

THE SIXTH INTERNATIONAL CONFERENCE ON POWER ELECTRONICS AND DRIVE SYSTEMS

**Renaissance Kuala Lumpur Hotel
28 Nov - 1 Dec, 2005**

Final Program

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MONDAY, NOV 28

REGISTRATION
(starts at 11.00am)

Morning Session
(8.40am – 12.20pm)

REGISTRATION

TUTORIALS
Tutorial 1
Tutorial 2
Tutorial 3
Tutorial 4

Afternoon Session
(2.00pm – 5.40pm)

Welcoming reception
(starts at 6.00pm)

TUESDAY, NOV 29

Opening Ceremony

Keynote 1
Keynote 2

Plenary 1
Plenary 2
Plenary 3

Session 1

1A Induction Motor Drives
1B Soft Switching Converters
1C DC-DC conv 1
1D Inverters1
1E Dist. Generation 1
1F Power Quality 1

WEDNESDAY, NOV 30

Session 2

2A Control of Motor Drives 1
2B DC-DC Converters 2
2C Converters Control 1
2D Dist. Generation 2
2E Power Quality 2

Session 3

3A Motor Design 1
3B PM Motor Drives
3C Inverters 2
3D Lighting and Display
3E PE Components

Poster session
(starts at 4.00pm)

Banquet
(8.00pm – 10.00pm)

THURSDAY, DEC 1

Session 4

4A Control of Motor Drives 2
4B Analy and Design of Motor Sys
4C PE Applications 1
4D Converters Control 2
4E Power quality 3
4F Applications in Power Sys

Session 5

5A Motor Design 2
5B Modulation Techniques
5C PE Applications 2
5D Converters Control 3
5E Dist. Generation 3
5F Test and Measurements

REGISTRATION AND TUTORIALS

28 November 2005, Monday

REGISTRATION (starts at 11.00am)

TUTORIALS (starts at 2.00pm)

Tutorial 1

Flexible AC Transmission System (FACTS) Based On Voltage-Source Converters
By : Prof. Boon-Teck Ooi, McGill University, Canada

Tutorial 2

Design and Control of IPM Motor
By : Assoc. Prof. Muhammed Faz Rahman, The University of New South Wales, Australia

Tutorial 3

New Power Semiconductor Devices for high switching Frequencies In future power converters
By : Prof. Leo Lorenz, Infineon Technologies, Singapore / Munich

Tutorial 4

State-of-the-Art Power Electronics Technologies for the De-regulated Power Systems
By : Prof. Vassilios G. Agelidis, Murdoch University, Perth, Western Australia

WELCOMING RECEPTION (starts at 6.00pm)

PLENARY SESSION

Session Chair : Zainal SALAM

Date : 29 November 2005, Tuesday

Time : 09:00 - 12:35

Venue : Ballroom

0900 - 0930 Welcoming Speech

0930 - 1005 **Keynote speech 1**

Prof. D. J. Patterson

Why Small Permanent Magnet Machine Drives are Relegating the Induction Machine Drive to Niche Applications

1005 - 1040 **Keynote speech 2**

Prof. Dr.-Ing. Joachim Holtz – Invited by IES Malaysia Chapter under the Distinguished Lecturer Program

Development in Sensorless AC Drive Technology

1100 - 1135 **Keynote speech 3**

Prof. Boon-Teck Ooi

Research Opportunity in High Power Electronics

1135 - 1205 **Plenary lecture 1**

Prof. M.A. Rahman

Recent advances of IPM motor drives in Power Electronics World

1205 - 1235 **Plenary lecture 2**

Prof. Paolo Tenti

Predictive Digital Control for Voltage Regulation Module Applications

TECHNICAL PROGRAM

Session 1A

Session Title : **Induction Motor Drives**

Session Chair : **Jiri KLIMA**

Nik Rumzi NIK IDRIS

Date : **29 November 2005, Tuesday**

Time : **14:00 - 17:20**

Venue : **Seminar Room 1**

1400 - 1420 **1A.01 P0195**

Perfect Speed Tracking of Direct Torque Controlled-Induction Motor Drive using Fuzzy Logic
T Radwan
Riyadh College of Technology, SAUDI ARABIA

1420 - 1440 **1A.02 P0154**

Dual Output Power Conditioning Supply using Vector Controlled Three-Phase Induction Generator for Automotive System
*T Ahmed, *M Nakaoka, T Tanaka, **K Nishida*
Yamaguchi University, JAPAN
*Kyungnam University, KOREA
**Ube National College of Technology, JAPAN

1440 - 1500

1A.03 P0456

Sensorless Traction System with Low Voltage High Current Induction Machine for Indoor Vehicle
C Christophe, M Pietrzak-David
Laboratoire d'Electrotechnique et d'Electronique Industrielle, FRANCE

1500 - 1520

1A.04 P0136

Sliding-Mode Control for Speed Sensorless Induction Machine Drive Using an Adaptive Nonlinear Rotor Flux Observer
G R Arab Markadeh, J Soltani, N R Abjadi
Isfahan University of Technology, IRAN

1520 - 1540

1A.05 P0137

A New Fuzzy "CPI" Cbased Torque Controller for DTC of Induction Motor Drives
*F Patkar, *N R Nik Idris, *N Din Muhamad*
Kolej Universiti Teknikal Kebangsaan Malaysia, MALAYSIA
*Universiti Teknologi Malaysia, MALAYSIA

1600 - 1620

1A.06 P0565

Predictive Control of Torque and Flux of Induction Motor Drives
Y Li, C Wang, H Hu
Tsinghua University, CHINA

1620 - 1640

1A.07 P0507

Design and Implementation of a Direct Torque Control of Induction Machine Utilizing a Digital Signal Processor and the Field Programmable Gate Arrays
*C L Toh, N R Nik Idris, A H Mohd Yatim, *F Patkar*
Universiti Teknologi Malaysia, MALAYSIA
*Kolej Universiti Teknikal Kebangsaan Malaysia, MALAYSIA

1640 - 1700

1A.08 P0627

A New Artificial Neural Network - Direct Torque Control for Matrix Converter Fed Three-Phase Induction Motor
P Q Dung, L Minh Phuong
HCM City University of Technology, VIETNAM

1700 - 1720 **1A.09 P0378**
Closed-Form Analytical Investigation of an Induction Motor Drive Fed from Four-Switch Inverter in Six-step Operation Mode
J Klima
Technical Faculty of CZU in Prague, CZECH REPUBLIC

Session 1B

Session Title : **Soft-switching Converters**
Session Chair : **Sujit Kumar BISWAS**
 Zainal SALAM
Date : **29 November 2005, Tuesday**
Time : **14:00 - 17:00**
Venue : **Seminar Room 2**

1400 - 1420 **1B.01 P0538**
Application of Natural Commutation Technique to Center-Tapped HF Link Inverter
*C L Nge, *Z Salam*
Motorola Technology Sdn Bhd, MALAYSIA
*Universiti Teknologi Malaysia, MALAYSIA

1420 – 1440 **1B.02 P0332**
A Compasion of Zero-Voltage and Zero-Current Switching Phase-Shifted PWM DC-DC Converters
*A Jangwanitlert, *J Songboonkaew*
King Mongkut's Institute of Technology Ladkrabang, THAILAND
*Thonburi College of Technology, THAILAND

1440 - 1500 **1B.03 P0155**
A Novel Edge-Resonant Soft Switching PWM Controlled High Frequency Inverter with Minimum Circuit Components
A Eid, J K Choi, W H Lee, M Nakaoka
Kyungnam University, KOREA

1500 - 1520 **1B.04 P0209**
New Fully Soft-Switched Boost-Converter with Reduced Conduction Losses
*S S Saha, *B Majumdar, **T Halder, **S K Biswas*
College of Textile Technology, INDIA
*Sripat Singh College Murshidabad, INDIA
**Jadavpur University, INDIA

1520 - 1540 **1B.05 P0315**
Advanced High Power DC-DC Converter using Novel Type Half-Bridge Soft Switching PWM Inverter with High Frequency Transformer for Arc WelderTransformer for Arc Welder
*K Morimoto, T Doi, H Manabe, *N A Ahmed, **H W Lee, **M Nakaoka*
Daihen Corporation, JAPAN
*Sophia University, JAPAN
**Kyungnam University, KOREA

1600 - 1620 **1B.06 P0334**
Evaluation of Conducted EMI Emissions on ZVZCS PWM dc-dc Converters with a Fixed Switching Frequency
*A Jangwanitlert, *J Songboonkaew*
King Mongkut's Institute of Technology Ladkrabang, THAILAND

*Thonburi College of Technology, THAILAND

- 1620 - 1640** **1B.07 P0599**
A Modeling Based Approach for the Characteristic Analysis of Buck Zero-Voltage Switching Quasi-Resonant Converters
Y C Lin, D C Liaw
National Chiao Tung University, TAIWAN
- 1640 - 1700** **1B.08 P0218**
Novel High Frequency Planner Transformer Linked Soft Switching DC-DC Power Converter with Secondary Side-Phase Shifted PWM Active Rectifying Switches
*N A Ahmed, M Miyatake, *K Nishimura, **H W Lee, **M Nakaoka*
Sophia University, JAPAN
*Hiroshima City University, JAPAN
**Kyungnam University, KOREA

Session 1C

Session Title : **DC-DC Converters 1**
Session Chair : **Tamotsu NINOMIYA**
 Awang JUSOH
Date : **29 November 2005, Tuesday**
Time : **14:00 - 16:40**
Venue : **Seminar Room 3**

- 1400 - 1420** **1C.01 P0597**
An Adaptive Fuzzy Logic Controller by Sliding Mode Control Method for DC/DC Converter
*N Khaehintung, *A Kunakorn, *M Aorpimai, P Sirisuk*
Mahanakorn University of Technology, THAILAND
*King Mongkut's Institute of Technology Ladkrabang, TAJIKISTAN
- 1420 - 1440** **1C.02 P0447**
Analysis of an Active Clamp Forward Converter
*B R Lin, H K Chiang, *C E Huang, K C Chen, *D Wang*
National Yunlin University of Science and Technology, TAIWAN
*Mean Well Enterprises Co Ltd, TAIWAN
- 1440 - 1500** **1C.03 P0385**
Interleaved-Boost-Input Type Isolated Full Bridge PFC Converter
*S Tomioka, H Terashi, *T Ninomiya*
Densei-Lambda K K, JAPAN
*Kyushu University, JAPAN
- 1500 - 1520** **1C.04 P0611**
A New Approach to Hi-Power DC-DC Converters Under Large Load and Input Voltage Variations
S R Hadian Amrei, D Xu, Y Q Lang
Harbin Institute of Technology, CHINA
- 1520 - 1540** **1C.05 P0311**
Realizing 200 Watt/Cubic Inch in VRM
A Elbanhawy
Fairchild Semiconductor, UNITED STATES

