# 2006 IEEE International Conference on Industrial Technology

Mumbai, India 15-17 December 2006

Volume 1 of 6



**IEEE Catalog Number: ISBN:** 

06TH8924 1-4244-0725-7

**TIB/UB Hannover** 89 127 813 349

Preparation of Investigation on a New Algorithm for Instantaneous Reactive and Harmonic Currents detection Applied to Intensively Nonlinear Loads	1
ON THREE-PHASE SIX-SWITCHES VOLTAGE SOURCE INVERTER: A 150° CONDUCTION MODE	7
Mohamed H. Saied, M. Z. Mostafa, T. M. Abdel-Moneim and H. A. Yousef	********
New Concept Adaptive Controls for A High-Performance and High-Efficiency Engine	13
Multi-Stage Injection Control for Super Ultra Low Emission Vehicles	19
Impact of the Undesired RF-IF Chain Effects on the LS-CMA based Beamformer in CDMA Mobile Communications B. Banitalebi, M. Kamarei, M. Karimi, G. Dadashzadeh	25
A methodology for Automatic Detection and Extraction of Road Edges from High Resolution Remote Sensing Images	30
Development of New Well Drilling Monitoring System	36
Research on Agent Coordination Controller Based On Fuzzy Petri Nets	41
Comprehensive Analysis and Design for One-Cycle Controlled DC Side APF	46
A PC-Based Implementation of a Load Resonant Cyclo-Inverter	52
Sensorless Position Estimation of Switched Reluctance Motors Based on Gradient of Phase Current	57
A Three-Phase Neutral-Point Clamped AC/DC Converter Based On Modified Space Vector Modulation for Power Quality Improvement	62
OPTIMAL OPERATION OF INDUCTION MOTORS USING ARTIFICIAL NEURAL NETWORK BASED ON PARTICLE SWARM OPTIMIZATION (PSO)	68
Balanced Realized Reduced Model of Non-Minimal System with DC Gain Preservation	74
Analysis and Design of a Two-Output Forward Converter with an Output Voltage Objective Function	80
A Comparative Evaluation of Three-Phase High Power Factor Boost Converters for Power Quality  Improvement  Abdul Hamid Bhat, Pramod Agarwal	86
Parameter-optimized Three-step Commutation Method for the Reduction of Vibration and Acoustic Noise in Switched Reluctance Motor	92
A Simple and Effective Method to Segment Moving Vehicle Cast Shadow	97
Load Current estimation in single-phase inverters using D.C. line current	102

Diagnosability Analysis of Real Time Hybrid Systems	107
Generation of Parabolic Trajectories for Current Error Space Phasor similar to an SVPWM Controller for Control of Switching Frequency Variation in Current Hysteresis PWM Controlled IM Drives	113
Fault Detection, Isolation and Reconfiguration in Presence of Incipient Sensor Faults in an Electromechanical Flight Control Actuation System	119
Simulations of the Converter for Two - Quadrant with RNSIC-2	125
PMSM Servo Drive System for Electric Power Steering Based on Two-Degree-of-Freedom Torque Control	128
State-of-the-art of Multi-Carrier Modulation Techniques for Seven Level Inverter: A Critical Evaluation and Novel Submissions based on Control Degree of Freedom	134
An efficiency improvement study of the full bridge converter at a system load operation	140
Indirect Rotor Flux Oriented Control of A Seven- Phase Induction Motor Drive	146
Simultaneous vibration suppression control of PMSM using repetitive control with Fourier series	152
Design of Optimum PID Controller by Bacterial Foraging Strategy	158
Optimal Location of TCSCs in a Power System by Means of Genetic Algorithms Considering Loss  Reduction	163
A study of the interleaved buck derived converters	169
Modeling for IGBT  Vineeta Agarwal	175
Using UPFC in order to Power flow control	180
Speed Sensorless Nonlinear Control for PM Synchronous Motor Fed by Three-Level Inverter	180
New Generation of Passenger Vehicles: FCV or HEV?	192
Analysis and Control of Commutation Torque Ripple in Four-Switch, Three-Phase Brushless DC Motor Drive	200
Transient Processes in the Series Inverter	208
An Algorithm to Design Harmonic Filters Based on Power Factor Correction for HVDC Systems	214
Optimal Location of Thyristor Controlled Phase Shifter in Restructured Power Systems By Congestion  Management	220

Differential Evolution Made Faster And More Robust	225
Mobile Robot Localization with Map Building and Obstacle Avoidance for Indoor Navigation	231
Novel Method of Mitigation of Conducted EMI in PWM Inverter Fed Induction Motor Adjustable Speed Drives.  A. Ramachandran, Dr. M. Channa Reddy	237
Research on Tractive Characteristics of the Single Linear Induction Motor	243
Detection of Inter-turn Short-circuit Fault in Induction Motor Using Theory of Instantaneous  Symmetrical Components  M. S. Ballal, Z. J. Khan, H. M. Suryawanshi, M. K. Mishra	247
Particle Swarm Optimization Based Probabilistic Neural Network for Power Transformer Protection	252
Power Quality Improvements Using Delta-Polygon Connected Autotransformer Based Nine Phase AC-DC Converter	258
CASCADE SLIDING MODE TORQUE CONTROL OF A PERMENANT MAGNET SYNCHRONOUS MOTOR	264
Kalman Filter based Channel Estimation and ICI Suppression for High Mobility OFDM Systems  Prerana Gupta and D. K. Mehra	270
Reactive Power Based Speed Sensorless Controller for Permanent Magnet Synchronous Motor Drive	274
Novel Thresholding Method for Document Analysis	280
Modeling Internet Delay Dynamics Using System Identification	285
The Current Waveform Correction Algorithm for Voltage Source Inverter Based on Adaptive Inverse Control	291
Hui Li, Zhengguo Wu, Yanfeng Wu	
A Novel Variable Step size Adaptive Harmonic Detecting Algorithm Applied to Active Power Filter	297
<b>DSP Based Implementation of Sliding Mode Speed Controller for Direct Torque Controlled PMSM Drive</b> Bhim Singh, B. P. Singh and Sanjeet Dwivedi	302
DSP Based N-Motor Speed Control of Brushless DC Motors Using External FPGA Design	310
Utility Frequency AC to High Frequency AC Power Converter with Boost-Half Bridge Single Stage Circuit Topology	315
Series Load Resonant Soft-Switched PWM and PDM High Frequency Inverter using Auxiliary Active  Edge-Resonant Snubber	321
Computing Optimum Bidding Strategy of Gencos Using Simulated Annealing Method	327
Main System and Microgrid Support using a Distributed Generator through Back-to-back Inverters	333

