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Oral Presentation

Motor Drives for Vehicle Applications (GC4)

Oct. 10, 2012 (Wed.)

GC4-1 (Motor Drives for Vehicle Applications 1) Seoul

Chair: Habibur Rehman (American University of Sharjah) 10:20-12:00
Tae-Uk Jung (Kyungnam University)

GC4-0916 10:20-10:40 **The Modular Cascade Machines in Electric Vehicles**
Shouliang Han[1], Shumei Cui[1], Xinxin Zhang[1], Hao Ge[1], Bingliang Xu[2]
[1]Harbin Institute of Technology, [2]Heilongjiang Electric Power Science Research Institute

GC4-0728 10:40-11:00 **A Modified Synchronous Current Regulator for Field-Orientedd Control of Permanent Magnet Synchronous Motors**
Shane William Colton
Massachusetts Institute of Technology

GC4-0635 11:00-11:20 **Sensorless Control of an IPM Synchronous Motor with Extended Kalman Filter**
Jae-Hoon Kim, Sang-Soo Lee, Dong-Seok Hyun
Hanyang University

GC4-0608 11:20-11:40 **Fault Tolerant Wheel Hub Drive with Integrated Converter for Electric Vehicle Applications**
Alexander Kock[1], Michael Groninger[1], Axel Mertens[2]
[1]Fraunhofer Institute for Manufacturing Technology and Advanced Materials, [2]Leibniz University of Hanover

GC4-0325 11:40-12:00 **Development of a Vehicle Stability Control Algorithm using Velocity and Yaw rate for an In-wheel Drive Vehicle**
Sungyeon Ko[1], Jiwon Ko[1], Sangmoon Lee[2], Jaeseung Cheon[2], Hyunsoo Kim[1]
[1]Sungkyunkwan University, [2]Hyundai Mobis

Oct. 10, 2012 (Wed.)

GC4-2 (Motor Drives for Vehicle Applications 2) Seoul

Chair: Taeck Kie Lee (Hankyong National University) 14:30-16:10
Nam-Joon Kim (Daejin University)

GC4-0555 14:30-14:50 **A Coupled Thermal-Electromagnetic Energy Consumption Calculation for an Electric Vehicle with Wheel Hub Drive Considering Different Driving Cycles**
Peter Juris, Andre Brune, Bernd Ponick
Leibniz Universitat Hannover

GC4-0539 14:50-15:10 **Evaluation of an Efficiency-optimized Calculation of PM Synchronous Machines' Operating Range using Time-saving Numerical and Analytical Coupling**
Andre Brune[1], Peter Duck[1], Alexander Kock[2], Michael Groninger[2], Bernd Ponick[1]
[1]Leibniz Universitat Hannover, [2]Fraunhofer Institute for Manufacturing Technology and Advanced Materials

GC4-0323 15:10-15:30 **Thermal Management in Traction Applications as a Constraint Optimal Control Problem**
Joris Lemmens[1], Johan Driesen[1], Piet Vanassche[2]
[1]KU Leuven, [2]Triphase NV

GC4-0289 15:30-15:50 **Detuning Minimization for Alternative Energy Vehicular Drive System**
Habibur Rehman
American University of Sharjah

GC4-0557 15:50-16:10 **Design Comparisons of BLDC Motors for Electric Water Pump**
Gyeong-Cahn Lee, Tae-Uk Jung
Kyungnam University

Automotive Actuator and Electric Machinery (GC2)

Oct. 10, 2012 (Wed.)
GC2 (Automotive Actuator and Electric Machinery) London
Chair: Rui Esteves Araújo (University of Porto) 10:20-12:00
Han-Wook Cho (Chungnam National University)

GC2-0317 10:20-10:40 **Detection Method for Open Switch Fault in Automotive PMSM Drives using Inverter Output Voltage Estimation**
Chinchul Choi, Eunjeong Seo, Wootaik Lee
Changwon National University

GC2-0509 10:40-11:00 **Design of New Spoke Type Brushless DC Motor for Neodymium Permanent Magnet Free**
Hyung-Wook Kim[1], Kyung-Tae Kim[1], Byeong-Woo Kim[1], Jin Hur[1], Yung-Sik Jo[2]
[1]University of Ulsan, [2]Korea Electrotechnology Research Institute

GC2-0827 11:00-11:20 **Original Design of Axial Flux PM Motor and Odeling of the Magnetic Leakage using a Magnetic Equivalent Circuit**
Romain-Bernard Mignot, Frederic Dubas, Christophe Espanet, Cecile Cuchet, Didier Chamagne
University of Franche-Comte

GC2-0431 11:20-11:40 **Development of 50kW Traction Induction Motor for Electric Vehicle (EV)**
Byunghwan Kim[1], Jeongho Lee[1], Youngho Jeong[1], Byunghee Kang[1], Kinam Kim[2], Yeonho Kim[2], Youngju Park[1]
[1]Hyosung Power & Industrial Systems R&D Center, [2]Hyundai Motors Company

GC2-1029 11:40-12:00 **Advanced PID Scheme for Low Torque Ripple PMSM Drive**
Jong-Heon Lee, Jin-Woo Ahn, Dong-Hee Lee
KyungSung University

Advanced Automotive Power and Propulsion (HF1)

Oct. 10, 2012 (Wed.)

HF1 (Advanced Automotive Power and Propulsion)

London

Chair: Timothy Junghee Han (Global Power Electronics) 14:30-16:10
Sun-Kwon Lee (Korea Marine Equipment Research Institute)

HF1-0537 14:30-14:50
Efficiency Improvement using a Hybrid Power Module in 6.6kW Non-Isolated On-Vehicle Charger
David Ouwerkerk, Timothy Han, Jared Preston
Global Power Electronics

HF1-0528 14:50-15:10
Towards Model-based Control of a Steam Rankine Process for Engine Waste Heat Recovery
Johan Peralez[1], Paolino Tona[1], Antonio Sciarretta[1], Pascal Dufour[2], Madiha Nadri[2]
[1]IFP Energies Nouvelles, [2]Universite Lyon1

HF1-0720 15:10-15:30
Energy Consumption Analysis of a Novel Four-Speed Dual Motor Drivetrain for Electric Vehicles
Thomas Holdstock[1], Aldo Sorniotti[1], Mike Everitt[2], Marco Fracchia[2], Simone Bologna[3], Stefano Bertolotto[3]
[1]University of Surrey, [2]Vocis Driveline Controls, [3]Oerlikon Graziano

HF1-0415 15:30-15:50
Physics-based Modelling of $LiFePO_4$-graphite Li-ion Batteries for Power and Capacity Fade Predictions: Application to Calendar Aging of PHEV and EV
Eric Prada[1], Domenico Di Domenico[1], Yann Creff[1], Julien Bernard[1], Valerie Sauvant-Moynot[1], Francois Huet[2]
[1]IFP Energies Nouvelles, [2]Sorbonne University

HF1-0572 15:50-16:10
Power Factor Control Scheme for Zero Current Harmonics of Battery Charger in EVs
Long Cong Nguyen, Hee Hong Lee, Jin Sung Choi
University of Ulsan

Energy and Power Management for xEVs (GC5)

Oct. 10, 2012 (Wed.)

GC5-1 (Energy and Power Management for xEVs 1)

Berlin

Chair: Zhili Zhou (IBM Research) 10:20-12:00
Baek Haeng Lee (Korea Automotive Technology Institute)

GC5-0822 10:20-10:40
Study on Power and Energy Demand for Sizing the Energy Storage Systems for Electrified Local Public Transport Buses
Philipp Sinhuber, Werner Rohlfs, Dirk Uwe Sauer
RWTH Aachen University, JARA-Energy

GC5-0765 10:40-11:00
Optimal Sizing and Energy Management of Hybrid Storage Systems
Ricardo Castro, Claudio Pinto, Rui Araujo, Pedro Melo, Diamantino Freitas
Faculdade de Engenharia da Universidade do Porto

GC5-0342 11:00-11:20
Individual Cell Equalizer using Active-clamp Flyback Converter for Li-Ion Battery Strings in an Electric Vehicle
Chol-Ho Kim, Moon-Young Kim, Gun-Woo Moon
Korea Advanced Institute of Science and Technology

GC5-0719 11:20-11:40
An Online Estimation of Energy Recovery in an Electric Vehicle using ARTEMIS Mission Profiles
Rabia Sehab[1], Gilles Feld[2]
[1]ESTACA, [2]ENS CACHAN

GC5-0680 11:40-12:00
A Vehicle Energy Management System for a Battery Electric Vehicle
Christopher Masjosthusmann, Ulrich Kohler, Nikolaus Decius, Ulrich Buker
Hella KGaA Hueck & Co.

Oct. 10, 2012 (Wed.)
GC5-2 (Energy and Power Management for xEVs 2)
Berlin
Chair: Shin-Hyeong Choi (Kangwon National University) 14:30-16:10
Dae-kyong Kim (Sunchon National University)

GC5-0670 14:30-14:50
Spatial and Temporal Model for Electric Vehicle Rapid Charging Demand
Zhili Zhou[1], Tachun Lin[2]
[1]IBM Research, [2]Cameron University

GC5-0641 14:50-15:10
Modularized Battery Cell Voltage Equalization Circuit using Extended Multi-winding Transformer
Il-Kwon Baek, Tae-Hoon Kim, Chang-Soon Lim, Rae-Young Kim
Hanyang University

GC5-0581 15:10-15:30
Simulation Research of Energy Management Strategy for Range Extended Electric Bus
Xiaogang Wu[1,2], Languang Lu[2]
[1]Harbin University of Science and Technology, [2]Tsinghua University

GC5-0744 15:30-15:50
Adapted Optimal Energy Management Strategy for Drivability
Fabien Vidal-Naquet, Gianluca Zito
IFP Energies nouvelles

GC5-0562 15:50-16:10
Non-recursive LCL Filter Design Methodology for a Grid-connected PWM Inverter using an Approximated Harmonic Analysis
Ki-Young Choi, Tae-Hoon Kim, Rae-Young Kim
Hanyang University

SMART Highway for Next Generation ITS (SS11)

Oct. 10, 2012 (Wed.)

SS11 (SMART Highway for Next Generation ITS)

Atlanta

Organizer: Ki Taeg Lim (Korea Electronics Technology Institute)

10:20-12:00

SS11-1000 10:20-10:40 **Prototype Developments of Vehicle Antenna for SMART Highway WAVE Communication System**
Kyu Bong Yeon[1], Hyuck Kee Lee[1], Du Ho Lee[1], Jin Kyu Hwang[2]
[1]KATECH(Korea Automotive Technology Institute), [2]INFAC Elecs CO., LTD.

SS11-1039 10:40-11:00 **The Trend of Next-generation ITS Communication System Development**
Han-Gyun Jung, Pu-Sik Park, Dae-Kyo Shin, Chul-Dong Lee, Ki-Taeg Lim
Korea Electronics Technology Institute

SS11-1040 11:00-11:20 **Test Result of L2 Handover Scheme for SMART Highway**
Sang Woo Lee[1], Hyun Seo Oh[1], Woong Cho[2]
[1]Electronics and Telecommunications Research Institute, [2]Jungwon University

SS11-1043 11:20-11:40 **The Evaluation of WAVE Communication for Seamless Services under V2I Environment**
Jin Ki Lee, Hoi-Bin Jung, Soongee Jo
ITS Korea

SS11-0911 11:40-12:00 **AC Flashover Performance for Line Post and Pin Post Insulators in Distribution 22 kV**
W. Thipprasert[1,2], P. Sritakeaw[1], P. Jirapong[2]
[1]Rajamangala University of Technology Lanna Chiang Rai, [2]Chiangmai University

Hybrid Energy Storage Systems (SS04)

Oct. 10, 2012 (Wed.)

SS04 (Hybrid Energy Storage Systems)

Atlanta

Organizer: S. Jemei (University of Franche-Comte)
L. Gauchia (University Carlos III of Madrid)

14:30-16:10

SS04-0889 14:30-14:50 **Estimation of the Lead-Acid Battery Initial State of Charge with Experimental Validation**
Mohamed Becherif[1], Marie-Cecile Pera[2], Daniel Hissel[2], Samir Jemei[2]
[1]UTBM, [2]UFC

SS04-0891 14:50-15:10 **Different Control Schemes of a Fuel-Cell Vehicle using Supercapacitors**
Lucia Gauchia[1], Alain Bouscayrol[2], Walter Lhomme[2]
[1]University Carlos III of Madrid, [2]University of Lille 1

SS04-0874 15:10-15:30 **Anticipatory Control of a PEM Fuel Cell for a Serial Hybrid Electric Vehicle**
Sousso Kelouwani, Kodjo Agbossou, Yves Dube, Loic Boulon
Universite du Quebec Trois-Rivieres

SS04-0906 15:30-15:50 **PHEBUS Vehicle: a Small Urban PHEV**

Christian Andagnotto[2], Robert Bernard[4], Pascal Bigot[4], Cédric Colançon[5], Xavier Cothenet[6], Frédéric Dubas[1], Christophe Espanet[1], Didier Ferrer[3], Destiny Loukakou[1], Jean-Christophe Mathae[3], Laurent Muller[2], Fabien Quesada[3]
[1]University of Franche-Comte, [2]NSI, [3]CIRTEM, [4]Novelte Systeme, [5]AIXAM-MEGA

SS04-0890 15:50-16:10 **Energetic Macroscopic Representation and Inversion-based Control of the Traction System of a Hybrid Locomotive**

C. Mayet[1], M. Mejri[1], A. Bouscayrol[1], J. Pouget[2], Y. Riffonneau[2]
[1]Universite Lille 1, [2]SNCF

Research and Development of Electric Rocket Engines in Space (SS01)

Oct. 10, 2012 (Wed.)