- 1600 - 1620** **1C.06 P0500**
 A Novel Converter for Fuel Cells Applications
B P Divakar, D Sutanto
 The Hong Kong Polytechnic University, HONG KONG S.A.R.
- 1620 - 1640** **1C.07 P0678**
 Fast and Accurate Current Sensing in a Multiphase Buck Converter
H Marecar, R Oruganti
 National University of Singapore, SINGAPORE

Session 1D

Session Title : **Inverters 1**
Session Chair : **Shoji FUKUDA**
 Abdul Halim MOHD YATIM
Date : **29 November 2005, Tuesday**
Time : **14:00 - 17:20**
Venue : **Seminar Room 4**

- 1400 - 1420** **1D.01 P0562**
 A Multilevel Hybrid Converter Combined with Voltage and Current Type Converter for Static VAR Compensator
K Hayashi, K Naito
 Meijo University, JAPAN
- 1420 - 1440** **1D.02 P0234**
 A Simple DC Imbalance Rejection Technique for UPS Inverters
K Zhang, X Jian, K Yong, C Jian
 Huazhong University of Science and Technology, CHINA
- 1440 - 1500** **1D.03 P0217**
 Time-Sharing Sinewave Absolute Value Tracking Boost Chopper Controlled one Stage Power Conditioner with Non Electrolytic Capacitor DC Filter Link
*N A Ahmed, M Miyatake, *H W Lee, *M Nakaoka*
 Sophia University, JAPAN
 *Kyungnam University, KOREA
- 1500 - 1520** **1D.04 P0638**
 A Graphical Approach to Switching Losses and Harmonics Distortion for Carrier SVPWM Methods in Multilevel Inverters
N V Nho
 Hochiminh City University of Technology, VIETNAM
- 1520 - 1540** **1D.05 P0216**
 Switched Capacitor Snubber Assisted Zero Current Soft Switching PWM High Frequency Inverter with Lossless Inductive Snubbers
*M H Hashem, N A Ahmed, *E Hiraki, *T Ahmed, **K Fathy, **H W Lee, **M Nakaoka*
 Sophia University, JAPAN
 *Yamaguchi University, JAPAN
 **Kyungnam University, KOREA
- 1600 - 1620** **1D.06 P0576**
 Power Losses for IGCTs and Diodes in MV Three-level Inverters
*L Yuan, Z Zhao, *Y Zhi*
 Tsinghua University, CHINA

*GuoDian NanJing Automation Co Ltd, CHINA

- 1620 - 1640** **1D.07 P0157**
The Analysis of Conduction and Switching Losses in Three-Phase OHSW Multilevel Inverter Using Switching Functions
*M G Hosseini Aghdam, S H Fathi, *A Ghasemi*
Amirkabir University of Technology, IRAN
*Iran University of Science and Technology, IRAN
- 1640 - 1700** **1D.08 P0363**
An Eight-level Inverter System for an Induction Motor with Open-end Windings
*K Chandra Sekhar, *G T Ram Das*
R.V.R & J.C.College of Engineering, INDIA
*J.N.T.U College of Engineering, INDIA
- 1700 - 1720** **1D.09 P0322**
A New Commutation Method for a Full-Bridge Current-Source Inverter
Y K Lo, J M Wang, S T Wu
National Taiwan University of Science and Technology, TAIWAN

Session 1E

Session Title : **Distributed Generation 1**
Session Chair : **Bhim SINGH**
 Yung C LIANG
Date : **29 November 2005, Tuesday**
Time : **14:00 - 17:20**
Venue : **Seminar Room 5**

- 1400 - 1420** **1E.01 P0220**
A Control Method of Prolonging the Service Life of Battery in Stand-alone Renewable Energy System using Electric Double Layer Capacitor (EDLC)
Y Jia, R Shibata, N Yamamura, M Ishida
Mie University, JAPAN
- 1420 - 1440** **1E.02 P0338**
Voltage Compensation in Weak Grids using Distributed Generation with Voltage Source Converter as a Front End
F Magueed, H Awad
Chalmers University of Technology, SWEDEN
- 1440 - 1500** **1E.03 P0593**
An Electronic Voltage and Frequency Controller for Single-Phase Self-Excited Induction Generators for Pico Hydro Applications
*B Singh, S Murthy, *S Gupta*
Indian Institute of Technology, Delhi, INDIA
*Rajiv Gandhi Technical University, INDIA
- 1500 - 1520** **1E.04 P0615**
High-efficient Soft-Switching Converter for Three-Phase Grid Connections of Renewable Energy Systems

Optimization of Hybrid Filters for Distributed Harmonic and Reactive Compensation
*P Tenti, E Tedeschi, *P Mattavelli*
University of Padova, ITALY
*University of Udine, ITALY

- 1500 - 1520** **1F.04 P0616**
Improved Broadband Harmonic Filter Design for Adjustable Speed Drives
A Hava, H Zubi
Middle East Technical University, TURKEY
- 1520 - 1540** **1F.05 P0199**
Development of a DSP-Based Power Quality Monitoring Instrument for Real-Time Detection of Power Disturbances
M Salem, A Mohamed, S Abd Samad, R Mohamed
University Kebangsaan Malaysia, MALAYSIA
- 1600 - 1620** **1F.06 P0153**
Study of Dynamic Voltage Restorer under the Abnormal Voltage Conditions
H K Chiang, B R Lin, K W Wu
National Yunlin University of Science and Technology, TAIWAN
- 1620 - 1640** **1F.07 P0400**
Robust Signal Processing System for Identification of Harmonics in an Active Power Filter Application
T Manmek, C P Mudannayake, C Grantham
The University of New South Wales, AUSTRALIA
- 1640 - 1700** **1F.08 P0151**
A Multi-function Single-phase Voltage Source Inverter with Current Harmonic Elimination and Voltage Regulation Features
B R Lin, H K Chiang, C C Yang, K W Wu
National Yunlin University of Science and Technology, TAIWAN

Session 2A

Session Title : **Control of Motor Drives 1**
Session Chair : **Abdul Halim MOHD YATIM**
 Sanjib Kumar PANDA
Date : **30 November 2005, Wednesday**
Time : **08:40 - 12:00**
Venue : **Seminar Room 1**

- 0840 - 0900** **2A.01 P0497**
Phase-Shift-Based Synchronous Modulation of Dual Inverters for an Open-End Winding Motor Drive with Elimination of Zero Sequence Currents
*V Oleschuk, A Sizov, *B K Bose, **A Stankovic*
Academy of Sciences of Moldova, MOLDOVA
*The University of Tennessee at Knoxville, UNITED STATES
**Northeastern University, UNITED STATES
- 0900 - 0920** **2A.02 P0669**
Evaluation of Secondary Slot Effects on Performance of High-Speed Linear Induction Motors Using a Quasi Three-Dimensional Space Harmonic Method
*M Mirzayee, *M Joorabian*
Amirkabir University of Technology, IRAN
*Chamran University of Ahvaz, IRAN
- 0920 - 0940** **2A.03 P0617**

Studies of Inverter Ratings of BDFM Adjustable Speed Drive or Generator Systems
*X Wang, P Roberts, *R McMahon*
University of Cambridge, UNITED KINGDOM
*Cambridge University, UNITED KINGDOM

- 0940 - 1000** **2A.04 P0463**
Closed-Loop Control and Performance of an Inverterless Interior PM Automotive Alternator
C Z Liaw, W L Soong, N Ertugrul
The University of Adelaide, AUSTRALIA
- 1020 - 1040** **2A.05 P0331**
Investigation of Velocity Ripple Suppression for the Discontinuous Permanent Magnet Linear Synchronous Motor by Open Loop
Y Kim, H Dohmeki, D Ebihara
Musashi Institute of Technology, JAPAN
- 1040 - 1100** **2A.06 P0548**
Sensorless Rotor Position Detection using Differential High Frequency Phase Current method
R Chandru, J Zhu
University of Technology Sydney, AUSTRALIA
- 1100 - 1120** **2A.07 P0224**
A Novel Implementation Method of a Programmable Cascaded Low Pass Filters for a Low Speed Sensorless Control of Synchronous Reluctance Motors
*A Ghaderi, T Hanamoto, T Tsuji, *M Ebrahimi*
Kyushu Institute of Technology, JAPAN
*Isfahan University of Technology, IRAN
- 1120 - 1140** **2A.08 P0389**
Nonlinear Feedback Control of a Bearingless Brushless DC Motor
H Grabner, W Amrhein, S Silber, K Nenninger
Johannes Kepler Universitat (JKU) Linz, AUSTRIA
- 1140 1200** **2A.09 P0351**
Sensorless Control of Permanent Magnet Machine Drives for Aerospace Applications
*A Budden, R Wrobel, D Holliday, P Mellor, *P Sangha*
University of Bristol, UNITED KINGDOM
*Goodrich Control Systems, UNITED KINGDOM

Session 2B

Session Title : **DC-DC Converters 2**
Session Chair : **Sujit Kumar BISWAS**
 Awang JUSOH
Date : **30 November 2005, Wednesday**
Time : **08:40 - 12:00**
Venue : **Seminar Room 2**

- 0840 - 0900** **2B.01 P0665**
Simulation and Experimental Results of the Bi-Directional DC-DC Converter Operating as an Active Damping Device in a Simple System
A Jusoh, Z Salam, S Md Ayob, M R Sahid
Universiti Teknologi Malaysia, MALAYSIA
- 0900 - 0920** **2B.02 P0423**
Integrated Magnetic Component based Analysis for Interleaved DC-DC Buck Converter

N H N, A Patra, K Debaprasad
Indian Institute of Technology, Kharagpur, INDIA

- 0920 - 0940** **2B.03 P0551**
A New Hybrid Current Source Rectifier with Common Mode Voltage Elimination
M J Abdul Aziz, C Klumpner, J C Clare
University of Nottingham, UNITED KINGDOM
- 0940 - 1000** **2B.04 P0187**
AC/DC Flyback Converter With A Single Switch Controlled DC Motor Drives
E El-Kholy
Menoufiya University, EGYPT
- 1020 - 1040** **2B.05 P0458**
Improved Asymmetrical Half-Bridge Converters
V Meleshin, D Ovchinnikov
Svyaz Engineering, RUSSIA
- 1040 - 1100** **2B.06 P0443**
Analysis and Implementation of an Asymmetrical Half-Bridge Converter
B R Lin, H K Chiang, C H Tseng, K C Chen
National Yunlin University of Science and Technology, TAIWAN
- 1100 - 1120** **2B.07 P0536**
A New Control Circuit Extends the Effective Duty Cycle Range of Flyback Converters
*T Halder, S K Biswas, *S S Saha, **B Majumdar*
Jadavpur University, INDIA
*College of Textile Technology, INDIA
**Sripat Singh College Murshidabad, INDIA
- 1120 - 1140** **2B.08 P0310**
An Improved Control Scheme for Multiphase Buck Converter Circuits used in Voltage Regulator Modules
*J Agrawal, K Debaprasad, A Patra, *B Culpepper*
Indian Institute of Technology, Kharagpur, INDIA
*National Semiconductor Corporation Santa Clara, UNITED STATES
- 1140 - 1200** **2B.09 P0211**
Analysis, Design and Implementation of an Active Clamp Flyback Converter
*B R Lin, H K Chiang, K C Chen, *D Wang*
National Yunlin University of Science and Technology, TAIWAN
*Mean Well Enterprises Co Ltd, TAIWAN

