROL FOR THREE-LEVEL AC/DC CONVERTERS	2127
<i>Yongchang Zhang, Yubin Peng</i>	
ANALYSIS AND CONTROL OF SINGLE-PHASE Z-SOURCE MULTILEVEL INVERTER	2134
<i>Anh-Vu Ho, Ji-Suk Hyun, Tae-Won Chun</i>	
ANALYSIS AND CONTROL OF ACTIVE NEUTRAL-POINT-CLAMPING THREE-LEVEL INVERTERS UNDER FAULT TOLERANT OPERATION MODES	2140
<i>Zheng Wang, Bing Zhang, Yibo Wang, Yue Zhang, Ming Cheng</i>	
A CHARGE EQUALIZER WITH A COMBINATION OF APWM AND PFM CONTROL BASED ON MODIFIED HALF-BRIDGE CONVERTER	2147
<i>Chih-Chiang Hua, Yi-Hsiung Fang</i>	
INDUCTOR BASED EQUALIZER WITH A CHAIN STRUCTURE OF SWITCHED CAPACITOR TO IMPROVE BALANCING SPEED	2151
<i>Chih-Chiang Hua, Yi-Hsiung Fang, Jian-Feng Huang</i>	
HIGH CURRENT INDUCTOR FOR DC-DC CONVERTER	2155
<i>Akinari Yamashita, Mamiko Inamori, Masayuki Morimoto</i>	

THE MODULAR LOW VOLTAGE DC/DC CONVERTER FOR SOC BALANCING IN ELECTRIC
VEHICLE **2159**

Seong-Chon Choi, Jung-Hyo Lee, Sung-Hoon Bae, Jin-Yong Jeon, Chung-Yuen Won

TRAM AND TROLLEYBUS NET TRACTION ENERGY CONSUMPTION COMPARISON **2164**

Joachim_Julius Mwambeleko, Thanatchai Kulworawanichpong, Kenedy_Aliila Greyson