SS01-1 (Research and Development of Electric Rocket Engines in Space 1) Sydney

Organizer: Hirokazu Tahara (Osaka Institute of Technology) 10:20-12:00

SS01-0688 10:20-10:40 **Development of Small Scale Microwave Discharge Ion Thruster of 3-5cm Size**

Yoshiyuki Takao, Iori Iwata, Nan Chyou
Nishinippon Institute of Technology

SS01-0290 10:40-11:00 **Microwave Rocket with 30N Thrust and Further Thrust Augmentation with Reed-Valve Air Intake**

Shohei Saitoh[1], Reiji Komatsu[1], Toshikazu Yamaguchi[1], Kimiya Komurasaki[1], Yasuhisa Oda[2], Ken Kajiwara[2], Koji Takahashi[2], Keishi Sakamoto[2]
[1]The University of Tokyo, [2]Japan Atomic Energy Agency

SS01-0780 11:00-11:20 **A Novel Fast Digital Control DC-DC Converter**

Fujio Kurokawa, Haruki Tamenaga, Yoshihiko Komichi, Yoshihiko Yamabe, Yuichiro Shibata
Nagasaki University

SS01-0776 11:20-11:40 **Improved Characteristics of DC-DC Converter with Digital Variable Gain Switchover Function**

Fujio Kurokawa, Shun Higuchi
Nagasaki University

SS01-0563 11:40-12:00 **Effect of Thruster Scaling on Pre-Sheath and Ion-Loss Region in Hall Thrusters**

Rei Kawashima, Ryotaro Kaneko, Shinatora Cho, Kimiya Komurasaki, Hiroyuki Koizumi, Yoshihiro Arakawa
The University of Tokyo

Oct. 10, 2012 (Wed.)

SS01-2 (Research and Development of Electric Rocket Engines in Space 2)

Sydney

Organizer: Hirokazu Tahara (Osaka Institute of Technology)

14:30-15:10

SS01-0300 14:30-14:50 **Research and Development of Pulsed Plasma Thruster Systems for Nano-Satellites at Osaka Institute of Technology**

Masato Tanaka, Shuya Kisaki, Tomoyuki Ikeda, Hirokazu Tahara

Osaka Institute of Technology

SS01-0298 14:50-15:10 **Research and Development of Nano-Satellite PROITERES with Electric Rocket Engines at Osaka Institute of Technology**

Naoki Egami, Yoichi Inoue, Sae Nakano, Tomoyuki Ikeda, Hirokazu Tahara

Osaka Institute of Technology

Railway, Ship, Air, and Space Vehicles (HF2)

Oct. 10, 2012 (Wed.)

HF2 (Railway, Ship, Air, and Space Vehicles)

Sydney

Chair: Hyung-Woo Lee (Korea Railroad Research Institute)

15:10-16:10

HF2-0498 15:10-15:30 **Analysis of Power System Harmonics for an Offshore Design with VTB Dynamic Model**

Tae-O Kim, Hui-Dong Ju, Gyu-Hong Kang

KOMERI

HF2-0647 15:30-15:50 **Feasibility Study of Integrated Power System with Battery Energy Storage System for Naval Ships**

So-Yeon Kim, Byung-Geuk Cho, Seung-Ki Sul

Seoul National University

HF2-0201 15:50-16:10 **PMSM and 5-Level CSI based Boat Electrical Propulsion System Efficiency Analysis**

Bruno S. Dupczak[1], Marcelo L. Heldwein[1], Arnaldo J. Perin[1], Carlos A. Martins[2], Jerome Cros[2]

[1]*INEP - Federal University of Santa Catarina,* [2]*LEEPCI - Laval University*

Vehicle Electrification and Traction Inverter Design (SS07)

Oct. 10, 2012 (Wed.)

SS07 (Vehicle Electrification and Traction Inverter Design)

Moscow

Organizer: Lihua Chen (Ford)

10:20-12:00

This special technical session starts from an introduction of vehicle electrification technologies and Ford Motor Company sustainable strategies including vehicle electrification projects and globe product plans. A specific approach to derive the electric drive system requirements and traction inverter specifications from customer drive pattern and/or usage profiles is explained. System level optimization and trade-off design methods are introduced.

The traction inverter hardware design and key component sizing will be intensively discussed. Design verification and validation methods will be introduced. Benchmarking comparison and design examples will also be shared for technical detail explanation.
Some vehicle operation related extreme conditions and worst case scenarios, which usually challenge hardware design, will be addressed in order to explain automotive related harsh conditions and stringent requirements.
Also, some selected technical details will be discussed in deep level for traction inverter practical design and optimization.
This technical session is developed to introduce vehicle electrification technologies, and aid design engineer better understanding traction inverter design to meet automotive application requirements. It is also beneficial to engineers who work on power electronics for other power conversion applications.

Switched Reluctance Machines, Their Drives, and Control for a Vehicle Application (SS10)

Oct. 10, 2012 (Wed.)

SS10 (Switched Reluctance Machines, Their Drives, and Control for a Vehicle Application)

Moscow

Organizer: Tae-Hyoung Kim (Daegu Mechatronics & Materials Institute) 14:30-16:30
Cheewoo Lee (Kyungsung University)

SS10-1001 14:30-14:50 **Estimation of Flux Linkage by Analyzing Flux Paths in a Switched Reluctance Motor**
Cheewoo Lee
Kyungsung University

SS10-1028 14:50-15:10 **Power Closed-loop Control for High Efficiency Switched Reluctance Generator**
Zhenguo Li[1], Dongdong Gao[1], Dong-Hee Lee[2], Jin-Woo Ahn[2]
[1]Yanshan University, [2]Kyungsung University

SS10-1025 15:10-15:30 **Design of High Speed SR Drive System for Fuel Pump of Fuel Cell Electric Vehicle**
Tae-Hyoung Kim[1], Sang-Hun Lee[1], Jin-Woo Ahn[2]
[1]Daegu Mechatronics and Materials Research Institute, [2]Kyungsung University

SS10-1026 15:30-15:50 **Comparative Analysis of SRMs for Automotive Cooling Fan Application**
Kwang-Il Jeong, Jong-Heon Lee, Jin-Woo Ahn
Kyungsung University

SS10-1027 15:50-16:10 **Design and Analysis of Novel 2-Phase 4/3 SRM**
Pham Trung Hieu, Dong-Hee Lee, Jin-Woo Ahn
Kyungsung University

SS10-1002 16:10-16:30 **Inductance Prediction in a Switched Reluctance Motor by Means of a Magnetic Equivalent Method**
Cheewoo Lee
Kyungsung University

Power Converter for Automotive Applications (GC3)

Oct. 11, 2012 (Thu.)

GC3-1 (Power Converter for Automotive Applications 1)

Seoul

Chair: Dani Strickland (Aston University) 09:00-10:40
Rae Young Kim (Hanyang University)

GC3-0792 **Transient Response of Fast Digital PID Control Switching Power Supply**
09:00-09:20 Fujio Kurokawa, Ryuya Yoshida
Nagasaki University

GC3-0784 **A New Digital Control DC-DC Converter with Boundary Current Control**
09:20-09:40 Fujio Kurokawa, Kota Ueno
Nagasaki University

GC3-0761 **A Fast Response Digitally Controlled Full Bridge Converter**
09:40-10:00 Koji Murata[1], Fujio Kurokawa[1], Ryuya Yoshida[1], Yuichiro Shibata[1], Kazuma Hamawaki[1], Toru Tanaka[2], Keiichi Hirose[2]
[1]Nagasaki University, [2]NTT Facilities

GC3-0526 **Battery Impedance Emulation for Hybrid and Electric Powertrain Testing**
10:00-10:20 Oliver Konig[1], Stefan Jakubek[1], Gunter Prochart[2]
[1]Vienna University of Technology, [2]AVL List GmbH

GC3-0621 **Condition Monitoring of DC-link Capacitors in Drive System for Electric Vehicles**
10:20-10:40 Myoungho Kim[1], Seung-Ki Sul[1], Junggi Lee[2]
[1]Seoul National University, [2]LG Electronics

Oct. 11, 2012 (Thu.)

GC3-2 (Power Converter for Automotive Applications 2)

Seoul

Chair: Yuan-Chih Chang (National Chung Cheng University) 14:30-16:10
Honnyong Cha (Kyungpook National University)

GC3-0606 **Neutral-Point Voltage Control for Grid-connected Three-Level Inverters using a Discontinuous Pulse Width Modulation**
14:30-14:50 Hyun-Hee Lee, Ui-Min Choi, Kyo-Beum Lee
Ajou University

GC3-0823 **A New Neural Network Predictor for Digital Control DC-DC Converter**
14:50-15:10 Fujio Kurokawa, Masashi Motomura, Kimitoshi Ueno, Hidenori Maruta
Nagasaki University

GC3-0544 **Characterization and Scalable Modeling of Power Semiconductors for Optimzied Design of Traction Inverters with Si- and SiC-Devices**
15:10-15:30 Arvid Merkert, Tobias Krone, Axel Mertens
Leibniz Universitat Hannover

GC3-0808 15:30-15:50
A New Reference Model Digital Control DC-DC Converter
Fujio Kurokawa, Akihiro Yamanishi
Nagasaki University

GC3-0502 15:50-16:10
Parallel Operation of qZ-Source Full-Bridge DC-DC Converter using Coupled Inductors
Hyeongmin Lee[1], Honnyong Cha[1], Heung-Geun Kim[1], Dong-Wook Yoo[2]
[1]Kyungpook National University, [2]Korea Electrotechnology Research Institute(KERI)

Modeling, Simulation, Emissions and Control (HF3)

Oct. 11, 2012 (Thu.)
HF3-1 (Modeling, Simulation, Emissions and Control 1)
London
Chair: Peter H. Bauer (University of Notre Dame) 09:00-10:40
Cheewoo Lee (Kyungsung University)

HF3-0907 09:00-09:20
On Fuel Economy Bounds
Peter H. Bauer[1], Sam Mingo[1], Blake Vincent Lantero[1], Jim Larkin[2]
[1]University of Notre Dame, [2]SlipStream Projects

HF3-0757 09:20-09:40
Analysis of the Energy Storage Operation of Electrical Vehicles with a Photovoltaic Roof using a Markov Chain Model
Junseok Song, Vaidyanathan Krishnamurthy, Alexis Kwasinski, Raul Molina
The University of Texas at Austin

HF3-0756 09:40-10:00
Tests and Comparison of Two Electrical Powertrain Systems by Vehicle Simulation Test Bench and Vehicle Modeling
Mathias Gerard
CEA

HF3-0730 10:00-10:20
Datasheet-based Modeling of Li-Ion Batteries
Jorge Varela Barreras, Erik Schaltz, Søren Juhl Andreasen, Tomasz Minko
Aalborg University

HF3-0739 10:20-10:40
Optimal Efficiency based Gen-Set Control for Series Hybrid Work Machine
Jukka Halme, Jussi Suomela
Aalto University

Oct. 11, 2012 (Thu.)
HF3-2 (Modeling, Simulation, Emissions and Control 2)
London
Chair: Mathias Gerard (CEA) 14:30-16:10
Bongwan Gu (Korea Electronics Technology Institute)

HF3-0350 14:30-14:50
On the Use of Stochastic Dynamic Programming for Evaluating a Power-Split CVT in a Wheel Loader
Tomas Nilsson[1], Anders Froberg[2], Jan Aslund[1]
[1]Linkoping University, [2]Volvo Construction Equipment

HF3-0548 14:50-15:10
Transient Control of Low-temperature Premixed Combustion using ISG Motor Dynamic Torque Compensation
Guojing Gao, Fuyuan Yang, Lin Chen, Yuping Yang, Minggao Ouyang
Tsinghua University

HF3-0491 15:10-15:30
Torque Model with Fast and Slow Temperature Dynamics of a Slipping Dry Clutch
Andreas Myklebust, Lars Eriksson
Linkoping University

HF3-0469 15:30-15:50
Powertrain Optimisation in a Hybrid Electric Bus
A. Shojaei[1], D. Strickland[2], D. Scott[1], M. Tucker[1], G. Kirkpatrick[1], B. Price[2], S. Luke[2], J. Richmond[1]
[1]Tata Motors European Technical Centre, [2]Aston University

HF3-0457 15:50-16:10
Simulation Model for a Serial Hybrid Bus and Impact of Energy Management on Fuel Consumption
Stefan Dewenter, Andreas Binder, Mirco Strauch
Darmstradt University of Technology

Energy Management in EVs and HEVs (SS06)

Oct. 11, 2012 (Thu.)