Session 2C

Session Title : **Converters Control 1**

Session Chair : **Ramesh ORUGANTI**
Naziha AZLI

Date : **30 November 2005, Wednesday**

Time : **08:40 - 12:00**

Venue : **Seminar Room 3**

0840 - 0900 **2C.01 P0417**
Modelling, Analysis and Design of Cascaded Forward and Interleaved Converter for Powering

Future Microprocessors
R P Singh, A M Khambadkone, G Samudra, Y C Liang
National University of Singapore, SINGAPORE

- 0900 - 0920** **2C.02 P0624**
Modulation and Control Schemes for A New Power Converter Based on Z-source and Matrix Converters for ISA 42 V PowerNet System
K You, M F Rahman
The University of New South Wales, AUSTRALIA
- 0920 - 0940** **2C.03 P0564**
Control of High Performance DC-AC Inverters using Frequency Domain Based Repetitive Control
W Wang, S K Panda, J X Xu
National University of Singapore, SINGAPORE
- 0940 - 1000** **2C.04 P0395**
Increasing Efficiency of an DSP-controlled Converter by On-the-fly Changing of the Gate Drive Method
F Bertling, S Soter
University of Dortmund, GERMANY
- 1020 - 1040** **2C.05 P0179**
New Current Sensing Circuit for Hysteresis-Current- Controlled Buck Converters
*J J Chen, Y S Hwang, *J H Su, *W C Shih*
National Taipei University of Technology, TAIWAN
*Lunghwa University of Science and Technology, TAIWAN
- 1040 - 1100** **2C.06 P0537**
Control of a Three-Phase PWM Rectifier Based on a Dual Single-Input Single-Output Linear Model
B Yin, R Oruganti, S K Panda, A K S Bhat
National University of Singapore, SINGAPORE
- 1100 - 1120** **2C.07 P0309**
Small-Signal Model of a High-Power-Factor, Three-Phase AC-DC Converter with High-Frequency Resonant Current Injection
*M N Seroji, *A Forsyth*
The University of Birmingham, UNITED KINGDOM
*The University of Manchester, UNITED KINGDOM
- 1120 - 1140** **2C.08 P0382**
Modeling and Simulation of DC-DC Power Converters in CCM and DCM using the Switching Functions Approach: Application to the Buck and Cuk Converters
*H Kanaan, *K Al-Haddad*
Saint-Joseph University, LEBANON
*Ecole de Technologie Superieure, CANADA
- 1140 - 1200** **2C.09 P0420**
Analysis and Implementation of a High Efficiency, Interleaved Current-fed Full Bridge Converter for Fuel Cell System
X Kong, A M Khambadkone
National University of Singapore, SINGAPORE

Session 2D

Session Title : Distributed Generation 2

Session Chair : Junji TAMURA

Abdul Halim MOHD YATIM

Date : 30 November 2005, Wednesday

Time : 08:40 - 12:00

Venue : Seminar Room 4

- 0840 - 0900 2D.01 P0366**
Deadbeat Current Control for AC and DC Power Applications of a Stand-Alone Induction Generator System
*K Nishida, *T Ahmed, **M Nakaoka*
Ube National College of Technology, JAPAN
*Yamaguchi University, JAPAN
**Kyungnam University, KOREA
- 0900 - 0920 2D.02 P0577**
Optimum Input Volt-Ampere Control of Three-Phase Induction Motors Connected to Distributed Generating Systems
H Ashfaq, M S J Asghar
Aligarh Muslim University, INDIA
- 0920 - 0940 2D.03 P0542**
An Improved Maximum Power Point Tracking Algorithm with Current-Mode Control for Photovoltaic Applications
C W Tan, T C Green, C A Hernandez Aramburo
Imperial College London, UNITED KINGDOM
- 0940 - 1000 2D.04 P0513**
Smoothing Control of Wind Farm Output Fluctuation with Doubly-fed Asynchronous Machine *L*
*Wu, Z X Wang, *J Tamura*
Shanghai Jiaotong University, CHINA
*Kitami Institute of Technology, JAPAN
- 1020 - 1040 2D.05 P0675**
Battery Energy Storage System for Power Conditioning of Renewable Energy Sources
*R S Bhatia, S P Jain, *D K Jain, **B Singh*
NIT Kurukshetra, INDIA
*C. R. State College of Engineering, Murthal, INDIA
**Indian Institute of Technology, Delhi, INDIA
- 1040 - 1100 2D.06 P0602**
A Solar-powered Battery Charger with Neural Network Maximum Power Point Tracking Implemented on a Low-Cost PIC-microcontroller
P Petchjaturorn, W Ngamkham, N Khaehintung, P Sirisuk, W Kiranon
Mahanakorn University of Technology, THAILAND
- 1100 - 1120 2D.07 P0451**
Transient Stability Analysis of Wind Generator System with the Consideration of Multi-Mass Shaft Model
*S M Muyeen, M Hasan Ali, R Takahashi, T Murata, J Tamura, *Y Tomaki, *A Sakahara, *E Sasano*
Kitami Institute of Technology, JAPAN
*Hokkaido Electrical Power Co., INC., JAPAN
- 1120 - 1140 2D.08 P0594**

Grid-connected Photovoltaic System with Maximum Power Point Tracking using Self-Organizing Fuzzy Logic Controller
*N Khaehintung, C Kangsajian, P Sirisuk, *A Kunakorn*
Mahanakorn University of Technology, THAILAND
*King Mongkut's Institute of Technology Ladkrabang, TAJIKISTAN

1140 - 1200 **2D.09 P0614**
Grid-Connection Technique for a Photovoltaic System with Power Factor Correction
Y K Lo, J Y Lin, T Y Wu
National Taiwan University of Science and Technology, TAIWAN

Session 2E

Session Title : **Power Quality 2**
Session Chair : **M A RAHMAN**
 Norman MARIUN
Date : **30 November 2005, Wednesday**
Time : **08:40 - 12:00**
Venue : **Seminar Room 5**

0840 - 0900 **2E.01 P0301**
Simulation and Experimental Investigation of an Optimum UPQC with Minimum VA Loading
Y Y Kolhatkar, S P Das
Indian Institute of Technology, Kanpur, INDIA

0900 - 0920 **2E.02 P0130**
Locating Voltage Sag Source at the Point of Common Coupling in Industrial Distribution Systems
N Hamzah, A Mohamed, A Hussain
*University Kebangsaan Malaysia, MALAYSIA

0920 - 0940 **2E.03 P0124**
The Novel Detection Approach of Shunt Active Filter Based on Adaptive Inverse Control
*Y Wu, Z Wu, *H Li, L Xia*
Naval University of Engineering, CHINA
*Naval submarine academy, CHINA

0940 - 1000 **2E.04 P0238**
Analysis of Instantaneous Representative Active Power Equality based Control Method for Three Phase Shunt Active Power Filter
Y Haroen, S Riyadi
Bandung Institute of Technology, INDONESIA

1020 - 1040 **2E.05 P0539**
Fundamental Frequency Model of a Dynamic Voltage Restorer
R Krishnan Iyer, A K Ramasamy, V K Ramachandaramurthy, R N Mukerjee
Universiti Tenaga Nasional, MALAYSIA

1040 - 1100 **2E.06 P0613**
Design, Simulation and Analog Circuit Implementation of a Three-phase Shunt Active Filter using the Icos(phi) Algorithm
M G Nair, G Bhuvaneshwari
Indian Institute of Technology, Delhi, INDIA

1100 - 1120 **2E.07 P0393**
Real Time Tracking of RMS Quantities in Three-Phase Systems under Nonsinusoidal Conditions

T Manmek, C Grantham, T Phung
The University of New South Wales, AUSTRALIA

- 1120 - 1140** **2E.08 P0566**
A Soft-Switching Utility-Interfaced Power Conditioner with High-Frequency
*S Chandhaket, *M Nakaoka*
Walailak University, THAILAND
*Kyungnam University, KOREA
- 1140 - 1200** **2E.09 P0676**
Design of a Prototype D-Statcom using DSP Controller for Voltage Sag Mitigation
*H Masdi, N Mariun, S M Bashi, *A Mohamed, *S Yusuf*
Universiti Putra Malaysia, MALAYSIA
*University Kebangsaan Malaysia, MALAYSIA

Session 3A

Session Title : **Motor Design 1**
Session Chair : **Pekik Argo DAHONO**
 Khalid MOHAMED NOR
Date : **30 November 2005, Wednesday**
Time : **14:00 - 15:20**
Venue : **Seminar Room 1**

- 1400 - 1420** **3A.01 P0639**
Study of A PMSM Model Incorporating Structural and Saturation Saliencies
*Y Yan, J Zhu, H Lu, Y G Guo, *S Wang*
University of Technology Sydney, AUSTRALIA
*Xi'an Jiaotong University, CHINA
- 1420 - 1440** **3A.02 P0314**
A New Motor Design for Hermetic DC Compressor
C C Lo, C C Yang, H C Chen
Industrial Technology Research Institute, TAIWAN
- 1440 - 1500** **3A.03 P0399**
Stability Limits of Saturated Interior Permanent Magnet Motors
E E Rashad
Buraydah College of Technology, SAUDI ARABIA
- 1500 - 1520** **3A.04 P0466**
A Permanent Magnet Linear Motor for Micro Robots
H Lu, J Zhu, Y G Guo
University of Technology Sydney, AUSTRALIA

Session 3B

Session Title : Permanent Magnet Motor Drives

Session Chair : Muhammed Faz RAHMAN
Nik Rumzi NIK IDRIS

Date : 30 November 2005, Wednesday

Time : 14:00 - 15:40

Venue : Seminar Room 2

1400 - 1420 **3B.01 P0149**
Adaptive Backstepping based Controller Design for Interior type PMSM using Maximum Torque Per Ampere Strategy
J Soltani, M Pahlavaninezhad
Isfahan University of Technology, IRAN