Analysis of Transient Behavior of a Single- Phase Self-Regulated Self-Excited Induction Generator using a Three-Phase Machine	339
S. N. Mahato, M. P. Sharma, S. P. Singh	
A Single-Stage AC/DC LLC Resonant Converter	345
Modeling the Stable Working Condition of Modern Container Ships' Main Engines	350
An Exact Method for On-line Identification of FOPDT Processes	356
Improved Particle Swarm Algorithm Applied to Optimal Reactive Power Control	361
Optimal control of DC-DC converter using mixed logical dynamical system theory	367
Environmental Economic Dispatch constrained by voltage stability using PSO	373
Measuring Performance Electric Power Generations Using Artificial Neural Networks	379
Dynamic Model of Microturbine Generation System for Grid Connected/Islanding Operation  D. N. Gaonkar, R. N. Patel and G. N. Pillai	385
A Control Strategy for Load Balancing and Power Factor Correction in Three-Phase Four-Wire Systems Using a Shunt Active Power Filter  Majid Pakdel, Hosein Farzaneh-fared	391
Neural Networks Based on Trigonometric Series for the Control of a Robot	397
A Novel Neuro-Fuzzy Controller Based On Both Trigonometric Series and Fuzzy Clusters	403
A Polynomial Approach Towards the Design of Linear Phase FIR Filters	409
A Class of P-Type Iterative Learning Control Schemes for Discrete-Time Systems with Multiple Time Delays	414
Kimihisa Kawabata, Hansheng Wu, Hiroko Kawabata	
CONTROL OF HYBRID SYSTEMS WITH INDEPENDENT CONTINUOUS-TIME AND DISCRETE - TIME OBJECTIVES	420
M. De la Sen, J. C. Soto, A. Gallego and J. L. Malaina	
Optimal Location of STATCOM for Voltage Security Enhancement via Artificial Intelligent	426
Intelligent Hybrid Adaptive Control Approach for Nonlinear Systems	431
Robust Control of Flexible Joint Robot Manipulator	437
Automatic 3D Face Segmentation Based on Facial Feature Extraction	442
CRITICAL CONSIDERATIONS FOR EMI FILTER DESIGN IN SWITCH MODE POWER SUPPLY  Himanshu K. Patel	448
Current Signal Based Continuous On-line Tool Condition Estimation in Face Milling	454

Continuous Online Tool Wear Estimation in Face Milling using Adaptive Sensor Fusion of Force and Power	460
P. Bhattacharyya, D. Sengupta	
Decentralized Temporal Fuzzy Discrete Event Control in Urban Traffic Management	466
A Fork Connected Transformer Based 24-Pulse AC-DC Converter	472
A Comparative Study of Control Algorithms DSTATCOM for Load Compensation	478
Linear Camera Self-Calibration with Varying Intrinsic Parameters Based on Projective Reconstruction	484
Using two-stage Approach to Clustering	488
Digital Predictive V2 Control of Switching DC-DC Converters	493
Nanomaterial Based Room Temperature Hydrogen Gas Sensors	498
Conventional and Intelligent Controllers for Robotic Manipulator	504
Robust Tracking Control of Rigid Robotic Manipulators Based on Fuzzy Neural Network Compensator Lin Lei, Ren Hua-bin, Wang Hong-rui	509
Three-Phase Active Power Filter Designed by Energy Balancing Control	514
New Space Voltage Vector Modulation Inverter Considering Voltage Saturation for Speed Servo System of Induction Motor	519
Toshiyuki Kanmachi, Kenji Takahashi and Kiyoshi Ohishi	
FREQUENCY STABILISATION IN MULTI AREA SYSTEM USING HVDC LINK	
Direct Power Control of an HVDC system based on VSCs	
An DSTATCOM for Compensating Different Abnormal Line Voltage and Nonlinear Load	537
Alleviation of Wind Turbines Loads with a LQG Controller associated to Intelligent Micro Sensors	543
Performance Analysis of Various Interference Cancellation Schemes in CDMA Systems  Himanshu K. Patel, Rajendra B. Jadeja	549
Comparison of Three Wind Turbine Controller Synthesis Methodologies	553
Recent Developments in Control Schemes of BLDC Motors	559
DTMF Based Remote Control System	565
DESCRIPTION AND ANALYSIS OF SWITCHED MODE CHOPPER AMPLIFIER FOR DC ATTRACTION TYPE LEVITATION SYSTEM	569
Identification of TITO Processes  P. K. Padhy and S. Majhi	575