SS06-1 (Energy Management in EVs and HEVs 1)

Berlin
09:00-10:40

Organizer: Rochdi Trigui (IFSTTAR, MEGEVH)
John Kessels (Eindhoven University of Technology)

SS06-0729 09:00-09:20
Signal Hardware-In-the-Loop Simulator of Hybrid Railway Traction for the Evaluation of Energy Management
Julien Pouget, Y. Riffonneau
SNCF

SS06-0885 09:20-09:40
Reduced-scale Hardware-In-the-Loop Simulation of a Peugeot 3∞8 Hybrid4 Vehicle
Tony Letrouve[1,2,3], Alain Bouscayrol[1,3], Walter Lhomme[1,3], Nicolas Dollinger[2], Fabien Mercier Calvairac[2]
[1]University of Lille 1, [2]PSA Peugeot Citroen, [3]MEGEVH network

SS06-0884 09:40-10:00
MPPT Control Strategy on PEM Fuel Cell Low Speed Vehicle
Khalid Ettihir, Loic Boulon, Kodjo Agbossou, Sousso Kelouwani
Universite du Quebec a Trois-Rivieres, Institut de Recherche sur l'Hydrogène

SS06-0534 10:00-10:20
Integrated Energy and Thermal Management for Hybrid Electric Heavy Duty Trucks
Thinh Pham[1], John Kessels[2], Paul van den Bosch[1], Rudolf Huisman[2]
[1]Eindhoven University of Technology, [2]DAF Trucks N.V.

SS06-0532 10:20-10:40
Smart Vehicle Powernet Enabling Complete Vehicle Energy Management
John Kessels[1], Jack Martens[1], Paul van den Bosch[2], Will Hendrix[2]
[1]DAF Trucks N.V., [2]Eindhoven University of Technology

Oct. 11, 2012 (Thu.)

SS06-2 (Energy Management in EVs and HEVs 2)

Berlin

Organizer: Rochdi Trigui (IFSTTAR, MEGEVH)
John Kessels (Eindhoven University of Technology)

14:30-16:10

SS06-0878 Optimal Management and Comparison of SP-HEV Vehicles using the Dynamic Programming Method

14:30-14:50

Emmanuel Vinot[1,2], Rochdi Trigui[1,2], Yuan Cheng[2,3,4], Alain Bouscayrol[2,3], Christophe Espanet[2,5]
[1]IFSTTAR, [2]French National Network on HEVs, [3]Universite Lille 1, [4]Harbin Institute of Technology, [5]University of Franche-Comte

SS06-0872 Vehicle Trajectory Optimization for Hybrid Vehicles Taking into Account Battery State-of-Charge

14:50-15:10

Felicitas Mensing[1,2], Rochdi Trigui[2], Eric Bideaux[1]
[1]INSA Lyon, [2]IFSTTAR

SS06-0887 Analyses of Energy Management Strategies for a PEMFC/UC Electric Vehicle

15:10-15:30

Olivier Bethoux[1], Ghislain Remy[1], Jordi Riera[2], Maria Sera[2], Toufik Azib[3]
[1]LGEP, [2]Institut de RoboticaiInformatica Industrial, [3]ESTACA

SS06-0454 A High Efficiency Isolated Bidirectional Equalizer for Lithium-ion Battery String

15:30-15:50

Yao Guo[1], Rengui Lu[1], Guoliang Wu[2], Chunbo Zhu[1]
[1]Harbin Institute of Technology, [2]Heilongjiang Electric Power Research Institute

SS06-0908 Fault-Operation Modes of a Highly Redundant Military HEV

15:50~16:10

Loic Boulon[1], Alain Bouscayrol[2], Daniel Hissel[3], Olivier Pape[4], Marie-Cecile Pera[3]
[1]Universite du Quebec a Trois-Rivieres, [2]University of Lille 1, [3]University of Franche-Comte, [4]Nexter Systems

EMR and Other Graphical Descriptions (SS05)

Oct. 11, 2012 (Thu.)

SS05 (EMR and Other Graphical Descriptions)

Berlin

Organizer: A. Bouscayrol (Universite Lille 1)
L. Boulon (Universite de Quebec a Trois Rivieres)

16:30-17:50

SS05-0895 Modeling and Control of an Electric Vehicle Combining Bond Graph and Energetic Macroscopic Representation

16:30-16:50

Luis Ignacio Silva[1], Alain Bouscayrol[2], Cristian Hernan De Angelo[1]
[1]Universidad Nacional de Rio Cuarto, [2]University of Lille 1

SS05-0892 Thermal Energetic Model of an Internal Combustion Engine for Simulation of a Thermal Vehicle

16:50-17:10

Ludovic Horrein[1,2], Alain Bouscayrol[1], Mehdi El Fassi[2]
[1]Universite Lille 1, [2]PSA Peugeot Citroen

SS05-0882 17:10-17:30 **Comparison of Two Different Traction Systems for Subway Application using Energetic Macroscopic Representation**

Wei Wang[1], Alain Bouscayrol[2], Ming Cheng[1]
[1]*Southeast University,* [2]*University of Lille 1*

SS05-0250 17:30-17:50 **Modeling and Energy Management Strategies of a Hybrid Electric Locomotive**

Jerome Baert[1], Samir Jemei[1], Didier Chamagne[1], Daniel Hissel[1], Samuel Hibon[2], Dominique Hegy[2]
[1]*University of Franche-Comte,* [2]*Alstom Transport*

Electric Vehicles in the Smart Grid (SS02)

Oct. 11, 2012 (Thu.)

SS02 (Electric Vehicles in the Smart Grid) Atlanta

Organizer: Gilsoo Jang (Korea University) 09:00-10:40

SS02-1003 09:00-09:20 **Power Demand and Power Quality Analysis of EV Charging Station using BESS in MicroGrid**

Kisuk Kim[1], Taeyoung Yoon[1], Gilsung Byeon[1], Hosung Jung[2], Hyoungchul Kim[2], Gilsoo Jang[1]
[1]*Korea University,* [2]*Korea Railroad Research Institute*

SS02-1004 09:20-09:40 **Study of Economic Dispatch with Emission Constraint in Smart Grid Including Wind Turbines and Electric Vehicles**

Qinglei Guo, Jonghoon Han, Minhan Yoon, Gilsoo Jang
Korea University

SS02-1005 09:40-10:00 **Long-term Cycle Scheduling Algorithms in Power Management System for MW-Scale Batteries**

Hwachang Song[1], Sungmin Ohn[1], Seungmin Lee[1], Byunghoon Jang[2]
[1]*Seoul National University of Science and Technology,* [2]*Korea Electric Power Research Institute*

SS02-1006 10:00-10:20 **Probabilistic Modeling of Electric Vehicle Charging Load for Probabilistic Load Flow**

Seongbae Kong, Hyung-Chul Cho, Jong-Uk Lee, Sung-Kwan Joo
Korea University

SS02-1007 10:20-10:40 **Optimal Charging Strategy of a PEV Battery Considering Frequency Regulation and Distributed Generation**

Sekyung Han[1], Hirohisa Aki[1], Soohee Han[2]
[1]*National Institute of Advanced Institute of Industrial Science and Technology(AIST),* [2]*Konkuk University*

EMC & Soft Magnetic Components (SS08)

Oct. 11, 2012 (Thu.)

SS08 (EMC & Soft Magnetic Components)

Atlanta

Organizer: Gwangbo Choi (Changsung Corporation)

14:30-15:30

SS08-0479 14:30-14:50
Improvement of Soft Magnetic Properties of Fe-Si-Al Metal Powder Cores by Metallurgical Process
Gwangbo Choi, Seokjun Ha, Guhyun Kim, Inbum Jeong
Changsung Corporation

SS08-0684 14:50-15:10
Microwave Absorber for 24GHz Short Range Automotive Radar System
Dong Woo Hahn, Kyung Sub Lee
Donghyun Electronics

SS08-0732 15:10-15:30
Improvement of the Thermal Flow with Potting Structured Inductor for High Power Density in 40kW DC-DC Converter
Bong-Gi You[1], Sang-Won Lee[2], Man-Chul Jeong[2], Jun-Hyung Kim[2], In-Bum Jeong[2], Byoung-Kuk Lee[1]
[1]Sungkyunkwan University, [2]Changsung Corporation

State of the Art of Electrification Technology for Electric Vehicles (SS13)

Oct. 11, 2012 (Thu.)

SS13 (State of the Art of Electrification Technology for Electric Vehicles)

Sydney

Organizer: Il-Han Park (Sungkyunkwan University)

09:00-10:40

SS13-1008 09:00-09:20
Influence of Bus Bar Parasitic Effects on Motor Driving System with Battery Circuit Model
Jae Joong Lee, Wansoo Nah
Sungkyunkwan University

SS13-1009 09:20-09:40
10kW Rapid Charger for Electric Vehicle with Active Power Filter Function
Seong-Chon Choi, Doo-Young Jung, Dong-Gyun Ryu, Jin-Hong Kim, Chung-Yuen Won
Sungkyunkwan University

SS13-1010 09:40-10:00
Modeling of Battery for Electric Vehicle using EMTP/MODELS
Jun-Hyeok Kim[1], Hyo-Sang Go[1], Doo-Ung Kim[1], Chul-Hwan Kim[1], Eung-Sang Kim[2]
[1]Sungkyunkwan University, [2]Korea Electrotechnology Research Institute

SS13-1011 10:00-10:20
Flux Fluctuations in Rotor Core according to Pole-Slot Combination
Sung Oh Kang[1], Hong Soon Choi[2], Il Han Park[1]
[1]Sungkyunkwan University, [2]Kyungpook National University

SS13-1012 10:20-10:40
Design of Resonant Network based on Power Losses Analysis of Series Resonant Converter for On-Board Battery Charger in Evs
Chang-Yeol Oh[1], Jong-Soo Kim[2], Yun-Sung Kim[1], Byoung-Kuk Lee[1]
[1]Sungkyunkwan University, [2]Samsung Advanced Institute of Technology

Motor & Power Electronics for xEV Application (SS15)

Oct. 11, 2012 (Thu.)

SS15 (Motor & Power Electronics for xEV Application)

Sydney

Organizer: Kyu-Bum Han (Samsung Advanced Institute of Technology) 14:30-15:50

SS15-0245 14:30-14:50
A Numerical Model for Predicting Vibration and Acoustic Noise of IPMSM
Sunghyuk Park, Sungil Kim, Wonho Kim, Jinwoo Cho, Seong Taek Lim
Samsung Advanced Institute of Technology

SS15-0428 14:50-15:10
Computation of Nusselt Numbers on a Tube with Thin Circular Isothermal Fins in Laminar Cross Flow
Tae-Sang Park
Samsung Advanced Institute of Technology

SS15-1041 15:10-15:30
IPMSM Torque Control Method Considering DC-link Voltage Variation and Friction Torque for EV/HEV Applications
Jung-Hyo Lee[1], Chung-Yuen Won[1], Byoung-Kuk Lee[1], Hyun-Bae Kim[2], Jei-Hoon Baek[2], Kyu-Bum Han[2], U-In Chung[2]
[1]Sungkyunkwan University, [2]Samsung Advanced Institute of Technology

SS15-1042 15:30-15:50
A Novel and Simple Fabrication Technology for High Power Module with Enhanced Thermal Performance
Younghun Byun, Changmo Jeong, Jeong-Won Yoon, Che-Heung Kim, Chang-Sik Kim, Baik-Woo Lee, SeongWoon Booh, U-In Chung
Samsung Advanced Institute of Technology

Advances in the EV Motor Design (SS09)

Oct. 11, 2012 (Thu.)