1420 - 1440 **3B.02 P0298**
Intelligent Speed Control of Permanent Magnet Synchronous Motor Drive Based-on Neuro-Fuzzy Approach
*T Radwan, *M Gouda*
Riyadh College of Technology, SAUDI ARABIA
*Industrial Education College, EGYPT

1440 - 1500 **3B.03 P0474**
A Novel Direct Load Angle Control for Interior Permanent Magnet Synchronous Machine Drives with Space Vector Modulation
J Zhang, Z Xu, L Tang, M F Rahman
The University of New South Wales, AUSTRALIA

1500 - 1520 **3B.04 P0434**
A Novel and Simple Initial Rotor Position Detecting Method for PMSMs
J ' Sugawara, T Kaimori, S Nishikata
Tokyo Denki University, JAPAN

1520 - 1540 **3B.05 P0674**
Hybrid Model Reference Adaptive Speed Control for Vector Controlled Permanent Magnet Synchronous Motor Drive
M Nour, I Arris, N Mariun, S Mahmoud
University Putra Malaysia, MALAYSIA

Session 3C

Session Title : Inverters 2

Session Chair : Katsunori TANIGUCHI
Zainal SALAM

Date : 30 November 2005, Wednesday

Time : 14:00 - 15:40

Venue : Seminar Room 3

1400 - 1420 **3C.01 P0506**
200kW/400kHz High Frequency Inverter for Induction Heating Application
X Zhu, Y Peng, X Shi, H Li
North China Electric Power University, CHINA

- 1420 - 1440** **3C.02 P0421**
 Analysis and Research of a Multiple-loop Control Strategy for Single-Phase UPS Inverters
W Yao, C Zheng, M Chen, Z Qian
 Zhejiang University, CHINA
- 1440 - 1500** **3C.03 P0156**
 Modeling and Simulation of Three-Phase OHSW Multilevel Voltage-Source Inverter by Means of Switching Functions
*M G Hosseini Aghdam, S H Fathi, *A Ghasemi*
 Amirkabir University of Technology, IRAN
 *Iran University of Science and Technology, IRAN
- 1500 - 1520** **3C.04 P0122**
 High-Frequency Transformer-Link Inverter with Regenerative Snubber
L S Toh, Z Salam, Z Ramli
 Universiti Teknologi Malaysia, MALAYSIA
- 1520 - 1540** **3C.05 P0178**
 Proposed Nine Switches Five Level Inverter With Low Switching Frequencies for Linear Generator Applications
M Ahmed, N Abd Rahim, H Ping, K Mohamed Nor
 University of Malaya, MALAYSIA

Session 3D

- Session Title** : **Lighting and display**
- Session Chair** : **Henry GUELDNER**
 Bhim SINGH
- Date** : **30 November 2005, Wednesday**
- Time** : **14:00 - 15:40**
- Venue** : **Seminar Room 4**

- 1400 - 1420** **3D.01 P0578**
 Igniter for HID Lamp Based on Discontinuous Working Mode of Piezoelectric Transformers
*M C Do, *T Hanisch, *H Gueldner*
 Dresden University of Technology, GERMANY
 *Technology University of Dresden, GERMANY
- 1420 - 1440** **3D.02 P0263**
 Study on Improvement of Buck-boost Inverter Suitable for Compact Self-ballast Fluorescent Lamp
*N Takahashi, *Y Kato, **M Nakaoka*
 Matsue National College of Technology, JAPAN
 *Tottori University, JAPAN
 **Kyungnam University, KOREA
- 1440 - 1500** **3D.03 P0670**
 A High-Voltage Input Backlight Module Driver for Multi-Lamp LCD Panels
Y K Lo, K J Pai, S C Yen
 National Taiwan University of Science and Technology, TAIWAN
- 1500 - 1520** **3D.04 P0291**
 High-Frequency Operating Characteristics of Metal Halide Lamps
*S Y Tang, C S Moo, *C R Lee*

National Sun Yat-Sen University, TAIWAN
*Industrial Technology Research Institute, TAIWAN

1520 - 1540 **3D.05 P0262**
Electronic Ballast Using Neutral Point Type Step-down Converter
*Y Kato, M Nakamura, *N Takahashi, **I Yokozeki*
Tottori University, JAPAN
*Matsue National College of Technology, JAPAN
**Harison Toshiba Lighting Corp, JAPAN

Session 3E

Session Title : **Power Electronics Components**

Session Chair : **Yung C LIANG**
 Naziha AZLI

Date : **30 November 2005, Wednesday**

Time : **14:00 - 15:40**

Venue : **Seminar Room 5**

1400 - 1420 **3E.01 P0328**
Design of Superjunction Power MOSFET Devices using the Gradient Oxide-Bypassed Structure
Y Chen, Y C Liang, G Samudra
National University of Singapore, SINGAPORE

1420 - 1440 **3E.02 P0367**
Static Model Verification of IRF Power MOSFETs using Fluke Temperature Probe (80T-150U) and Performance Comparison of TEHPWM Methods
S Jeevananthan, P Dananjayan
Pondicherry Engineering College, INDIA

1440 - 1500 **3E.03 P0498**
The Gate Drive Requirements for New Generation of High Current Low Voltage IGBTs Employed in Motor Converters
P Grbovic
Schneider Toshiba Inverter Europe, FRANCE

1500 - 1520 **3E.04 P0601**
Implementation and Comparison of Power Diode Models for System Simulation
*Z Wang, A Bryant, J Wu, *P Palmer*
University of Cambridge, UNITED KINGDOM
*University of British Columbia, CANADA

1520 - 1540 **3E.05 P0303**
Device Temperature and Stress Distributions in Power Diode $\text{ }^{\circ}\text{C}$ A Finite Element Method
G Huang, C M Tan
Nanyang Technological University, SINGAPORE

Session 4A

Session Title : **Control of Motor Drives 2**

Session Chair : **M A RAHMAN**
Hew PING

Date : **1 December 2005, Thursday**

Time : **08:40 - 12:20**

Venue : **Seminar Room 1**

0840 - 0900 **4A.01 P0286**
Recent Hot Strip Mill in China
*H Hosoda, S Wada, S Kodama, *J Li*
Toshiba Mitsubishi-Electric Industrial Systems Corporation, JAPAN
*Hunan Valin Liangang Steel Co. Ltd, JAPAN

0900 - 0920 **4A.02 P0250**
A New Sensorless Control Scheme for Brushless DC Motors without Phase Shift Circuit
C H Chen, M Y Cheng
National Cheng-Kung University, TAIWAN

0920 - 0940 **4A.03 P0284**
Generalized Predictive Controller For A Boost AC To DC Converter Fed DC Motor
E El-Kholy
Menoufiya University, EGYPT

0940 - 1000 **4A.04 P0233**
Modeling of a Converter-Connected Six-Phase Permanent Magnet Synchronous Generator
*K Zhang, *H M Kojabadi, **P Z Wang, **L Chang*
Huazhong University of Science and Technology, CHINA
*Sahand University of Technology, IRAN
**University of New Brunswick, CANADA

1020 - 1040 **4A.05 P0184**
Chattering Free Neuro-Sliding Mode Control of DC Drives
*M G Sarwer, M A Rafiq, M Datta, B D C Ghosh, *S Komada*
Khulna University of Engineering and Technology, BANGLADESH
*Mie University, JAPAN

1040 - 1100 **4A.06 P0409**
Indirect Back-EMF Zero Crossing Detection for Sensorless BLDC Motor Operation
P Damodharan, K Vasudevan
Indian Institute of Technology, Madras, INDIA

1100 - 1120 **4A.07 P0457**
Development of Closed Loop Control Schemes for Constant Speed operation of a Thyristorized Commutatorless Series Motor Drive
*K Mukherjee, *S Sengupta, *T K Bhattacharya, **A K Chattopadhyay*
Jadavpur University, INDIA
*Indian Institute of Technology, Kharagpur, INDIA
**Bengal Engineering and Science University, INDIA

1120 - 1140 **4A.08 P0452**
RTLinux Based Online Real Time Simulator of SPMSM using the Block Pulse Approximation
T Hanamoto, A Ghaderi, T Tsuji
Kyushu Institute of Technology, JAPAN

1140 - 1200 **4A.09 P0499**

A Comparison of Losses in Small (<1kw) Drives using Sine and Space Vector Pulse Width Modulation Schemes
*C Y Leong, *R Grinberg, G Makrides, Y Wu, R McMahon*
Cambridge University, UNITED KINGDOM
*Moscow Power Engineering Institute, RUSSIA

1200 - 1220 **4A.10 P0677**
Direct Torque Controller for Switched Reluctance Motor using Sliding Mode Control
S K Sahoo, S K Panda, J X Xu
National University of Singapore, SINGAPORE

Session 4B

Session Title : **Analysis and Design of Motor Systems**

Session Chair : **Eun-Woong LEE**

Ashwin M KHAMBADKONE

Date : **1 December 2005, Thursday**

Time : **08:40 - 12:00**

Venue : **Seminar Room 2**

0840 - 0900 **4B.01 P0515**
A Torque Estimation Method for a Switched Reluctance Machine
S Kaewthai, S Kittiratsatcha
King Mongkut's Institute of Technology Ladkrabang, THAILAND

0900 - 0920 **4B.02 P0543**
Optimal Design and Speed Increasing Method of Solenoid Actuator using a Non-Magnetic Ring
*B J Sung, *E W Lee*
Korea Institute of Machinery & Materials, KOREA
*Chungnam National University, KOREA

0920 - 0940 **4B.03 P0229**
Practical Implementation of the Bridge Configured Winding for Self-Bearing Machines
W K S Khoo, S D Garvey
The University of Nottingham, UNITED KINGDOM

0940 - 1000 **4B.04 P0646**
A Novel Flux-Reversal Axial Flux Generator for High Speed Applications
*M Mirzayee, H Bahrani, A Zabih, *M Joorabian*
Amirkabir University of Technology, IRAN
*Chamran University of Ahvaz, IRAN

1020 - 1040 **4B.05 P0468**
Finite-element Study on a Two-phase Switched-reluctance Motor with Split Stator Poles.
S Chan, M N Hamid
University Technology Mara, MALAYSIA

1040 - 1100 **4B.06 P0287**
Analysis and Design of the Stator Windings of a Bearingless Motor for Comparisons of Radial Force Capabilities with Different Rotors
A Morales-Castorena, W L Soong, N Ertugrul
The University of Adelaide, AUSTRALIA

1100 - 1120 **4B.07 P0477**
A Magnetic Model of a Three-Phase Switched-Reluctance Machine using Cubic Spline

