IEEE TRANSACTIONS ON
INDUSTRIAL ELECTRONICS
A PUBLICATION OF THE IEEE INDUSTRIAL ELECTRONICS SOCIETY

MARCH 2010  VOLUME 57  NUMBER 3  ITIED6  (ISSN 0278-0046)

SPECIAL SECTION ON ENERGY HARVESTING
Guest Editorial ................................................. A. Khaligh, P. L. Chapman, and R. Ghodssi 810

SPECIAL SECTION PAPERS
Energy Harvesting From Vibration With Alternate Scavenging Circuitry and Tapered Cantilever Beam ................................................................. S. Mehravan, S. Jagannathan, and K. A. Corzine 820
A Low-Power Stand-Alone Adaptive Circuit for Harvesting Energy From a Piezoelectric Microgenerator .............. A. Tabesh and L. G. Fréchette 840

SPECIAL SECTION ON AUTOMOTIVE POWER AND ENERGY
Guest Editorial ................................................. A. Miraoui, J. W. Kolar, and M. Pucci 877

SPECIAL SECTION PAPERS
Accurate Power Loss Model Derivation of a High-Current Dual Active Bridge Converter for an Automotive Application ................................................................. F. Krismer and J. W. Kolar 881
Investigation of the Energy Regeneration of Active Suspension System in Hybrid Electric Vehicles ................................................................. M. Montazeri-Gh and M. Soleymani 918
A Novel Control Technique for a Switched-Capacitor-Converter-Based Hybrid Electric Vehicle Energy Storage System ............................................................................... Z. Amjadi and S. S. Williamson 926

(Contents Continued on Page 899)
A Study of a Hybrid Filter .................................................. S. Ostožnik, P. Bajec, and P. Zajec  
Electric Vehicle Using a Combination of Ultracapacitors and ZEBRA Battery  .................................................. J. Dixon, I. Nakashima, E. F. Arcos, and M. Ozturk  
Comments and Further Results on "A New Critical Formula and Mathematical Model of Double-Tap Interphase Reactor in a Six-Phase Tap-Changer Diode Rectifier"  .................................................. F. Meng, S. Yang, W. Yang, and X. Jin

PAPERS

Multiphase Systems

Feedback Linearization Control of Three-Phase UPS Inverter Systems  .................................................. D.-E. Kim and D.-C. Lee

Machine and Drives

Torque Feedforward Control Technique for Permanent-Magnet Synchronous Motors .................................................. B. Cheng and T. R. Teach
Adaptive Nonlinear Direct Torque Control of Sensorless IM Drives With Efficiency Optimization  .................................................. M. Hajian, J. Soltani, G. A. Markides, and S. Hasseltjula
Commissioning of Electromechanical Conversion Models for High Dynamic PMSM Drives  .................................................. S. Bolognani, L. Peretti, M. Zingolano, and E. Bertocco
A Voltage-Input-Based Field Reconstruction Technique for Efficient Modeling of the Fields and Forces Within Induction Machines  .................................................. D. Wu, S. D. Piekarski, and B. Fahimi

Single-Phase Electronics

Multifunctional VSC Based on a Novel Fortescue Reference Signal Generator  .................................................. K. Boroujeni and H. L. Ginn III
Steady-State Analysis and Passivity-Based Control of Single-Phase PWM Current-Source Inverters  .................................................. H. Komureogullari
Flyback-Based Single-Stage Power-Factor-Correction Scheme With Time-Multiplexing Control  .................................................. J. Zhang, D. D.-C. Lu, and T. Sun

Robotics and Mechatronics

Development of Robust Starting System Using Sensorless Vector Drive for a Microturbine  .................................................. M.-S. Rho and S.-Y. Kim
Robotic Tactile Sensor System and Applications  .................................................. K. Suwanratchatamane, M. Masumoto, and S. Hashimoto

Actuators and Motors

Function-Based Controller for Linear Motor Control Systems  .................................................. Y.-S. Huang and C.-C. Sung

Control and Signal Processing

A Nonlinear Phenomenon on Self-Oscillating Current Controllers: The Indirect Synchronization  .................................................. J.-C. Olivier, J.-C. Le Claire, and L. Loren
Equipment Design and Control of Advanced Thermal-Processing Module in Lithography  .................................................. A. Tay, H. T. Chua, Y. Wang, and Y. S. Ngo

Instrumentation and Sensors


Intelligent Systems

A Comparison of Optimization Algorithms for Biological Neural Network Identification  .................................................. J. J. Yin, W. K. S. Yang, and K. F. Man