SS09 (Advances in the EV Motor Design)

Moscow

Organizer: Kwang Hee Nam (Pohang University of Science and Technology) 09:00-10:20

SS09-1021 09:00-09:20
A Dynamic Modeling and a Fault Detection Scheme of a PMSM under an Inter Turn Short
Bon-Gwan Gu, Jun-Hyuk Choi, In-Soung Jung
Korea Electronics Technology Institute

SS09-1022 09:20-09:40
A Study on Permanent Magnet Synchronous Motor for Neighborhood Electric Vehicle
Young-Kyoun Kim, Lee Jung Jeong, Se-Hyun Rhyu, In-Soung Jung
Korea Electronics Technology Institute

SS09-1023 09:40-10:00
Calculation of the Electromagnetic Characteristics of an Electrically Excited Synchronous Motor for an EV
Mirco Strauch[1], Stefan Dewenter[1], A. Binder[1], K. H. Nam[2]
[1]Darmstadt University of Technology, [2]Pohang University of Science and Technology

SS09-1024 **A Claw Pole Motor Design with Two Field Windings**
10:00-10:20 Sung Yoon Jung, Ilsu Jeong, Kwang Hee Nam
POSTECH

Technology Trends of Electric Powertrains for xEV (SS14)

Oct. 11, 2012 (Thu.)
SS14 (Technology Trends of Electric Powertrains for xEV) Moscow
Organizer: Ho Gi Kim (HYOSUNG Corporation) 14:30-16:30

SS14-1033 **xEV Market Trend and Prospect**
14:30-14:50 Peter Miller
Ricardo UK Ltd

SS14-1034 **Trend of Rare-earth Free Motor for xEV**
14:50-15:10 Jung-pyo Hong
Hanyang University

SS14-1035 **Power Semiconductor and Packaging Trends for Future Hybrid and Electric Vehicles**
15:10-15:30 Dusan Graovac
Infineon

SS14-1036 **Development Status of HYOSUNG's EV Motor Technology**
15:30-15:50 Byeong-hui Kang
Hyosung

SS14-1037 **Comparison of Induction and Permanent Magnet Drives in Hybrid Electric Traction**
15:50-16:10 James L. Kirtley
Massachusetts Institute of Technology

SS14-1038 **Hyosung EV Charging Infrastructure Challenges**
16:10-16:30 Hyoung Yeon Cho
Hyosung

Power Converter for Automotive Applications (GC3)

Oct. 12, 2012 (Fri.)

GC3-3 (Power Converter for Automotive Applications 3)

Seoul

Chair: Eui-Cheol Nho (Pukyong National University) 09:00-10:40
Kyo-Beum Lee (Ajou University)

GC3-0321 09:00-09:20
Double-Clamp ZVS Converter Interfaces High Voltage Traction Batteries with 12V Legacy System in Hybrid and Pure-Electric Vehicles
Maurizio Salato, Patrick Kowalyk
VICOR

GC3-0241 09:20-09:40
Smart Charger based on Exact Linearization of Boost Converter
Jialei Hu, Changhong Liu, Xuguang Li
Shanghai Jiao Tong University

GC3-0821 09:40-10:00
Adaptive Soft-Start Characteristics of Digital Control DC-DC Converter
Fujio Kurokawa, Suguru Sagara, Junpei Takano
Nagasaki University

GC3-0796 10:00-10:20
High Performance Autotuning Switching Power Supply
Koji Murata, Suguru Sagara, Yoshihiko Komichi, Fujio Kurokawa
Nagasaki University

GC3-0849 10:20-10:40
A New Bidirectional DC-DC Converter with ZVT Switching
Il Ho Lee[1], Jun Gu Kim[1], Taek Gi Lee[2], Yong Chae Jung[3], Chung Yuen Won[1]
[1]Sungkyunkwan University, [2]Hankyung University, [3]Namseoul University

Oct. 12, 2012 (Fri.)

GC3-4 (Power Converter for Automotive Applications 4)

Seoul

Chair: Sung Jin Choi (University of Ulsan) 14:30-16:10
Byoung Gun Park (Korea Electrotechnology Research Institute)

GC3-0602 14:30-14:50
Stability Improvement in an On-Board Battery Charger for Electric Vehicles
Hae-Gwang Jeong, Kyo-Beum Lee
Ajou University

GC3-0600 14:50-15:10
A Controller Design of Quick Chargers with a Current Offset Compensator
Hae-Gwang Jeong, Kyo-Beum Lee
Ajou University

GC3-0190 15:10-15:30
A Modularized Charge Equalizer using the Magnetizing Energy of the Multi-Winding Transformer
Chang-Soon Lim, Rae-Young Kim, Dong-Seok Hyun
Hanyang University

GC3-0416 15:30-15:50 **Performance Evaluation of Multilevel Converter based Cell Balancer with Reciprocating Air Flow**
Faisal Altaf, Lars Johannesson, Bo Egardt
Chalmers University of Technology

GC3-0546 15:50-16:10 **Extended Half Bridge ZVS PWM High Frequency Series Load Resonant Inverter**
Bishwajit Saha, Rae Young Kim
Hanyang University

HEV, Plug-In, HEV, BEV and FCEV System Design (GC1)

Oct. 12, 2012 (Fri.)

GC1-1 (HEV, Plug-In, HEV, BEV and FCEV System Design 1)

London
09:00-10:20

Chair: Nobuyoshi Mutoh (Tokyo Metropolitan University)
Gyuhong Kang (Korea Marine Equipment Research Institute)

GC1-0711 09:00-09:20 **Optimal Sizing and Control Strategy Design for Heavy Hybrid Electric Truck**
Li Dongge, Zou Yuan, Hu Xiaosong, Sun Fengchun
Beijing Institute of Technology

GC1-0677 09:20-09:40 **Impedance-based Simulation Model of Carbon Nano-Onions Ultracapacitors for e-Bike with Compact Energy Storage System**
Fabio Parigi, Yang Gao, Tanya Gachovska, Jerry L. Hudgins, Dean Patterson, Yongfeng Lu
University of Nebraska-Lincoln

GC1-0531 09:40-10:00 **Powertrain Design Alternatives for Electric City Bus**
Antti Lajunen
Aalto University

GC1-0406 10:00-10:20 **Engine Clutch Control Algorithm during Mode Change for Parallel Hybrid Electric Vehicle**
Minseok Song, Joseph Oh, Hyunsoo Kim
Sungkyunkwan University

Oct. 12, 2012 (Fri.)

GC1-2 (HEV, Plug-In, HEV, BEV and FCEV System Design 2)

London
14:30-16:10

Chair: Hak Man Kim (University of Incheon)
Hyunsoo Kang (Advanced Drive Technology)

GC1-0257 14:30-14:50 **On-line Parameter, State-of-Charge and Aging Estimation of Li-ion Batteries**
B. Rosca[1,2], J.T.B.A. Kessels[2], H.J. Bergveld[2,3], P.P.J. van den Bosch[2]
[1]TNO Science and Industry, [2]Technische Universiteit Eindhoven, [3]NXP Semiconductors

GC1-0319 14:50-15:10 **Commercial Operation of Ultra Low Floor Electric Bus for Seoul City Route**
Uk-Don Choi[1], Ho-Kwon Jeong[2], Sun-Kyu Jeong[3]
[1]Hyundai Heavy Industries Co., Ltd., [2]Hankuk Fiber Glass Co., Ltd., [3]Seoul Metropolitan Government Green Transportation Policy Division

GC1-0307 15:10-15:30 **A Methodology to Use Simulation at Every Stage of a Hybrid Vehicle Design**
Vincent Delafosse[1], Scott Stanton[1], Takayuki Sekisue[2], Junsik Yun[3]
[1]ANSYS Inc., [2]ANSYS Japan, [3]ANSYS Korea

GC1-0398 15:30-15:50 **Development of Efficiency based Mode Control Algorithm for Plug-in Hybrid Electric Vehicle**
Chao Ma[1], Minseok Song[1], Seokhwan Choi[1], Kiyun Jeong[2], Hyunsoo Kim[1]
[1]Sungkyunkwan University, [2]Korea Automotive Technology Institute

GC1-0825 15:50-16:10 **Cornering Control Method for Front-and-Rear-Wheel-Independent Drive-Type Electric Vehicle (FRID EV) on Roads with Low Friction Coefficients**
Nobuyoshi Mutoh, Tatsuya Takayanagi, Shintaro Murai, Toru Yamaguchi
Tokyo Metropolitan University

Energy and Power Management for xEVs (GC5)

Oct. 12, 2012 (Fri.)

GC5-3 (Energy and Power Management for xEVs 3)

Berlin

Chair: Dawei Gao (Tsinghua University) 09:00-10:40
In Soung Jung (Korea Electronics Technology Institute)

GC5-0538 09:00-09:20 **Self-Learning State-of-Available-Power Prediction for Lithium-Ion Batteries in Electrical Vehicles**
Christian Fleischer[1,2], Wladislaw Waag[1,2], Ziou Bai[1], Dirk Uwe Sauer[1,2]
[1]RWTH Aachen University, [2]JARA-Energy

GC5-0468 09:20-09:40 **A High Efficiency Equalizer based on Forward Converter for Series Connected Battery String**
Jinlei Sun[1], Rengui Lu[1], Guo Wei[1], Bingliang Xu[2], Chunbo Zhu[1]
[1]Harbin Institute of Technology, [2]Heilongjiang Electric Power Research Institute

GC5-0456 09:40-10:00 **An Energy Management Strategy for a CVT based Parallel Hybrid Electric Vehicle**
Jian Ji, Jeong Man Park, Oh Eun Kwon, Hyun Soo Kim
Sungkyunkwan University

GC5-0218 10:00-10:20 **Towards Real-Time Optimal Energy Management of HEV Powertrains using Stochastic Dynamic Programming**
Thomas Leroy, Jeremy Malaize, Gilles Corde
IFP Energies nouvelles

GC5-0453 10:20-10:40 **A Measuring Method of Available Capacity of Li-Ion Series Battery Pack**
Fei Feng[1], Rengui Lu[1], Guoliang Wu[2], Chunbo Zhu[1]
[1]Harbin Institute of Technology, [2]Heilongjiang Electric Power Research Institute

Oct. 12, 2012 (Fri.)

GC5-4 (Energy and Power Management for xEVs 4)

Berlin

Chair: John Kessels (DAF Trucks N.V.)
Chung-Yuen Won (Sungkyunkwan University)

14:30-16:10

GC5-0399 14:30-14:50
Optimization of the Powerflow Control of a Hybrid Electric Powertrain including Load Profile Prediction
Matthias Marx, Dirk Soffker
University of Duisburg-Essen

GC5-0394 14:50-15:10
A Modularized BMS with an Active Cell Balancing Circuit for Lithium -ion Batteries in V2G System
Moon-Young Kim, Chol-Ho Kim, Jun-Ho Kim, Gun-Woo Moon
Korea Advanced Institute of Science and Technology(KAIST)

GC5-0369 15:10-15:30
Energy Management System for a Multi-Source Storage System Electric Vehicle
Jan Becker, Christoph Schaeper, Dirk Uwe Sauer
RWTH Aachen University

GC5-0624 15:30-15:50
Optimal Short Driving Mission Control for a Diesel-Electric Powertrain
Martin Sivertsson, Lars Eriksson
Linkoping University

GC5-0271 15:50-16:10
Low Cost Multiple Zero Voltage/Zero Current Switching Battery Equalization Circuit with Single Soft-Switching Resonant Cell
Tae-Hoon Kim, Nam-Ju Park, Rae-Young Kim, Dong-Seok Hyun
Hanyang University

Anti-slip Control for Automobiles and Railway Vehicles (SS12)

Oct. 12, 2012 (Fri.)

SS12 (Anti-slip Control for Automobiles and Railway Vehicles)

Atlanta

Organizer: Keiichiro Kondo (Chiba University)
Hiroshi Fujimoto (University of Tokyo)

09:00-10:20

SS12-1013 09:00-09:20
Four-wheel Driving-force Distribution Method based on Driving Stiffness and Slip Ratio Estimation for Electric Vehicle with In-wheel Motors
Kenta Maeda, Horishi Fujimoto, Yoichi Hori
The University of Tokyo

SS12-1014 09:20-09:40
Review of Traction and Braking Control for Electric Vehicle
Hiroshi Fujimoto, Junya Amada, Kenta Maeda
The University of Tokyo

SS12-1015 09:40-10:00 **The Proposal of Wheel Slip Control Method with Peak Point Search and the Test Result**
Osamu Yamazaki[1], Shin-ichi Toda[1], Ikuo Yasuoka[1], Keiichiro Kondo[2]
[1]Toshiba Corporation, [2]Chiba University

SS12-1030 10:00-10:20 **Anti-slip Control Technologies for the Railway Vehicle Traction**
Keiichiro Kondo
Chiba University

Intelligent Vehicle for Safety (included V2V) (IC1)

Oct. 12, 2012 (Fri.)