Interpolation Technique
*S Khotpanya, S Kittiratsatcha, *I Kazuhisa*
King Mongkut's Institute of Technology Ladkrabang, LAOS
*Tokai University, JAPAN

1120 - 1140 **4B.08 P0488**
Design of the Single Phase SRM Considering the Torque Ripple
J H Lee, E W Lee, J H Kim
Chungnam National University, KOREA

1140 - 1200 **4B.09 P0484**
Innovative Actuator with Two Controlled Degrees of Freedom for Precision Technology Applications
*J Makarovic, E Lomonova, *J Compter*
Technical University of Eindhoven, NETHERLANDS, THE
*Philips Applied Technologies, NETHERLANDS, THE

Session 4C

Session Title : **PE Applications 1**
Session Chair : **V AGELIDIS**
 Don Mahinda VILATHGAMUWA

Date : **1 December 2005, Thursday**

Time : **08:40 - 11:40**

Venue : **Seminar Room 3**

0840 - 0900 **4C.01 P0431**
Fluorescent Lamp Model for High-Frequency Electronic Ballasts
H C Yen, Z J Huang, K H Lee
Fortune Institute of Technology, TAIWAN

0900 - 0920 **4C.02 P0173**
The Low Power Induction Heating using Resonant Technique
F R Ahmad, A M Omar
Universiti Teknologi Mara, MALAYSIA

0920 - 0940 **4C.03 P0529**
GA-trained GRNN for Intelligent Ultra Fast Charger for Ni-Cd Batteries
P Petchjaturorn, N Khaehintung, K Sunat, W Kiranon, P Wicheanchote
Mahanakorn University of Technology, THAILAND

0940 - 1000 **4C.04 P0608**
Effects of Source Voltage Harmonic Distortion on Power Factor Compensation in Triac Controlled AC Chopper Circuits
M Balci, H Hocaoglu
Gebze Institute of Technology, TURKEY

1020 - 1040 **4C.05 P0485**
A Hybrid Genetic Algorithm for Selective Harmonic Elimination Control of a Multilevel Inverter with Non-Equal DC Sources
*M Dahidah, *V Agelidis*
Multimedia University, MALAYSIA
*Murdoch University, AUSTRALIA

- 1040 - 1100** **4C.06 P0621**
 Single Phase PWM Controlled Voltage Converter for Pumps and Fans without DC Link Electrolytic Capacitors
*M Reisinger, *W Amrhein, *S Silber*
 Linz Center of Mechatronics GmbH , AUSTRIA
 *Johannes Kepler Universitat (JKU) Linz, AUSTRIA
- 1100 - 1120** **4C.07 P0255**
 A Novel Single-Switch Single-Stage Electronic Ballast With High Input Power Factor
*C M Wang, *J H Su, *M T Liu*
 National Ilan University, TAIWAN
 *Lunghwa University of Science and Technology, TAIWAN
- 1120 - 1140** **4C.08 P0478**
 New Piezoelectric Transformer Adapter with Universal Input Voltage Range
T Kim, S Choi, S Lee, B H Cho
 Seoul National University, KOREA

Session 4D

Session Title : **Converters Control 2**

Session Chair : **Zainal SALAM**

Gobbi RAMASAMY

Date : **1 December 2005, Thursday**

Time : **08:40 - 12:00**

Venue : **Seminar Room 4**

- 0840 - 0900** **4D.01 P0405**
 TMS320F2407 DSP Based Fuzzy Logic Controller for Negative Output Luo Re-Lift Converter: Design, Simulation and Experimental Evaluation
R Kayalvizhi, S P Natarajan, V Kavitharajan, R Vijayarajeswaran
 Annamalai University, INDIA
- 0900 - 0920** **4D.02 P0397**
 Control of Paralleled Negative Output Elementary Luo Converters
R Kayalvizhi, S P Natarajan, P Suresh Pandiyarajan, R Vijayarajeswaran
 Annamalai University, INDIA
- 0920 - 0940** **4D.03 P0609**
 A Forward Converter Having an FPGA-based PID Controller with Parameters On-line Tuned
*K I Hwu, *Y T Yau*
 National Taipei University of Technology , TAIWAN
 *Industrial Technology Research Institute, TAIWAN
- 0940 - 1000** **4D.04 P0571**
 Stability Comparison of Three Control Schemes for Bus Converter in Distributed Power System
*S Abe, T Ninomiya, *M Hirokawa, **T Zaitso*
 Kyushu University, JAPAN
 *TDK Corporation, JAPAN
 **TDK Innoveta Inc., UNITED STATES
- 1020 - 1040** **4D.05 P0115**
 A Single-Phase Hybrid Active Power Filter using Extension p-q Theorem for Photovoltaic Application
P C Tan, Z Salam, A Jusoh
 Universiti Teknologi Malaysia, MALAYSIA

- 1040 - 1100** **4D.06 P0158**
 Interactive Simulation and Verification SIMULINK Models for DC-DC Switching Converter Circuits using PWM Control ICs
*J H Su, *C M Wang, **J J Chen, J D Lee, T L Chen*
 Lunghwa University of Science and Technology, TAIWAN
 *National Ilan University, TAIWAN
 **National Taipei University of Technology, TAIWAN
- 1100 - 1120** **4D.07 P0174**
 A Direct Approach to the Positioning of the Reference Vector for Space Vector Modulation
M Tavakoli Bina, M S Moghadam
 K. N. Toosi University of Technology, IRAN
- 1120 - 1140** **4D.08 P0295**
 Improvement of the Transient Performance of a Voltage-Type PWM Rectifier with Active Filtering Function
T Kitamura, T Kataoka
 Tokyo Denki University, JAPAN
- 1140 - 1200** **4D.09 P0172**
 Secondary Side Post Regulation Application in Multiple Outputs Flyback Converter
H Chen, W Dong, Y He, Z Qian
 Zhejiang University, CHINA

Session 4E

Session Title : **Power Quality 2**
Session Chair : **Ahmet HAVA**
Norman MARIUN
Date : **1 December 2005, Thursday**
Time : **08:40 - 12:00**
Venue : **Seminar Room 5**

- 0840 - 0900** **4E.01 P0510**
 Intelligence-Driven Power Quality Monitoring
H Hakimie, V K Ramachandaramurthy, R N Mukerjee
 Universiti Tenaga Nasional, MALAYSIA
- 0900 - 0920** **4E.02 P0182**
 A Novel Control Strategy to Reduce Transformer Inrush Currents by Series Compensator
J L Shyu
 Kao Yuan Institute of Technology, TAIWAN
- 0920 - 0940** **4E.03 P0427**
 Dynamic Voltage Restorer for Voltage Sag Compensation
A K Ramasamy, R Krishnan Iyer, V K Ramachandaramurthy, R N Mukerjee
 Universiti Tenaga Nasional, MALAYSIA
- 0940 - 1000** **4E.04 P0619**
 Performance Comparison of Various Passive Harmonic Filters for Adjustable Speed Drives
A Hava, H Zubi
 Middle East Technical University, TURKEY
- 1020 - 1040** **4E.05 P0659**

A 3-Phase 4-Wire Voltage Sag Compensator Based on Three Dimensions Space Vector
*K Oranpiroj, *S Premrudeepreechacharn, Y Kumsuwan, **T Boonsai, ***C Nayar*
 Rajamangala University of Technology Lanna, THAILAND
 *Chiang Mai University, THAILAND
 **Rajamangala University of Technology Tanyaburi, THAILAND
 ***Curtin University of Technology, AUSTRALIA

- 1040 - 1100** **4E.06 P0175**
 Passive Hybrid Filter for Varying Rectifier Loads
*B Singh, *V Verma, **V Garg*
 Indian Institute of Technology, Delhi, INDIA
 *Delhi College of Engineering, INDIA
 **Indian Railways, INDIA
- 1100 - 1120** **4E.07 P0469**
 Modular Structured Multilevel Inverter with Unified Constant-Frequency Integration Control for Active Power Filters
*N Azli, *P Y Lim*
 Universiti Teknologi Malaysia, MALAYSIA
 *Sabah Polytechnic, MALAYSIA
- 1120 - 1140** **4E.08 P0472**
 Voltage Sag Mitigation using NAS Battery-based Standby Power Supply
*Z F Hussien, A B Ismail, L W Chung, *A M Busrah, *M F Mohd Siam*
 Universiti Tenaga Nasional, MALAYSIA
 *TNB Research Sdn Bhd, MALAYSIA
- 1140 - 1200** **4E.09 P0561**
 Design and Implementation of a Hybrid Series Active Power Filter
C C Hua, C W Chuang
 National Yunlin University of Science and Technology, TAIWAN

Session 4F

Session Title : Applications in Power Systems

Session Chair : Pekik Argo DAHONO
 K P BASU

Date : 1 December 2005, Thursday

Time : 08:40 - 12:00

Venue : Seminar Room 6

0840 - 0900 **4F.01 P0496**
 Determination of Total Transfer Capability Incorporating FACTS Devices in Power Markets
G Li, M Zhou, Y Gao
 North China Electric Power University, CHINA

0900 - 0920 **4F.02 P0445**
 Inductively Loaded Current Controlled Solid-State Lead-Lag Var Compensator: Special Feature and Performance
*P Shadhu Khan, *J Chatterjee, G Ramasamy*
 Multimedia University, MALAYSIA
 *Indian Institute of Technology, Delhi, INDIA

0920 - 0940 **4F.03 P0546**
 Switching DC Excitation System on Harmonic-Current Amplification of Self-Excited Wind Induction Generators (WIG)

W Li, S S Chen
National Cheng-Kung University, TAIWAN

- 0940 - 1000** **4F.04 P0522**
Research on Flywheel Energy Storage System using in Power Network
J Zhang
North China Electric Power University, CHINA
- 1020 - 1040** **4F.05 P0236**
Thyrister based Sequential Switching of Transmission line Improves Power System Stability
B K P, N M H
Multimedia University, MALAYSIA
- 1040 - 1100** **4F.06 P0369**
Assessment Study of Shunt FACTS Devices for Improving Dynamic Behavior of Induction Motors
*M Hedayati, *H Oraee*
Islamic Azad University, IRAN
*Sharif University of Technology, IRAN
- 1100 - 1120** **4F.07 P0509**
Design and Operation of SVC for Voltage Support at Mussafah Substation in Abu Dhabi
*J Arai, T Muraio, T Karube, K Takagi, *M Ibrahim, *A Atiah, **Y Moriura*
Toshiba Corporation, JAPAN
*TRANSCO, UNITED ARAB EMIRATES
**Toshiba Mitsubishi-Electric Industrial Systems Corporation, JAPAN
- 1120 - 1140** **4F.08 P0116**
Two Control Schemes to Control Flow of Current Using Series Connected PWM-Voltage-Sourced Converter
F Al Jowder
University of Bahrain, BAHRAIN
- 1140 - 1200** **4F.09 P0416**
Research on Super Capacitor Energy Storage System for Power network
J Zhang
North China Electric Power University, CHINA

Session 5A

- Session Title** : **Motor Design 2**
- Session Chair** : **Muhammed Faz RAHMAN**
Gobbi RAMASAMY
- Date** : **1 December 2005, Thursday**
- Time** : **14:00 - 17:20**
- Venue** : **Seminar Room 1**

- 1400 - 1420** **5A.01 P0339**
Double Side Interior Permanent Magnet Linear Synchronous Motor and Drive System
*N Mison, K C Wong, N Mariun, *W Hiroyuki*
Universiti Putra Malaysia, MALAYSIA
*Shinshu University, JAPAN
- 1420 - 1440** **5A.02 P0444**
Design and Experiments of Two Glued Axially-Laminated Synchronous Reluctance Permanent Magnetic Motors
W Guo, Z Zhao

Tsinghua University, CHINA

- 1440 - 1500** **5A.03 P0227**
160,000-r/min, 2.7-kW Electric Drive of Supercharger for Automobiles
*T Noguchi, Y Takata, *Y Yamashita, *S Ibaraki*
Nagaoka University of Technology, JAPAN
*Mitsubishi Heavy Industries, JAPAN
- 1500 - 1520** **5A.04 P0640**
Design of a Linear Permanent Magnet Synchronous Motor with Extra Low Force Pulsations
A Hassanpour Isfahani, S Vaez-Zadeh
University of Tehran, IRAN
- 1520 - 1540** **5A.05 P0454**
Simulation of Internal Faults in Permanent Magnet Synchronous Machines
A A Ali, J Regnier, J Faucher, B Dagues
Laboratoire d'Electrotechnique et d'Electronique Industrielle, FRANCE
- 1600 - 1620** **5A.06 P0453**
Comparison of Core Loss Prediction Methods for the Interior Permanent Magnet Machine
R Dutta, M F Rahman
The University of New South Wales, AUSTRALIA
- 1620 - 1640** **5A.07 P0436**
Analysis of the Pole Numbers on Flux and Power Density of IPM Synchronous Machine
C Zhao, H Qin, Y Yan
Nanjing University of Aeronautics and Astronautics, CHINA
- 1640 - 1700** **5A.08 P0337**
Thrust Density Characteristics of Linear DC Motor
*N Misron, *N A Awaludin, J I Syed, N Mariun, **H Yutaka*
Universiti Putra Malaysia, MALAYSIA
*Kuala Lumpur Infrastructure University College, MALAYSIA
**Hirama Institute of Professional Engineering, JAPAN
- 1700 - 1720** **5A.09 P0414**
Design and Analysis of a Permanent Magnet Claw Pole/Transverse Flux Motor with SMC Core
Y G Guo, J Zhu, H Lu
University of Technology Sydney, AUSTRALIA

Session 5B

Session Title : **Modulation Techniques**
Session Chair : **Sandor HALASZ**
 Don Mahinda VILATHGAMUWA

Date : **1 December 2005, Thursday**

Time : **14:00 - 17:40**

Venue : **Seminar Room 2**

- 1400 - 1420** **5B.01 P0637**
A Simple On-line SHE PWM With Extension to Six Step Mode in Two-Level Inverters
*N V Nho, *M J Youn*
Hochiminh City University of Technology, VIETNAM
*Korea Advanced Institute of Science and Technology, KOREA

- 1420 - 1440** **5B.02 P0201**

Analysis of the Optimal Voltage Spectrum in RPWM Tables
H C Chen, Y C Chang, J D Lin
Industrial Technology Research Institute, TAIWAN

- 1440 - 1500** **5B.03 P0455**
Realization Study of Class D Power Amplifier by Sigma-Delta Modulation
*G C Hsieh, *H L Chen, *P Y Liu*
Tung Nan Institute of Technology, TAIWAN
*National Taiwan University of Science and Technology, TAIWAN
- 1500 - 1520** **5B.04 P0208**
Random Pulse-Width Modulated Neutral-Point-Clamped Inverter with Reduced Common-Mode Switching
P C Loh, D M Vilathgamuwa, F Gao, C J Gajanayake, L W Gay, P F Leong
Nanyang Technological University, SINGAPORE
- 1520 - 1540** **5B.05 P0383**
Selective Harmonic Elimination Techniques for Multilevel Cascaded H-Bridge Inverters
*E Guan, P Song, M Ye, *B Wu*
East China Jiaotong University, CHINA
*Ryerson University, CANADA
- 1600 - 1620** **5B.06 P0579**
Modulation and Control of a Three-Level Class-D Audio Power Amplifier
S H Yu, M H Tseng
National Sun Yat-Sen University, TAIWAN
- 1620 - 1640** **5B.07 P0567**
Analysis of Discontinuous PWM Strategies of Three-Level Inverters (II)
S Halasz
Budapest University of Technology and Economics, HUNGARY
- 1640 - 1700** **5B.08 P0470**
Development of a DSP-based Fuzzy PI Controller for an Online Optimal PWM Control Scheme for a Multilevel Inverter
N Azli, S N Wong
Universiti Teknologi Malaysia, MALAYSIA
- 1700 - 1720** **5B.09 P0348**
SPWM-An Analytical Characterization, and Performance Appraisal of Power Electronic Simulation Softwares
S Jeevananthan, P Dananjayan, S V San
Pondicherry Engineering College, INDIA
- 1720 - 1740** **5B.10 P0471**
Analysis of Natural Sampled PWM Switching Strategy for a Cascaded Multilevel Inverter using Double Integral Fourier Method
*A Mohamad Razali, *Z Salam*
Kolej Universiti Teknikal Kebangsaan Malaysia, MALAYSIA
*Universiti Teknologi Malaysia, MALAYSIA

Session 5C

Session Title : PE Applications 2

Session Chair : Don Mahinda VILATHGAMUWA
Ahmad Maliki OMAR

Date : 1 December 2005, Thursday

Time : 14:00 - 17:00

Venue : Seminar Room 3

- 1400 - 1420** **5C.01 P0386**
Development of 13-V, 5000-A DC Power Supply with High-Frequency Transformer Coupling Applied to Electric Furnace
*T Noguchi, K Nishiyama, *Y Asai, *T Matsubara*
Nagaoka University of Technology, JAPAN
*MACOHO Co Ltd, JAPAN
- 1420 - 1440** **5C.02 P0589**
Application of Load Current Forward Compensating in Digital Voltage Regulation for Doubly Salient Brushless DC Generator
L Wang, X Cao, Z Zhang, Y Yan
Nanjing University of Aeronautics and Astronautics, CHINA
- 1440 - 1500** **5C.03 P0521**
Design of Smart Charger for Series Lithium-ion Batteries
M F Mohd Elias, K Mohamed Nor, A K Arof
University of Malaya, MALAYSIA
- 1500 - 1520** **5C.04 P0161**
Scott-Connected Autotransformer Based Multipulse AC-DC Converters for Power Quality Improvement In Vector Controlled Induction Motor Drives
*B Singh, G Bhuvaneswari, *V Garg*
Indian Institute of Technology, Delhi, INDIA
*Indian Railways, INDIA
- 1520 - 1540** **5C.05 P0185**
UPS Outage-Mode Output Power Capacity Expansion Approach via Bi-directional Converter
J L Shyu
Kao Yuan Institute of Technology, TAIWAN
- 1600 - 1620** **5C.06 P0193**
A New Approach to the Modulation and DC-Link Balancing Strategy of Modular Multilevel AC/AC Converters
M Tavakoli Bina, H Mohammadi Pirouz, K Kanzi
K. N. Toosi University of Technology, IRAN
- 1620 - 1640** **5C.07 P0660**
Multi-Level Active Filter for Medium Voltage Applications
M Rastogi, P Hammond, S Simms
Siemens Energy & Automation, Inc., UNITED STATES
- 1640 - 1700** **5C.08 P0200**
Eighteen-Pulse AC-DC Converter for Harmonic Mitigation in Vector Controlled Induction Motor Drives
*B Singh, G Bhuvaneswari, *V Garg*
Indian Institute of Technology, Delhi, INDIA
*Indian Railways, INDIA

Session 5D

Session Title : **Converters Control 3**

Session Chair : **Ramesh ORUGANTI**
Mustafar Kamal HAMZAH

Date : **1 December 2005, Thursday**

Time : **14:00 - 17:20**

Venue : **Seminar Room 4**

1400 - 1420 **5D.01 P0396**

Development of Neuro Controller for Negative Output Re-lift Luo Converter
R Kayalvizhi, S P Natarajan, P Padmaloshani, R Vijayarajeswaran
Annamalai University, INDIA

1420 - 1440 **5D.02 P0206**

Energy Based Switching Control Scheme for DC-DC Buck-Boost Converter Circuits
P Gupta, A Patra
Indian Institute of Technology, Kharagpur, INDIA

1440 - 1500 **5D.03 P0207**

Modeling, Analysis, Simulation and Design Optimization (Genetic Algorithm) of DC-DC Converter for Uninterruptible Power Supply Applications
C K Chew, S R R Kondapalli
Universiti Sains Malaysia, MALAYSIA

1500 - 1520 **5D.04 P0142**

Implementation of Single-Phase Matrix Converter as a Direct AC-AC Converter Synthesized using Sinusoidal Pulse Width Modulation with Passive Load Condition
Z Idris, M K Hamzah, A M Omar
Universiti Teknologi Mara, MALAYSIA

1520 - 1540 **5D.05 P0253**

Variable On-time Control of the Critical Conduction Mode Boost Power Factor Correction Converter to Improve Zero-crossing Distortion
J W Kim, S M Choi, K T Kim
Fairchild Semiconductor, KOREA

1600 - 1620 **5D.06 P0433**

Deadbeat Current Controller of Front-end Converter with State-Observer based Predictor
H V Luu, P Buechner, V Miuller, P N Lan
Dresden University of Technology, GERMANY

1620 - 1640 **5D.07 P0598**

Design of Double Closed Loop in Boost Aerospace DC-DC Power Supply
X Liu, X Yang, J Jiang, X Cai
Shanghai Jiaotong University, CHINA

1640 - 1700 **5D.08 P0139**

Modelling & Simulation of a new Single-phase to Single-phase Cycloconverter based on Single-phase Matrix Converter Topology with Sinusoidal Pulse Width Modulation Using MATLAB/Simulink
Z Idris, M K Hamzah, N R Hamzah
Universiti Teknologi Mara, MALAYSIA