IC1 (Intelligent Vehicle for Safety (included V2V))

Atlanta
14:30-15:50

Chair: George M. Molen (Mississippi State University)
Taeck Kie Lee (Hankyong National University)

IC1-0686 14:30-14:50 **Study of the Night Vision System in Vehicle**
Sangyoung Lee, Yeonghun Yu
Ssangyong Motor Company

IC1-0333 14:50-15:10 **Modeling of Individualized Cognitive Driving Supervision for Intelligent Vehicles**
Xingguang Fu, Dirk Soffker
University of Duisburg-Essen

IC1-0287 15:10-15:30 **Sideslip Angle Estimation using GPS and Disturbance Accommodating Multi-rate Kalman Filter for Electric Vehicle Stability Control**
Binh Minh Nguyen, Yafei Wang, Hiroshi Fujimoto, Yoichi Hori
The University of Tokyo

IC1-0373 15:30-15:50 **Computational Simulation on VSC based on PID Coordinated Control Algorithm and Differential Brake**
Xiaowei Yue[1], Junzhi Zhang[1], Chen Lv[1], Jinfang Gou[2], Decong Kong[1]
[1]Tsinghua University, [2]Chinese Academy of Sciences

Renewable Energy (GC8)

Oct. 12, 2012 (Fri.)

GC8 (Renewable Energy)

Sydney
09:00-10:40

Chair: Woo Cheol Lee (Hankyong National University)
Jong-Soo Kim (Samsung Advanced Institute of Technology)

GC8-0855 09:00-09:20 **A New Active Power Decoupling Parallel Soft-switching Bidirectional for Flyback-type AC-module System**
Mi Na Kim[1], Yong-Su Noh[1], Jun Gu Kim[1], Tae Won Lee[2], Chung Yuen Won[1]
[1]Sungkyunkwan University, [2]Samsung Electro-mechanics

GC8-0853 09:20-09:40 **Optimal Design Process for Three-port Flyback Inverter with Active Power Decoupling**
Min Suk Oh[1], Kyu Dong Kim[1], Jun Gu Kim[1], Tae Won Lee[2], Chung Yuen Won[1]
[1]Sungkyunkwan University, [2]Samsung Electro mechanics

GC8-0717 09:40-10:00 **Battery-Integrated Power Optimizer for PV-Battery Hybrid Power Generation System**
Bong Yeon Choi, Yong Su Noh, Young Hyok Ji, Byoung Kuk Lee, Chung Yuen Won
Sungkyunkwan University

GC8-0588 10:00-10:20 **Design Study of Dual Stator Radial Field Permanent Magnet Generator for Small Wind Turbine**
Gyeong-Chan Lee, Tae-Uk Jung
Kyungnam University

GC8-0471 10:20-10:40 **Estimation of Harvestable Green Energy from Vehicle Suspension**
G N Reddy[1], Samuel Choudhari[1], Syed Mohiuddin[2]
[1]Lamar University, [2]Starco Solutions

Microgrid (SS03)

Oct. 12, 2012 (Fri.)
SS03 (Microgrid) Moscow
Organizer: Hak-Man Kim (University of Incheon) 09:00-10:20

SS03-1016 09:00-09:20 **RTDS-based Modeling of a 100 MW Class Wind Farm applied to an Integrated Power Control System**
Ju-Han Lee, Tae-Hun Kim, Gyeong-Hun Kim, Serim Heo, Minwon Park, In-Keun Yu
Changwon National University

SS03-1017 09:20-09:40 **Operation Characteristic Analysis of Three-phase Grid Connected PV System with AF and STATCOM**
Tae-Hun Kim, Ju-Han Lee, Gyeong-Hun Kim, Minwon Park, In-Keun Yu
Changwon National University

SS03-1031 09:40-10:00 **Consideration on Optimal Microgrid Operation based on Dual Price Analysis**
Ji-Hye Lee[1], Hak-Man Kim[1], Jung-Suck Yoon[2]
[1]University of Incheon, [2]Case Western Reserve University

SS03-1032 10:00-10:20 **A Coordinated Frequency Control of Lead-acidBESS and Li-ion BESS during Islanded Microgrid Operation**
Hyeong-Jun Yoo[1], Hak-Man Kim[1], Chi Hoon Song[2]
[1]University of Incheon, [2]POSCO

Smart Grid and Electrical Infrastructure (GC7)

Oct. 12, 2012 (Fri.)

GC7 (Smart Grid and Electrical Infrastructure)

Moscow

Chair: Hanju Cha (Chungnam National University)
Choon Sam Kim (Kangwon National University)

14:30-15:30

GC7-0713 14:30-14:50
Distributed Energy Resource Management for Electric Vehicles using IEC 61850 and ISO/IEC 15118
Christian Wietfeld[1], Claus Amtrup Andersen[2], Jens Schmutzler[1]
[1]Dortmund University of Technology, [2]EURISCO

GC7-0579 14:50-15:10
Three-Phase Voltage Sag Compensator for Smart Grid and Infrastructure
Hyunsik Jo, Wujong Lee, Hanju Cha
ChungNam National University

GC7-0243 15:10-15:30
Coordinated Charging Control of Plug-in Electric Vehicles at a Distribution Transformer Level using the vTOU-DP Approach
Bo Geng[1], James K. Mills[2], Dong Sun[1]
[1]City University of Hong Kong, [2]University of Toronto

Other Applications (High Efficiency Transportation) (HF4)

Oct. 12, 2012 (Fri.)

HF4 (Other Applications (High Efficiency Transportation))

Moscow

Chair: Hanju Cha (Chungnam National University)
Choon Sam Kim (Kangwon National University)

15:30-16:10

HF4-0778 15:30-15:50
A New Current-Fed Full-Bridge Converter for High Step-Up Gain and High Efficiency
Jae-Bum Lee[1], Jae-Kuk Kim[2], Jae-Hyun Kim[1], Cheol-O Yeon[1], Gun-Woo Moon[1]
[1]KAIST, [2]Samsung Electro-Mechanics Company

HF4-0764 15:50-16:10
Design of Series Input Parallel Output Interleaved Flyback Converter for 75W AC-DC Adapter
Cheol O Yeon, Sang Cheol Moon, Bong Chul Kim, Jae Bum Lee, Gun Woo Moon
Korea Advanced Institute of Science and Technology

Poster Presentation

Automotive Actuator and Electric Machinery (GC2)

Oct. 10, 2012 (Wed.)

GC2P (Automotive Actuator and Electric Machinery) Poster Presentation

Athens

Chair: Jang-Young Choi (Chungnam National University) 16:30-17:45
Rae-Kwan Park (Advanced Drive Technology)

GC2P-0637 **Design to Reduce the Cost and to Improve the Mechanical Durability of IPMSM for the Traction Motor of Military Truck**
Ki-Doek Lee[1], Mi-Jung Kim[1], Jung-Ho Han[1], Tae-Chul Jeong[1], Chang-Sung Jin[2], Won-Ho Kim[3], Ju Lee[1]
[1]Hanyang University, [2]Samsung Techwin, [3]Samsung Advanced Institute of Technology

GC2P-0842 **A Study for the Estimation of Temperature and Thermal Life of Traction Motor for Commercial HEV**
Hyoung Geun Park, Young Ju Kwon, Sung Jun Hwang, Hyeoun Dong Lee, Tae Suk Kwon
Hyundai Mobis Co.,Ltd

GC2P-0696 **Decisive Influence on Torque Ripples of Permanent Magnet assisted Synchronous Motor by the Carrier Harmonics**
Yun-Ho Jeong[1], Yong-Jae Kim[2], Sang Yong Jung[1]
[1]Sungkyunkwan University, [2]Chosun University

GC2P-0692 **Torque Harmonic Analysis of Induction Motor for Electric Vehicle Propulsion**
Kyung-Won Jeon[1], Yong-Jae Kim[2], Seungho Lee[1], Kwangdeok Kim[1], Sang-Yong Jung[1]
[1]Sungkyunkwan University, [2]Chosun University

GC2P-0392 **Study on Reducing Cogging Torque of Interior PM Motor for Electric Vehicle**
Yong-un Park[1,2], Ju-Hee Cho[2], Sung-Geun Song[2], Dong-Hwa Chung[1], Ji-young So[1], Dae-kyong Kim[1]
[1]Sunchon National University, [2]Korea Electronics Technology Institute(KETI)

GC2P-0513 **Characteristic Analysis of Inter-turn Fault in IPM and SPM-type BLDC Motor**
Jun-Kyu Park, Kyung-Tae Kim, Byeong-Woo Kim, Jin Hur
University of Ulsan

GC2P-0511 **Impedance Diagnosis Algorism for Detecting of Inter-Turn Fault in IPM Type Motor**
Chae-Lim Jeong, Kyung-Tae Kim, Byeong-Woo Kim, Jin Hur
University of Ulsan

GC2P-0504 **Magnetic Characteristic Analysis for Detection of Inter-Turn Fault using Winding Function Theory**
Kyung-Tae Kim, Byeong-Woo Kim, Jin Hur
University of Ulsan

GC2P-0630 Optimum Design of SPMSM with Concentrated Windings and Unequal Tooth Widths for EPS
Jae-han Sim, Jae-woo Jung, Yong-hoon Kim, Byeong-hwa Lee, Jung-pyo Hong
Hanyang University

GC2P-0610 Cogging Torque Optimization of In-Wheel Type Motor based on Gradient Assisted Simplex Method
Il-Woo Kim, Dong-Kyun Woo, Han-Kyeol Yeo, Hyun-Kyo Jung
Seoul National University

GC2P-0402 Analysis on Electromagnetic Vibration Source Permanent Magnet Synchronous Motor for Compressor of Electric Vehicles
Hyeon-Jae Shin, Jang-Young Choi, Han-Wook Cho, Seok-Myeong Jang
Chungnam National University

GC2P-0798 Design of a Switched Reluctance Traction Drive for Electric Vehicles
Bernhard Burkhart, Helge J. Brauer, Rik W. De Doncker
RWTH Aachen University

GC2P-0612 Eddy Current Loss Analysis in the Rotor of Permanent Magnet Traction Motor with High Power Density
Sang Yub Lee, Hyun-Kyo Jung
Seoul National University

GC2P-0265 A New Saturation Model of Interior Permanent Magnet Machine for Electric Vehicle Application
Li Qi, Fan Tao, Wen Xuhui, Zhuang Xingming, Wang Yongxing
Chinese Academy of Sciences

GC2P-0645 Fault Detection of Squirrel Cage Induction Motor by Analyzing Motor Current Signals
Yu-Seop Park, Seok-Myeong Jang, Jang-Young Choi, Cheol-Soo Goo
Chungnam National University

GC2P-0639 Analysis on Driving Characteristic of High Speed Permanent Magnet Synchronous Motor for Compressor of Electric Vehicle with Driving Method
Ji-Hun Ahn, Seok-Myeong Jang, Kwan-Ho Kim, Ji-Hwan Choi
Chungnam National University

GC2P-0633 Characteristic Analysis on Permanent Magnet Synchronous Machines with Three Types of Diametrically Magnetized Rotors under Magnetic Circuit Construction Conditions
Seok-Myeong Jang[1], Min-Mo Koo[1], Yu-Seop Park[1], Jang-Young Choi[1], Sung-Ho Lee[2]
[1]Chungnam National University, [2]Korea Institute of Industrial Technology

GC2P-0292 Rotor Sizing Effect on Maximum Torque in Initial Design of PMSM
Jun Han, Do-Jin Kim, Hae-Joong Kim, Jung-Pyo Hong
Hanyang University

GC2P-0806 **Analysis of Rotor Overhang Effect in BLDC Fan Motor for Vehicle Considering Load Torque Variance**
Hoe-Cheon Kim, Tae-Uk Jung
Kyungnam University

GC2P-0523 **Stator and Rotor Shape Optimum Design of Brushless Permanent Magnet Motor for Automotive Cooling Device**
Ju-Seong Yu[1], Han-Wook Cho[1], Jang-Young Choi[1], Seok-Myeong Jang[1], Sung-Ho Lee[2]
[1]Chungnam National University, [2]Korea Institute of Industrial Technology

GC2P-0306 **Multimodal Function Optimization based on Adapted Contour Method**
Dong-Kuk Lim, Dong-Kyun Woo, Hyun-Kyo Jung
Seoul National University

GC2P-0671 **Modeling of an Electromechanical Actuator in Respect to Voltage Stability in Automotive Power Nets**
Florian Ruf[1], Tom P. Kohler[1], Michael Winter[1], Hans-Ulrich Michel[2], Joachim Froeschl[3], Christian Koelbl[3], Bastian Buchholz[3], Hans-Georg Herzog[1]
[1]Technische Universitaet Muenchen, [2]BMW Group Research and Technology, [3]BMW Group

GC2P-0863 **Optimum Design of Barrier to Reduce Resonance and Displacement Analysis of IPMSM**
Kyoung-Won Park, Gyu-Won Cho, Yong-Tae Kim, Gyu-Tak Kim
Changwon National University

GC2P-0861 **Analysis of Flux Barrier Effects on Iron Loss and Temperature Rise of IPMSM**
Seung-Hyun Kye, Bo-Han Kang, Gyu-Won Cho, Ki-Bong Jang, Gyu-Tak Kim
Changwon National University

GC2P-0859 **The Precision Inductance Estimation of IPMSM for Vehicles**
Gyu-Won Cho, Tea-Suk Jung, Gyu-Tak Kim
Changwon National University

GC2P-0857 **The Current Phase Angle Deduction of IPMSM for the Maximum Efficiency Driving**
Gyu-Won Cho, Cheol-Min Kim, In-Ho Cho, Ki-Bong Jang, Gyu-Tak Kim
Changwon National University

GC2P-0381 **A Study on Permanent Magnet Synchronous Motor for Agricultural Utility Vehicle**
Jung-Moo Seo[1,2], Young-Kyun Kim[1], In-Soung Jung[1], Hyun-Kyo Jung[2]
[1]Korea Electronics Technology Institute, [2]Seoul National University

GC2P-0506 **Suppression of Shaft Voltage for Preventing Bearing Fault of IPM-Type High Voltage Motor in the Electric Vehicle**
Sang-Hoon Cha, Kyung-Tae Kim, Byeong-Woo Kim, Jin Hur
University of Ulsan

Motor Drives for Vehicle Applications (GC4)

Oct. 10, 2012 (Wed.)