1700 - 1720 **5D.09 P0583**

Session 5E

Session Title : **Distributed Generation 3**

Session Chair : **Junji TAMURA**

Nik Din MUHAMAD

Date : **1 December 2005, Thursday**

Time : **14:00 - 17:40**

Venue : **Seminar Room 5**

- 1400 - 1420** **5E.01 P0528**
A Fuzzy Logic-Controlled Superconducting Magnetic Energy Storage (SMES) Unit for Augmentation of Transient Stability
M H Ali, T Murata, J Tamura
Kitami Institute of Technology, JAPAN
- 1420 - 1440** **5E.02 P0482**
Wind Farm Stabilization by Doubly-Fed Synchronous Wind Generator
*R Takahashi, J Tamura, *M O Futami, *M Kimura, **I Kazumasa*
Kitami Institute of Technology, JAPAN
*Hitachi Laboratory, JAPAN
**Hitachi, Ltd, JAPAN
- 1440 - 1500** **5E.03 P0225**
A Bi-directional Charge Equalization Circuit for Series-connected Batteries
*Y C Hsieh, *C S Moo, *W Y Ou-Yang*
Kao Yuan University, TAIWAN
*National Sun Yat-Sen University, TAIWAN
- 1500 - 1520** **5E.04 P0476**
Stabilization of Grid Connected Wind Generator by STATCOM
S M Muyeen, M Abdul Mannan, M H Ali, R Takahashi, T Murata, J Tamura
Kitami Institute of Technology, JAPAN
- 1520 - 1540** **5E.05 P0525**
Control of Induction Generator in a Wells Turbine Based Wave Energy System
S Srinivasa Rao, B K Murthy
National Institute of Technology, Warangal, INDIA
- 1600 - 1620** **5E.06 P0475**
A Calculation Method of the Total Efficiency of Wind Generator
*A Inoue, M Hasan Ali, R Takahashi, T Murata, J Tamura, *M Kimura, *M O Futami, *E . Al.*
Kitami Institute of Technology, JAPAN
*Hitachi Laboratory, JAPAN
- 1620 - 1640** **5E.07 P0440**
Implementation of a Stand-Alone Photovoltaic Lighting System with MPPT, Battery Charger and High Brightness LEDs
C C Hua, P K Ku
National Yunlin University of Science and Technology, TAIWAN
- 1640 - 1700** **5E.08 P0109**
An Embedded Microchip System Design for Programmable Solar Panel Simulator

Y T Cham, J Jia, E W K Au
Temasek Polytechnic, SINGAPORE

- 1700 - 1720** **5E.09 P0479**
Stabilization of Power System Including Wind Generator by Fuzzy Logic-Controlled Superconducting Magnetic Energy Storage
M H Ali, T Murata, J Tamura
Kitami Institute of Technology, JAPAN
- 1720 - 1740** **5E.10 P0373**
Power Optimization in a Grid-Connected Wind Energy Conversion System
*A Palanisamy, R Kalyana Sundaram, *C Chinna Gounder*
Pondicherry Engineering College, INDIA
*Jerusalem College of Engineering, INDIA

Session 5F

Session Title : **Test and Measurement**
Session Chair : **Yung C LIANG**
 Zahrul Faizi HUSSIEN
Date : **1 December 2005, Thursday**
Time : **14:00 - 17:20**
Venue : **Seminar Room 6**

- 1400 - 1420** **5F.01 P0197**
Measurement and Mitigation of Conducted Emission for Voltage Phase Controlled Capacitor-Run Single Phase Induction Motor
Y S Lee, T T Yang, M W Cheng
Fu Jen Catholic University, TAIWAN
- 1420 - 1440** **5F.02 P0534**
An ESR Meter for High Frequencies
*A Amaral, *A Cardoso*
Polytechnic of Coimbra, PORTUGAL
*University of Coimbra, PORTUGAL
- 1440 - 1500** **5F.03 P0257**
Troubale Call Based Outage Determination In Power Distribution Networks Using ANFIS
B Amini, S H Khatoonabadi, A Zamanifar
Niroo Research Institute, IRAN
- 1500 - 1520** **5F.04 P0191**
Time Domain Measurement System for Conducted EMI and CM/DM Noise Signal Separation
Y S Lee, Y L Liang, M W Cheng
Fu Jen Catholic University, TAIWAN
- 1520 - 1540** **5F.05 P0280**
Hardware-In-the-Loop Simulation of Power Drives with RT-LAB
C Dufour, S Abourida, J Belanger
Opal-RT Technologies, CANADA
- 1600 - 1620** **5F.06 P0329**
Very Fast Measurement of Speed by Rotating Magnetic Field
M S J Asghar, A Tariq, S J Arif

Aligarh Muslim University, INDIA

- 1620 - 1640** **5F.07 P0219**
Analysis of the Thermal Expansion Effect on Measurement Precision of Rogowski Coils
H Wang, F Liu, H Zhang, S Zheng
Yanshan University, CHINA
- 1640 - 1700** **5F.08 P0240**
BMF Fuzzy Neural Network with Genetic Algorithm for Forecasting Electric Load
Y S Lee, C H Kao, W Y Wang
Fu Jen Catholic University, TAIWAN
- 1700 - 1720** **5F.09 P0375**
Real-Time Power Quality Monitoring System Based on TMS320CV5416 DSP Processor
*A R Abdullah, *A Z Sha'ameri*
Kolej Universiti Teknikal Kebangsaan Malaysia, MALAYSIA
*Universiti Teknologi Malaysia, MALAYSIA

Poster Session

Session Title : **Posters**
Session Chair : **Ashwin M KHAMBADKONE**
 : **Nik Rumzi NIK IDRIS**
Date : **30 November 2005, Wednesday**
Time : **16:00 - 18:00**
Venue : **Poster Room**

P.01 P0603
A New Scheme for Field-Orientation Control of Induction Motor Drive with Adaptive Neural Flux Estimator
M A Rafiq, M Datta, M G Sarwer, B D C Ghosh
Khulna University of Engineering and Technology, BANGLADESH

P.02 P0352
Variable Structure Speed Regulation of Induction Motor in Steel Manufacture
R Pei, Y Fang
Baoshan Iron & Steel Co Ltd, CHINA

P.03 P0442
A Simplified Analytical Averaged Model of a Thyristorized Commutatorless Series Motor
*K Mukherjee, *S Sengupta, *T K Bhattacharya, **A K Chattopadhyay, ***S N Bhadra*
Jadavpur University, INDIA
*Indian Institute of Technology, Kharagpur, INDIA
**Bengal Engineering and Science University, INDIA
***College of Engineering and Management Kolkaghat, INDIA

P.04 P0575
Evaluation of Sparse PWM Converter for Switched Reluctance Generator
*N K Singh, *J E Fletcher, **S J Finney, **D M Grant, *B Williams*
University of Strathclyde, UNITED KINGDOM
*Heriot-Watt University, UNITED KINGDOM
**University of Strathclyde, UNITED KINGDOM

P.05 P0165

Frequency Spectrum of the Generated Voltage of Claw Pole Automotive Alternators on No Load

*K P P Pillai, M K Idiculla, *A S Nair*
College of Engineering Trivandrum, INDIA
*University of Kerala, INDIA

P.06 P0495

The Force Requisite for the Starting Device in the Single-Phase SRM

J H Kim, E W Lee, J H Lee
Chungnam National University, KOREA

P.07 P0486

A Sensorless Control based on MRAS Method in Interior Permanent-Magnet Machine Drive

X Xiao, Y Li, M Zhang, Y Liang
Tsinghua University, CHINA

P.08 P0192

A Distributed Parameter Thermal Model for Induction Motors

S Kar Chowdhury
Jadavpur University, INDIA

P.09 P0202

Performance Improvement of the Speed Control for DC Compressors

H C Chen, Y C Chang, J D Lin
Industrial Technology Research Institute, TAIWAN

P.10 P0657

A Direct Torque Control of Induction Motor using V/f PWM Technique

*Y Kumsuwan, *S Premrudeepreechacharn, K Oranpiroj, **T Boonsai, ***H Toliyat*
Rajamangala University of Technology Lanna, THAILAND
*Chiang Mai University, THAILAND
**Rajamangala University of Technology Tanyaburi, THAILAND
***Texas A&M University, UNITED STATES

P.11 P0241

Simulation Analysis of a Novel Multiphase SVPWM Strategy

S Xue, X Wen
Chinses Academy of Sciences, CHINA

P.12 P0247

Optimum Pole Arcs for Switched Reluctance Machine with Reduced Ripple

R T N Ramasamy, V Kamaraj
Sri Venkateswara College of Engineering, INDIA

P.13 P0430

Duty Cycle and Modelling Considerations in Three-Phase Induction Motors Drives for Washing Machines

P Malliband, R McMahan
Cambridge University, UNITED KINGDOM

P.14 P0502

Speed Drive Based on Torque-Slip Characteristic of the Single Phase Induction Motor

A Jidin, J Mat Lazi, A R Abdullah, F Patkar, A F Abdul Kadir, M A M Hanafiah
Kolej Universiti Teknikal Kebangsaan Malaysia, MALAYSIA

P.15 P0524

Neuro-Fuzzy On-Line Optimal Energy Control for Variable Speed Compressor Motor Drive System

A H Mohd Yatim, W Mulyo Utomo

Universiti Teknologi Malaysia, MALAYSIA

P.16 P0251

Study on a Wide Speed Range Integrated Electrical Transmission System

C H Chen, M Y Cheng, M S Tsai

National Cheng-Kung University, TAIWAN

P.17 P0374

Modeling and Control Design of a Current-Mode Controlled Flyback Converter with Optocoupler Feedback

W Kleebchampee, C Bunlaksananusorn

King Mongkut's Institute of Technology Ladkrabang, THAILAND

P.18 P0487

PAM Inverter System with Soft-Switching PFC Converter Suitable for PM Motor Drives

K Taniguchi, S Saegusa, T Morizane

Osaka Institute of Technology, JAPAN

P.19 P0573

Circuit Level Comparison of Single-Phase Five-Level Inverters

T S Anandhi, S P Natarajan, S Senthil Kumar, R Vijayarajeswaran

Annamalai University, INDIA

P.20 P0222

A Novel ZCS-PWM Flyback Converter with a Simple ZCS-PWM Auxiliary Circuit

*C M Wang, *J H Su, *C H Yang*

National Ilan University, TAIWAN

*Lunghwa University of Science and Technology, TAIWAN

P.21 P0435

Electronic Ballast with Multi-phase Outputs for Fluorescent Lighting

*Y N Chang, *C S Lam, *C S Moo, **H C Yen*

National Formosa University, TAIWAN

*National Sun Yat-Sen University, TAIWAN

**Fortune Institute of Technology, TAIWAN

P.22 P0292

A Novel Delta-sigma Modulated Single Phase PFC Converter Employing Current Rise Assisting Circuit