GC4P (Motor Drives for Vehicle Applications) Poster Presentation

Athens

Chair: Jang-Young Choi (Chungnam National University)
Rae-Kwan Park (Advanced Drive Technology)

16:30-17:45

GC4P-0627 Torque Density Elevation of Interior PM Synchronous Motor with Minimized Magnet Volume

Mi-Jung Kim[1], Ik-Sang Jang[1], Ki-Doek Lee[1], Jae-Jun Lee[1], Won-Ho Kim[2], Ju Lee[1]

[1]Hanyang University, [2]Samsung Advanced Institute of Technology

GC4P-0749 Development of the 0.5kW Motor & Controller on Air Compressor for Commercial Hybrid or Electric Vehicles

Dae-Seak Cha[1], Sang-Taek Lee[1,3], Ju-Hee Cho[1], Sung-Geun Song[1], Man-Seung Han[2], Hee-Jun Kim[3]

[1]Korea Electronics Technology Institute, [2]Koa, Co., Ltd., [3]Hanyang University

GC4P-0899 Traction Torque Control for HEV Applications Driven by an IPMSM using Pre-set Optimized Flux Linkage Tables

Jae-Hyun Lee[1,2], Rae-Kwan Park[1], Hyung-Soo Mok[2], Ki-Hwan Ju[3]

[1]Advanced Drive Technology, [2]Konkuk University, [3]Samsung Techwin Defense Program R&D Center

GC4P-0559 Analysis of Rotor Overhang Effect Considering Load Torque Variance in Automobile BLDC Fan Motor

Hoe-Cheon Kim, Tae-Uk Jung

Kyungnam University

GC4P-0733 Analysis Parking Position of Integrated Switched Reluctance Motor Drive System with On-board Charger for EV

Jianing Liang[1,2], Guoqing Xu[2,3], Linni Jian[1,2], Ming Chang[1,2]

[1]Shenzhen Institutes of Advanced Technology, [2]The Chinese University of Hong Kong, [3]Tongji University

GC4P-0409 Phase Current Sensing Method using Three Shunt Resistor for AC Motor Drive

Do-Yun Kim[1], Jung-Hyo Lee[1], Taeck-Kie Lee[2], Chung-Yuen Won[1]

[1]Sungkyunkwan University, [2]Hankyong National University

GC4P-0259 A Control Strategy of Unified Field Permanent Magnet Dual Mechanical Port Machine with Spoke Type PM Arrangement

Xingming Zhuang, Xuhui Wen, Feng Zhao, Tao Fan, Yongxing Wang

Chinese Academy of Sciences

GC4P-0919 A Simple Diagnosis of Winding Short-Circuited Fault of PMSM for Electric Vehicle

Bochao Du[1], Shumei Cui[1], Shouliang Han[1], Guoliang Wu[2], Bingliang Xu[2]

[1]Harbin Institute of Technology, [2]Heilongjiang Electric Power Science Research Institute

GC4P-0255 **Selective Harmonic Elimination PWM Technology Applied in PMSMs**
Yongxing Wang[1], Xuhui Wen[1], Feng Zhao[1], Xinhua Guo[2]
[1]Chinese Academy of Sciences, [2]Huaqiao University

GC4P-0613 **Rotor and Stator Shape Optimization of a Synchronous Machine to Reduce Iron Losses and Acoustic Noise**
Anthony Frias[1,2], Pierre Pellerey[1,3], Afef Kedous Lebouc[2], Christian Chillet[2], Vincent Lanfranchi[3], Guy Friedrich[3], Laurent Albert[1], Louis Humbert[1]
[1]RENAULT SAS, [2]Grenoble Electrical Engineering Laboratory - G2Elab, [3]Universite de Technologie de Compiegne

GC4P-0519 **Programmable LPF-based Stator Flux Estimator for Sensorless Induction Motor Control**
Sang-Soo Lee, Jae-Hoon Kim, Dong-Seok Hyun
Hanyang University

GC4P-0492 **Economic Operating Characteristics of Permanent Magnet Synchronous Motor in Electric Vehicle**
Dongbin Lu, Minggao Ouyang, Jianqiu Li, Liangfei Xu
Tsinghua University

GC4P-0465 **Development of Permanent Magnet Synchronous Generator Drive in Electrical Vehicle Power System**
Yuan-Chih Chang, Jui-Teng Chan, Jian-Cheng Chen, Jeng-Gung Yang
National Chung Cheng University

GC4P-0242 **The Coordinated Control of Motor Regenerative Braking Torques Defined by Accelerator Pedal and Brake Pedal of Electric Vehicle**
Jinfang Gou[1], Lifang Wang[1], Chenglin Liao[1], Junzhi Zhang[2], Xiaowei Yue[2]
[1]Chinese Academy of Sciences, [2]Tsinghua University

GC4P-0433 **Development of BLDC Motor and Drive of VVA module for Automotive Application**
Joon Sung Park, Jung-Moo Seo, Jun-Hyuk Choi, Jin-Hong Kim, Bon-Gwan Gu, In-Soung Jung
Korea Electronics Technology Institute

Railway, Ship, Air, and Space Vehicles (HF2)

Oct. 10, 2012 (Wed.)
HF2P (Railway, Ship, Air, and Space Vehicles) Poster Presentation Athens
Chair: Jang-Young Choi (Chungnam National University) 16:30-17:45
Rae-Kwan Park (Advanced Drive Technology)

HF2P-0426 **Design and Experiment of 100kW Interior Permanent Magnet Machine for Ship Anti Heeling System**
Sun-Kwon Lee[1,2], Gyu-Hong Kang[1], Jin Hur[2], Byoung-Woo Kim[2]
[1]Korea Marine Equipment Research Institute, [2]University of Ulsan

HF2P-0424 **Electromagnetic Analysis of 100kW IPM Machine for Ship Anti Heeling System Considering Eccentricity and Several Operating Conditions**
Sun-Kwon Lee[1,2], Gyu-Hong Kang[1], Jin Hur[2], Byoung-Woo Kim[2]
[1]*Korea Marine Equipment Research Institute,* [2]*University of Ulsan*

HF2P-0494 **Road Testing of Series Hybrid Propulsion System of Rubber-tired Tram**
Chang Han Bae, Jai Kyun Mok, Joon Hyung Ryu
Korea Railroad Research Institute

HF2P-0356 **Development of a 20kW Power Supply Module for Ballast Water Treatment Systems**
Yun-Sung Kim[1], Min-Hee Jeon[2], Jong-Hyug Kim[2], Gwi-Cheol Park[2], Byoung-Kuk Lee[1]
[1]*Sungkyunkwan University,* [2]*Dongah Elecomm Co., Ltd*

HF2P-0466 **Increased Fuel Efficiency in Ship LVDC Power Distribution Systems**
Ole Christian Nebb[1], Bijan Zahedi[1], John Olav Lindtjorn[2], Lars Einar Norum[1]
[1]*Norwegian University of Science and Technology,* [2]*ABB AS*

HF2P-0595 **Operating Characteristics of Linear Induction Motor driven by SVPWM Invertor with Reference Scenario for Speed Control**
Seok-Myeong Jang[1], Jeong-Man Kim[1], Yu-Seop Park[1], Dae-Joon You[2]
[1]*Chungnam National University,* [2]*Cheongyang Provincial College*

HF2P-0214 **Characteristic Analysis of the 1C2M Traction Motors with Different Wheel Diameters**
Hyung-Woo Lee, Chan-Bae Park, Byung-Song Lee
Korea Railroad Research Institute

HF2P-0182 **Magnetic and Thermal Characteristics Analysis of Inductive Power Transfer Module for Railway Applications**
Chan-Bae Park, Byung-Song Lee, Hyung-Woo Lee
Korea Railroad Research Institute

HF2P-0267 **Hybrid Photovoltaic/Diesel Green Ship Operating in Standalone and Grid-connected Mode in South Korea - Experimental Investigation**
Kyoung-Jun Lee[1], Dong-Sul Shin[1], Jong-Pil Lee[2], Dong-Wook Yoo[2], Han-Kyu Choi[3], Hee-Je Kim[1]
[1]*Pusan National University,* [2]*Korea Electrotechnology Research Institute,* [3]*Korea Ship Safety Technology Authority(KST)*

HEV, Plug-In, HEV, BEV and FCEV System Design (GC1)

Oct. 11, 2012 (Thu.)

GC1P (HEV, Plug-In, HEV, BEV and FCEV System Design) Poster Presentation

Athens

Chair: Sangtaek Lee (Korea Electronics Technology Institute) 16:30-17:45
Young Kyoun Kim (Korea Electronics Technology Institute)

GC1P-0212 Design and Experimental Evaluation of Motor Control Unit for a Series Heavy-Duty Diesel Hybrid Electric Truck
Jae-Hyun Lee[1,2], Rae-Kwan Park[1], Hyung-Soo Mok[2]
[1]Advanced Drive Technology, [2]Konkuk University

GC1P-0723 Simulation and Hardware-in-the-Loop Evaluation of a GM Malibu
Jonathan D Moore, G. Marshall Molen
Mississippi State University

GC1P-0530 Battery Electric Vehicle Parameters Design Targeting to Cost-Benefit Objective
Jiuyu Du, Minggao Ouyang, Hewu Wang
Tsinghua University, China Automotive Energy Research Center (CAERC)

GC1P-0527 Comparison of Eco and Time Efficient Routing of ICEVs, BEVs and PHEVs in Inner City Traffic
Michael Richter, Sebastian Zinser, Herbert Kabza
University of Ulm

GC1P-0331 A Distributed Control System for an Automatic Mechanical Transmission of a Fuel Cell City Bus
Liangfei Xu, Jianqiu Li, Minggao Ouyang, Yiming Hao
Tsinghua University

GC1P-0281 Running Management of Single Operator Fuel Cell Vehicle
Yoshitaka Namekawa, Satoru Yamaguchi, Tsubasa Yamazaki, Yoshihiko Takahashi
Kanagawa Institute of Technology

GC1P-0280 Dual Drive Train for Single Operator Fuel Cell Vehicle
Tsubasa Yamazaki, Yoshitaka Namekawa, Satoru Yamaguchi, Yoshihiko Takahashi
Kanagawa Institute of Technology

GC1P-0279 Hybrid Energy Control using DC-DC Converter for Single Operator Fuel Cell Vehicle
Satoru Yamaguchi, Tsubasa Yamazaki, Yoshitaka Namekawa, Yoshihiko Takahashi
Kanagawa Institute of Technology

GC1P-0704 Design Considerations for the High-Performance, Power Efficient Electric Racecar
Patrick Nguyen Huu
University of California

GC1P-0347 **Experimental Study on the Effects of Pre-Heating a Battery in a Low-Temperature Environment**

Hyun-Sik Song[1], Jin-Beon Jeong[2], Baek-Haeng Lee[2], Dong-Hyun Shin[2], Byoung-Hoon Kim[1], Tae-Hoon Kim[2], Hoon Heo[1]
[1]Korea University, [2]Korea Automotive Technology Institute

GC1P-0404 **Shift Control of a 2-Speed Dual Clutch Transmission for Electric Vehicle**

Sungwha Hong[1], Sunghyun Ahn[1], Beakyou Kim[2], Heera Lee[2], Hyunsoo Kim[1]
[1]Sungkyunkwan University, [2]Hyundai Motor Company

Power Converter for Automotive Applications (GC3)

OOct. 11, 2012 (Thu.)