*A Hirota, *S Nagai, M Nakaoka*

Kyungnam University, KOREA

*Tsuayama National College of Technology, JAPAN

P.23 P0520

Low-Frequency Output Current Ripple Minimization By using Virtual Inductor

*P A Dahono, *D Wulandari*

Institute of Technology Bandung, INDONESIA

*Institute of Technology Sepuluh Nopember Surabaya, INDONESIA

P.24 P0177

Modelling and Simulation of a DC Chopper using Single Phase Matrix Converter Topology

S Z Mohammad Noor, M K Hamzah, A F Abidin

Universiti Teknologi Mara, MALAYSIA

P.25 P0483

A 2.3V CMOS Monolithic, 84% Efficiency PFM Control DC-DC Boost Converter For White LEDs Driver IC

C H Chang, H M Chen, R C Chang

National Chung-Hsing University, TAIWAN

P.26 P0118

Electrical Fault Detection in Three Phase Squirrel Cage Induction Motor by Vibration Analysis using MEMS Accelerometer

M G S, K P Vittal

NITK, Surathkal, INDIA

P.27 P0403

Micro controller-Based Electronic Ballast for Multiple HPS Lamps

M Wang, D Xu

Harbin Institute of Technology, CHINA

P.28 P0554

Modeling and Control of Single-Phase UPS Inverters: A Survey

H Deng, R Oruganti, D Srinivasan

National University of Singapore, SINGAPORE

P.29 P0415

Auxiliary Supply Assisted Input Current Harmonic Reduction in 12-Pulse Thyristor Rectifiers

S Fukuda, I Hiei

Hokkaido University, JAPAN

P.30 P0266

Novel Direct-Power-Control Strategy of Current-Source PWM Rectifier

T Noguchi, D Takeuchi, S Nakatomi, A Sato

Nagaoka University of Technology, JAPAN

P.31 P0186

ZCS Switched-Capacitor Bi-directional Quasi-Resonant Converters

Y S Lee, Y Y Chiu, M W Cheng

Fu Jen Catholic University, TAIWAN

P.32 P0516

Design Consideration of an Integrated Induction Motor Drive to Replace Auxillary DC Motors in Locomotives

*P Biswas, N Das, *S K Biswas*

Signotron (India) Pvt Ltd, INDIA

*Jadavpur University, INDIA

P.33 P0294

Performance/Cost Comparison between Single-Stage and Conventional High Power Factor Correction Rectifiers

*S Mollov, *A Forsyth, **D Nuttall*

The University of Birmingham, UNITED KINGDOM

*The University of Manchester, UNITED KINGDOM

**PSU Designs, UNITED KINGDOM

P.34 P0164

The Analysis of the Charge Unbalance in Flying Capacitors of a Novel Three-Level ZVS Converter

Z Chen, J Zhang, X Wu, Z Qian

Zhejiang University, CHINA

P.35 P0198

Safe Commutation Strategy in Single Phase Matrix Converter

Z Idris, S Z Mohammad Noor, M K Hamzah

Universiti Teknologi Mara, MALAYSIA

P.36 P0460

Modeling of Switched Reluctance Motor Drive System using MATLAB/SIMULINK for Performance Analysis of Current Controllers
G Ramasamy, V Rajandran, S Nirod Chandra
Multimedia University, MALAYSIA

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Flux Linkage Model Optimization using Binary Coded Genetic Algorithm for Switched Reluctance Motor
V Rajandran, G Ramasamy, S Nirod Chandra
Multimedia University, MALAYSIA

P.38 P0508

Design of Power Stage and Controller for DC-DC Converter Systems using PSPICE
N D Muhamad, M R Sahid, A H Mohd Yatim, N R Nik Idris, S Md Ayob
Universiti Teknologi Malaysia, MALAYSIA

P.39 P0465

Risk Management on Long-term Electricity Purchase Allocation in China Power Markets
*M Zhou, G Li, Y Nie, *Y Ni*
North China Electric Power University, CHINA
*The University of HongKong, CHINA

P.40 P0559

High Current Resistance Sintering For Producing Brass Powder Components
*A H Ansari, *J Asghar*
University Polytechnic, INDIA
*Aligarh Muslim University, INDIA

P.41 P0590

Neural Network Based Control of DSTATCOM with Rating Reduction for Three-Phase Four-Wire System
*B Singh, *V Verma, J Solanki*
Indian Institute of Technology, Delhi, INDIA
*Delhi College of Engineering, INDIA

P.42 P0321

High Voltage DC-DC Converter of Pulsed Plasma Thruster for Science and Technology Satellite-2 (STSAT-2)
G H Shin, G S Shin, M R Nam, K I Kang, J T Lim
Korea Advanced Institute of Science and Technology, KOREA

P.43 P0523

An Application of Flywheel Energy Storage System for Wind Energy Conversion
*R Takahashi, *L Wu, T Murata, J Tamura*
Kitami Institute of Technology, JAPAN
*Shanghai Jiaotong University, CHINA

P.44 P0381

Intelligent Controllers for an Isolated Wind Energy Conversion Scheme
*R Kalyana Sundaram, *C Chinna Gounder*
Pondicherry Engineering College, INDIA
*Jerusalem College of Engineering, INDIA

P.45 P0150

Design and Implementation of Single-Phase Hybrid Active Power Filter Controller
N Abd Rahim, S Mekhilef, Z Islam
University of Malaya, MALAYSIA

P.46 P0169

Hybrid Active Power Filter for Power Quality Compensation
H K Chiang, B R Lin, K T Yang, K W Wu
National Yunlin University of Science and Technology, TAIWAN

P.47 P0563

Implementation of a Regenerative Pulse and Equalization Battery Charger using a DSP
C C Hua, C H Hsu
National Yunlin University of Science and Technology, TAIWAN

P.48 P0162

Switching Pattern Analysis for AC to High DC Voltage Converter
K S Muhammad, A M Omar, N R Hamzah
Universiti Teknologi Mara, MALAYSIA

P.49 P0194

Passive Waveshaping Techniques in AC-DC Converters Feeding Vector Controlled Induction Motor Drives
*B Singh, G Bhuvaneswari, *V Garg*
Indian Institute of Technology, Delhi, INDIA
*Indian Railways, INDIA

P.50 P0432

Feasibility Study of Conversion of Double Circuit AC Transmission Line for Simultaneous AC-DC Power Transmission
*B K P, *H Rahman*
Multimedia University, MALAYSIA
*Aligarh Muslim University, INDIA

P.51 P0625

Advanced Thermoelectric Energy Recovery System in Light Duty and Heavy Duty Vehicles: Analysis on Technical and Marketing Challenges
S Manickam, M P M Sambasivam
INTI College, MALAYSIA

P.52 P0425

Parallel Operation of Battery Power Modules
*C S Moo, K S Ng, *Y C Hsieh*
National Sun Yat-Sen University, TAIWAN
*Kao Yuan University, TAIWAN

P.53 P0380

Fourier Harmonic Analysis of Voltage Vectors in Four-Switch Space-Vector Modulated VSI
J Klima
Technical Faculty of CZU in Prague, CZECH REPUBLIC

P.54 P0259

A Study on the HBML Inverter using the Cascaded Transformers
*T Yu, J Jean, S Park, *J Chung, *S Yang, *C J Moon*
Chonnam National University, KOREA
*Mokpo National University, KOREA

P.55 P0504

A New Hybrid Multilevel Inverter Topology with Harmonics Profile Improvement
S Md Ayob, C H Yee, N Din Muhamad, A Jusoh
Universiti Teknologi Malaysia, MALAYSIA

P.56 P0438

FEM Analysis of Auxiliary Poles of IPM Synchronous Machine With "Flux Concentration Function"

*C Zhao, *Y Wang, Y Yan*

Nanjing University of Aeronautics and Astronautics, CHINA

*Henan Agricultural University, CHINA

P.57 P0230

High Specific Load Capacity Magnetic Bearings

W K S Khoo, K Kalita, S D Garvey

The University of Nottingham, UNITED KINGDOM

P.58 P0359

Optimised Control for High Frequency Induction Heating Power Sources

I Khan, E Naylor, J Tapson

University of Cape Town, SOUTH AFRICA

P.59 P0391

Simulation Evaluations of a Single-phase Half-bridge Active Power Filter Employing Fuzzy Logic Control

*A F Abdul Ghafar, *M F Saidon*

Science and Technology Research Institute for Defence, MALAYSIA

*Universiti Teknologi Mara, MALAYSIA

P.60 P0138

Direct Torque Control (DTC) of Multi-phase Induction Motor using TMS320F2407 Digital Signal Processor

M Shanmugam, T K

K.S.R College of Technology, INDIA

P.61 P0622

Control System DC Motor with Speed Estimator by Neural Networks

P Q Dung, L Minh Phuong

HCM City University of Technology, VIETNAM

P.62 P0235

Active Clamp ZVS Converters with Multipliers

J Li, Y Shi, Z Niu, D Zhou

Information Engineering University, CHINA

P.63 P0277

DPLL Technique Applied to Backlight Module for Eliminating Temperature Effect in Piezoelectric Transformer

C H Lin, Y C Chen, Y Lu, F L Wen

St. John's University, TAIWAN

P.64 P0312

Time-Domain Analysis of Circuits with Ideal Switches by Nodal Equations

A B Yildiz, M A Cinar

Kocaeli University, TURKEY

P.65 P0324

A Novel ZVS-PWM Single-Stage Single-Phase AC/DC/AC Converter with High Power Factor

*C M Wang, *J H Su, **J B Lio, *C H Yang*

National Ilan University, TAIWAN

*Lunghwa University of Science and Technology, TAIWAN

**Beam Tech Electronics Co Ltd, TAIWAN

P.66 P0204

Modeling and Simulation of a Six Step Discontinuous Current Mode Inverter Fed Permanent Magnet Synchronous Motor Drive using SIMULINK

N P R Iyer, J Zhu

University of Technology Sydney, AUSTRALIA

P.67 P0672

Torque Control of Sensorless IM Based on Adaptive Feedback Linearization with Unknown Stator and Rotor Resistances in Consideration of Core Loss

T Abbasian, F Rajaei Salmasi, J Yazdanpanah, M Zamanifar

University of Tehran, IRAN

P.68 P0552

Asymmetrical Multilevel Inverter: Maximum Resolution for H-Bridge Topology

M Abdulkadir, Z F Hussien

Universiti Tenaga Nasional, MALAYSIA

P.69 P0643

Maximum Power Point Tracking: A PSPICE Circuit Simulator Approach

K S Phanikiranmai, M Veerachary

Indian Institute of Technology, Delhi, INDIA