GC3P (Power Converter for Automotive Applications) Poster Presentation Athens

Chair: Sangtaek Lee (Korea Electronics Technology Institute) 16:30-17:45
Young Kyoun Kim (Korea Electronics Technology Institute)

GC3P-0774 **Performance Characteristics of Quick Response Average Current Mode DC-DC Converter using Digital Filter**

Fujio Kurokawa, Kazuhiro Kajiwara
Nagasaki University

GC3P-0724 **A Study on Isolated DC-DC Converter of Soft Switching with Discontinuous Conduction Mode**

Dong-Kurl Kwak, Choon-Sam Kim, Shin-Hyeong Choi, Bong-Seob Lee
Kangwon National University

GC3P-0771 **Isolated AC-DC Converter using Voltage Doubler Rectifier with Half-Bridge Inverter**

Keita Tsuchiyama, Nobukazu Hoshi, Junnosuke Haruna
Tokyo University of Science

GC3P-0675 **Failure Mode Evaluation of LDC for Electric Bus by HILs**

Gyoung-Man Kim[1], Rae-Cheong Kang[2], San-Yun Lee[3], Tae-Kwon Kim[1], Chan-Ho Kang[1], In-Beom Yang[2], Hee-Jun Kim[3]
[1]EGTRONICS Co., Ltd., [2]KATECH, [3]Hanyang University

GC3P-0667 **Novel High Efficiency Bidirectional Converter using Power Sharing Method for V2G**

Kyu-Dong Kim[1], Young-Hyok Ji[1], Jun-Gu Kim[1], Yong-Chae Jung[2], Chung-Yeun Won[1]
[1]Sungkyunkwan University, [2]Namseoul University

GC3P-0663 **Study of the Development of DC-DC Converter for Electric Bus**

Chan-Ho Kang[1], Gyoung-Man Kim[1], Eun-Jun-Jung[1], Tae-Kwon Kim[1], Sang-Hyun Kim[2], Hee-Jun Kim[2]
[1]EGTRONICS Co., Ltd., [2]Hanyang University

GC3P-0623 **Two Phase Interleaved Bidirectional DC-DC Converter for Electric Vehicle using Variable DC-Link Voltage**
Sung Pil Ha[1], Jung Hyo Lee[1], Jung Pill Hwang[1], Jun Hyuk Choi[2], Chung Yuen Won[1]
[1]Sungkyunkwan University, [2]Korea Electronics Technology Institute

GC3P-0577 **Bi-directional Multi-level Converter with DC Link Switches for Charging and Discharging Battery**
Sang-Hyup Han[1], Heung-Geun Kim[1], Honnyong Cha[1], Tae-Won Chun[2], Eui-Cheol Nho[3]
[1]Kyungpook National University, [2]University of Ulsan, [3]Pukyong National University

GC3P-0481 **High Voltage Battery Simulator based on Lithium Ion Battery**
Song Wook Hyun[1], Doo Yong Jung[1], Dong Kyun Ryu[1], Young Real Kim[2], Yong Chae Jung[3], Chung Yuen Won[1]
[1]Sungkyunkwan University, [2]Anyang University, [3]Namseoul University

GC3P-0391 **Average Current Mode Controlled Step-up Converter Employing Interleaved Structure to Obtain Higher DC-link Boltage**
Sun Pil Kim, Jin-sung Choi, Feel-soon Kang
Hanbat National University

GC3P-0338 **Comparison of Two Kinds of Compensation Schemes on Inductive Power Transfer Systems for Electric Vehicle**
Koji Okada, Kazuyuki Iimura, Nobukazu Hoshi, Junnosuke Haruna
Tokyo University of Science

GC3P-0604 **The Use of FPGA in HIL Simulation of Three Phase Interleaved DC-DC Converter**
Raecheong Kang[1], Sehyun Kim[1], Inbeom Yang[1], Kiyun Jeong[1], Chanho Kang[2], Gyoungman Kim[2]
[1]KATECH, [2]EGTRONICS Co., Ltd.

GC3P-0445 **Operating Optimization at Light Load of Series Resonant DC-DC Converter with Duty-Adjusted Frequency Control in EVs On-board Charger**
Seung-Hee Ryu[1], Dong-Hee Kim[1], Min-Jung Kim[1], Byoung-Kuk Lee[1], Jong-Soo Kim[2]
[1]Sungkyunkwan University, [2]Samsung Advanced Institute of Technology Co., Ltd

GC3P-0352 **Advanced Integrated Battery Chargers for Plug-in Hybrid Electric Vehicles**
Dong-Gyun Woo[1], Yun-Sung Kim[1], Gu-Bae Kang[2], Byoung-Kuk Lee[1]
[1]Sungkyunkwan University, [2]Hyundai Motor Company

GC3P-0311 **Battery Voltage Sensorless Charge Equalizer using the Multi-Winding Transformer**
Chang-Soon Lim, Rae-Young Kim, Dong-Seok Hyun
Hanyang University

GC3P-0344 **Primary Parallel Isolated Boost Converter with Bidirectional Operation**
Juan Carlos Hernandez Botella, Maria C. Mira Albert, Gokhan Sen, Ole C. Thomsen, Michael A. E. Andersen
Technical University of Denmark

GC3P-0699 **The Design and Implementation of Power Conversion Unit for Electric Vehicle**
Jin-Hong Kim, Joon Sung Park, Jun-Hyuk Choi, In-Soung Jung
Korea Electronics Technology Institute(KETI)

GC3P-0459 **A Study on Development Process of a Power Converter Algorithm for Vehicles using Model-based Control Code Generation**
Byoung-Hoon Kim[1], Jin-Beom Jeong[2], Back-Haeng Lee[2], Dong-Hyun Shin[2], Hyun-Sik Song[2], Tae-Hoon Kim[2], Hee-Jun Kim[3], Ji-Yoon Yoo[1]
[1]Korea University, [2]Korea Automotive Technology Institute, [3]Hanyang University

GC3P-0349 **Analytical Study on Low-Frequency Ripple Effect of Battery Charging**
Tae-Hoon Kim[1], Jin-Beom Jeong[1], Baek-Haeng Lee[1], Dong-Hyun Shin[1], Hyun-Sik Song[2], Byoung-Hoon Kim[2], Hee-Jun Kim[3]
[1]Korea Automotive Technology Institute, [2]Korea University, [3]Hanyang University

GC3P-1020 **A Method for Improving Control Performances of Bi-Directional DC-DC Boost Converter in Hybrid (Plug-In Hybrid) Vehicles**
Won Kyoung Choi, Mu Shin Kwak, Young Kook Lee, Jin Hwan Jung
Hyundai Motor Company

Other Applications (Green Car) (GC9)

Oct. 11, 2012 (Thu.)

GC9P (Other Applications (Green Car)) Poster Presentation

Athens

Chair: Sangtaek Lee (Korea Electronics Technology Institute) 16:30-17:45
Young Kyoun Kim (Korea Electronics Technology Institute)

GC9P-0364 **Advanced Simulation Model for Loss Analysis of Converters in Electric Vehicles**
Won-Yong Sung[1], Dong-Gyun Woo[1], Yun-Sung Kim[1], Bong-Gi You[2], Byoung-Kuk Lee[1]
[1]Sungkyunkwan University, [2]Changsung Corporation

GC9P-0358 **Development of a 3kW Fast Battery Charger with Various Charging Modes and Parallel Operation**
Yun-Sung Kim[1], Soon-Sang Hwang[2], Min-Hee Jeon[2], Byung-Dug Baeg[2], Byoung-Kuk Lee[1]
[1]Sungkyunkwan University, [2]Dongah Elecomm Co., Ltd

GC9P-0354 **Development of a High Efficient LDC Test Bed in HEVs using Power Recycle Technique**
Yun-Sung Kim[1], Dong-Wook Jung[2], Byoung-Kuk Lee[1]
[1]SungKyunKwan University, [2]Dongah Elecomm Co., Ltd

GC9P-0701 **Characteristic Analysis on Synchronous Machine with Double-side Permanent Magnet Rotor for Flywheel Energy Storage System in EV**
Ji-Hwan Choi, Seok-Myeong Jang, Hyung-Il Park, Kwan-Ho Kim
Chungnam National University

GC9P-0657 **Design Criteria of Active Thrust Magnetic Damper in a Flywheel System using Improved Equivalent Magnetic Circuit Method and Finite Element Method**

Kwan-Ho Kim, Seok-Myeong Jang, Choi Ji-Hwan, Ji-Hun An
Chungnam National University

GC9P-0568 **A New Short Circuit Protection Scheme for Small Inverters**

Jun-Hyuk Choi[1,2], Kim Jin-Hong[1], Joon Sung Park[1], Bon-Gwan Gu[1], Chung-Yuen Won[2]
[1]Korea Electronics Technology Institute(KETI), [2]University of Sungkyunkwan

Modeling, Simulation, Emissions and Control (HF3)

Oct. 11, 2012 (Thu.)

HF3P (Modeling, Simulation, Emissions and Control) Poster Presentation

Athens

Chair: Sangtaek Lee (Korea Electronics Technology Institute) 16:30-17:45
Young Kyoun Kim (Korea Electronics Technology Institute)

HF3P-0726 **ITE-Sim: A Simulator and Power Evaluation Framework for Electric/ Electronic Architectures**

Gregor Walla[1], Dirk Gabriel[1], Andreas Barthels[1], Florian Ruf[1], Hans-Ulrich Michel[2], Andreas Herkersdorf[1]
[1]Technical University of Munich, [2]BMW Group Research and Technology

HF3P-0584 **Researching the Efficiency of the Regeneration System with Various Batteries**

Seokmyung Kim, Sungwan Kim, Jaehoan Kim, Yunjoo Noh
Ssangyong Motor Co.

HF3P-0846 **Characteristics Comparison of BLDC Motor according to the Lead Angles**

Su-Jin Lee[1], Jung-Pyo Hong[1], Woo-Kyo Jang[2]
[1]Hanyang University, [2]Keyang Electric Machinery Co., Ltd.

HF3P-0597 **Electromagnetic Analysis of High Speed Brushless DC Motor According to PM Structure**

Seok-Myeong Jang[1], Jae-Hoon Jeong[1], Hyung-Il Park[1], Ji-Hwan Choi[1], So-Young Sung[2]
[1]Chungnam National University, [2]Korea Ocean Research & Development Institute

HF3P-0329 **Common Rail Pressure Controller for Diesel Engines using an Empirical Model**

Seungwoo Hong, Jaewook Shin, Myoungho Sunwoo
Hanyang University

HF3P-0566 **Novel Energetic Model of Electrical Machines using Scaling of Losses**

Andreas Thanheiser, Florian Ruf, Hans-Georg Herzog
Technical University of Munich

HF3P-0339 **Exhaust Emissions from the PZL W-3 Sokol Helicopter based on the Measurements of the Concentrations of Exhaust Components in the Exhaust Gases during a Pre-flight Test**
Jerzy Merkisz, Jaroslaw Markowski, Jacek Pielecha
Poznan University of Technology

HF3P-0253 **The Analysis of the PEMS Measurements of the Exhaust Emissions from city Buses using Different Research Procedures**
Jerzy Merkisz, Jacek Pielecha, Pawel Fuc, Piotr Lijewski
Poznan University of Technology

HF3P-0322 **Increase of the Performance of a Low Ripple Boost Converter for PEM FC Applications using GA and PSO Algorithms**
Giuseppe Marsala, Antonella Ragusa
CNR-ISSIA

Other Applications (High Efficiency Transportation) (HF4)

Oct. 11, 2012 (Thu.)
HF4P (Other Applications (High Efficiency Transportation)) Poster Presentation Athens
Chair: Sangtaek Lee (Korea Electronics Technology Institute) 16:30-17:45
Young Kyoun Kim (Korea Electronics Technology Institute)

HF4P-0463 **A Study on the Characteristics of Wide Bandwidth Connector for Automotive Communication**
Hyeon-Seok Kim[1], Ho Park[2], Jin Hur[1], Byeong-Woo Kim[1]
[1]*University of Ulsan,* [2]*Kongju National University*

HF4P-0673 **A New Soft Switching ZVT Boost Converter using Auxiliary Resonant Circuit**
Dong-Woo Han[1], Hee-Jun Lee[1], Soo-Cheol Shin[1], Jun-Gu Kim[1], Yong-Chae Jung[2], Chung-Yuen Won[1]
[1]*Sungkyunkwan University,* [2]*Namseoul University*

HF4P-0379 **Comparative Analysis of Active Inrush Current Limiter for High-Voltage DC Power Supply System**
Eun-Ju Lee, Jung-Hoon Ahn, Seung-Min Shin, Byoung-Kuk Lee
Sungkyunkwan University

HF4P-0668 **Autonomous Load Shutdown Mechanism as a Voltage Stabilization Method in Automotive Power Nets**
Florian Ruf[1], Andreas Barthels[1], Gregor Walla[1], Michael Winter[1], Tom P. Kohler[1], Hans-Ulrich Michel[2], Joachim Froeschl[2], Hans-Georg Herzog[1]
[1]*Technische Universitaet Muenchen,* [2]*BMW Group*

HF4P-0263 **A Study on Management System for Reliability Analysis in Advanced EMU**
Hanmin Lee, Euijin Joung, Gildong Kim, Changmu Lee
Korea Railroad Research Institute

HF4P-1018 **Classification of Event and Variation occurred in Distribution System using S-transform**
Soon-Jeong Lee, Hun-Chul Seo, Chul-Hwan Kim
Sungkyunkwan University

HF4P-1019 **Analysis of Lightning Overvoltage according to the Location of Overhead Ground Wire in Korea Distribution System**
Jun Han, Hun-Chul Seo, Chul-Hwan Kim
Sungkyunkwan University

HF4P-0296 **Study on the Design Method of Time-Variant Driving Cycles for EV based on Markov Process**
Li Liu[1], Chaosheng Huang[1], Bingwu Lu[1], Shuming Shi[2], Yan Zhang[2], Jingmin Cheng[2]
[1]China FAW Group Corporation, [2]Jilin University

HF4P-0261 **A Study on Application of Waste Energy from Vehicle**
Hanmin Lee
Korea Railroad Research Institute

HF4P-0747 **A Study on the Temperature Stabilization Time during Temperature Environmental Test of the Battery System for Green Cars**
Hong-Jong Lee[1], Baek-haeng Lee[1], Dong-Hyun Shin[1], Jin-Beom Jeong[1], Tae-Hoon Kim[1], Hyun-Sik Song[2], Byoung-Hoon Kim[2], Won-Sik Lim[3]
[1]Korea Automotive Technology Institute, [2]Korea University, [3]Seoul National University of Science and Technology

Energy and Power Management for xEVs (GC5)

Oct. 12, 2012 (Fri.)

GC5P (Energy and Power Management for xEVs) Poster Presentation

Athens

Chair: Shin-Hyeong Choi (Kangwon National University) 15:00-16:10
Sung Geun Song (Korea Electronics Technology Institute)

GC5P-0642 Optimal Speed Pattern Generating Method for Acceleration Process of EVs
Kangkang Zhang, Minggao Ouyang, Liangfei Xu
Tsinghua University

GC5P-0552 A Development of Battery Monitoring and Management System
Kyung-Sung Lee, Chae-Joo Moon, Tae-Gon Kim, Moon-Seon Jeong, Sang-Man Kim, Byeong-Ju Park
Mokpo National University

GC5P-0340 Battery Duty Profile of a Heavy-duty Trolleybus
Arnaud Devie[1], Pascal Venet[1], Serge Pelissier[2], Rochdi Trigui[2]
[1]University of Lyon, [2]IFSTTAR

GC5P-0905 Thermal Modeling of Passive Thermal Management System with Phase Change Material for LiFePO4 Battery
Jianhua Cao, Dawei Gao, Jiexun Liu, Jieyuan Wei, Qingchun Lu
Tsinghua University

GC5P-0737 Regenerative Energy Control of Electric Vehicles Applied to a Dual Power System
Duck-Shick Shin[1], Sang-Taek Lee[1], Sung-Guen Song[1], Hee-Jun Kim[2], Young-Cheol Lim[3]
[1]Korea Electronics Technology Institute, [2]Hanyang University, [3]Chonnam National University

Charging System including Interface Couplers (GC6)

Oct. 12, 2012 (Fri.)

GC6P (Charging System including Interface Couplers) Poster Presentation

Athens

Chair: Shin-Hyeong Choi (Kangwon National University) 15:00-16:10
Sung Geun Song (Korea Electronics Technology Institute)

GC6P-0375 Topology Comparison for 6.6kW On Board Charger: Performance, Efficiency, and Selection Guideline
Keun-Wan Koo, Dong-Hee Kim, Dong-Gyun Woo, Byoung-Kuk Lee
Sungkyunkwan University

GC6P-0550 Implementation of High Efficiency Batteries Charger for EV based on PWM Rectifier
Yingchao Zhang, Jiangtao Long, Wei Gong, Yang Liu, Bo Zhao
Chongqing Communication Institute

Smart Grid and Electrical Infrastructure (GC7)

Oct. 12, 2012 (Fri.)

GC7P (Smart Grid and Electrical Infrastructure) Poster Presentation

Athens

Chair: Shin-Hyeong Choi (Kangwon National University)
Sung Geun Song (Korea Electronics Technology Institute)

15:00-16:10

GC7P-0540 Electric Vehicles to Support Large Wind Power Penetration in Future Danish Power Systems
Jayakrishnan R. Pillai[1], Birgitte Bak-Jensen[1], Paul Thøgersen[2]
[1]Aalborg University, [2]KK-electronic A/S

GC7P-0617 The Sag Detection Strategy for Seamless Transfer APF-UPS System
Kook-Nam Sung, Woo-Cheol Lee, Taeck-Ki Lee
Hankyong National University

GC7P-0437 Novel Synthetic Test Circuit for Thyristor Valve Operation in HVDC Converter
Jong-Kyou Jeong, Kyeong-Tae Kim, Do-Hyun Kim, Byung-Moon Han
Myongji University

GC7P-0435 Hardware Simulator for Dynamic Performance Analysis of DC Microgrid System
Ji-Heon Lee, Hyun-Jun Kim, Byung-Moon Han
Myongji University

GC7P-0362 On the Feasibility of DC Home Appliance in DC Power Supply System using Power Simulator
Jung-Hoon Ahn, Yun-Sung Kim, Seung-Min Shin, Byoung-Kuk Lee
Sungkyunkwan University

GC7P-0834 A General-purpose Integrated Battery Energy Module for Non-isolated Energy Storage System Applications
Rae-Young Kim[1], Chang-Soon Lim[1], Hong-Joo Jung[1], Soon-Bong Cho[2]
[1]Hanyang University, [2]Doowon University

GC7P-0802 PCC Voltage Analysis of a Hybrid Generating System in Case of Utility Side Fault
Jae-Hun Jung[1], Hak-Soo Kim[1], Eui-Cheol Nho[1], Tae-Won Chun[2], Heung-Geun Kim[3]
[1]Pukyong National University, [2]University of Ulsan, [3]Kyungpook National University

GC7P-0800 Power Control and Transformer Design Method of Bidirectional DC-DC Converter for a Hybrid Generation System
Jae-Hun Jung[1], Chang-Keun Kwon[1], Jin-Pyo Hong[1], Eui-Cheol Nho[1], Heung-Geun Kim[2], Tae-Won Chun[3]
[1]Pukyong National University, [2]Kyungpook National University, [3]University of Ulsan

GC7P-0690 Performance Test for EV Quick Charger
Seung-Ho Han, Moon-Gyu Jeong, Seung-Kwon Yang, Han-Byul Lee
KEPCO Research Institute

Renewable Energy (GC8)

Oct. 12, 2012 (Fri.)

GC8P (Renewable Energy) Poster Presentation

Athens

Chair: Shin-Hyeong Choi (Kangwon National University)
Sung Geun Song (Korea Electronics Technology Institute)

15:00-16:10

GC8P-0665 Design and Efficiency Analysis of Stand-alone Power Conditioning System for Fuel-cell
Young-Sang Ko, Hee-Jun Lee, Soo-Cheol Shin, Heon-Hee Kim, Jin-Hong Kim, Chung-Yuen Won
Sungkyunkwan University

GC8P-0490 Development of Active Module Considering the Shadow Influence of Photovoltaic System
Hak-Gyun Jeong, Jae-Sub Ko, Jin-Gook Lee, Da-Eun Jeong, Dae-Kyong Kim, Dong-Hwa Chung
Sunchon National University

GC8P-0488 MPPT Control of Photovoltaic System with Temperature Coefficient
Da-Eun Jeong, Jae-Sub Ko, Jin-Gook Lee, Hak-Gyun Jeong, Dae-Kyong Kim, Dong-Hwa Chung
Sunchon National University

GC8P-0475 High Performance MPPT Control of Photovoltaic using VSSIC Method
Jin-Gook Lee, Jae-Sub Ko, Da-Eun Jeong, Hak-Gyun Jeong, Dae-Kyong Kim, Dong-Hwa Chung
Sunchon National University

GC8P-0586 The Study on Prediction of Power Generation of Offshore Wind Farm of Western and Southern Coast Utilizing Offshore Buoy Meteorological Observations Data
Moon-Seon Jeong, Chae-Joo Moon, Tae-Gon Kim, Kyung-Sung Lee, Jae-Hyeon Han, Young-Hak Chang
Mokpo National University

GC8P-0411 Active Clamp Flyback Inverter Considering Leakage Inductance of Transformer for Photovoltaic AC Modules
Ju-Suk Kang[1], Young-Ho Kim[1], Sun-Jae Youn[1], Chung-Yuen Won[1], Yong-Chae Jung[2]
[1]Sungkyunkwan University, [2]Namseoul University

GC8P-0703 Parallel System of Bidirectional DC/DC Converter for Improvement of Transient Response in DC Distribution System for Building Applications
Chi Hwan Choi[1], Soo Cheol Shin[1], Hee Jun Lee[1], Chul-ho Jung[1], Hack-Seong Kim[2], Chung Yuen Won[1]
[1]Sungkyunkwan University, [2]Dongyang Mirae University

GC8P-0659 Control Method for Reduction Circulating Current in Parallel Operation of DC Distribution System for Building Applications
Chul-Ho Jung[1], Soo-Cheol Shin[1], Hee-Jun Lee[1], Tae-Bok Jung[1], Chung-Yuen Won[1], Young-Real Kim[2]
[1]Sungkyunkwan University, [2]Anyang University

GC8P-0619 **High Efficiency for Grid-connected Modular Photovoltaic Power Conversion System**
Seung-Min Lee, Woo-Cheol Lee, Taeck-Ki Lee
Hankyong National University

GC8P-0496 **Solar Cell using the Semi-permanent Battery System Construction and Experiment**
Daihui Lee, Namjoon Kim
Daejin University

GC8P-0486 **Isolated DC/DC Converter using a Voltage Compensation Technique for Residential Photovoltaic Generation System**
An-Yeol Ko[1], Doo-Yong Jung[1], Dong-Kyun Ryu[1], Jun-Hyuk Choi[1], Yong-Chae Jung[2], Chung-Yuen Won[1]
[1]Sungkyunkwan University, [2]Namseoul University

GC8P-0371 **Comparative Performance Analysis of DC Module Integrated Converter for Photovoltaic According to Various Conditions**
Hee-Seo Lee[1], Dong-Hee Kim[1], Byoung-Kuk Lee[1], Tae-Won Lee[2]
[1]SungKyunKwan University, [2]Samsung Electro-Mechanics Co., Ltd

GC8P-0366 **Development of Controller for DC-Module Integrated Converter using Cascaded Buck-Boost Converter**
Dong-Hee Kim[1], Seung-Min Shin[1], Byoung-Kuk Lee[1], Tae-Won Lee[2]
[1]Sungkyunkwan University, [2]Samsung Electro-Mechanics Co., Ltd

GC8P-0213 **Soft Switching Single Inductor Push-Pull Converter for 250W AC Module Applications**
Sun-Jae Youn[1], Young-Ho Kim[1], Jae-Hyung Kim[1], Yong-Chae Jung[2], Chung-Yuen Won[1]
[1]Sungkyunkwan University, [2]Namseoul University

GC8P-0477 **An Adaptive Maximum Power Point Tracking Scheme based on a Variable Scaling Factor for Photovoltaic Systems**
Kui-Jun Lee, Rae-Young Kim
Hanyang University

GC8P-0377 **Control Algorithm for Portable Fuel Cell-Battery Hybrid System**
Dong-Myoung Joo[1], Dong-Gyun Woo[1], Dae-Wook Kim[2], Byoung-Kuk Lee[1]
[1]Sungkyunkwan University, [2]Osun Tech CO., LTD

GC8P-0904 **Study on the Effects of Temperature on LiFePO4 Battery Life**
Jiexun Liu, Dawei Gao, Jianhua Cao
Tsinghua University

Electromagnetic Compatibility(EMC) in xEVs (IC2)

Oct. 12, 2012 (Fri.)

IC2P (Electromagnetic Compatibility(EMC) in xEVs) Poster Presentation

Athens

Chair: Shin-Hyeong Choi (Kangwon National University) 15:00-16:10
Sung Geun Song (Korea Electronics Technology Institute)

IC2P-0542 **Research on Modeling of EV-DC/DC Converter Considering Parasitics Element**
Kibum Jung[1], Byeongchan Jo[1], Kihong Kim[2], Kwangmo Yang[2], Joohan Lee[2]
[1]E&R TECH, [2]SSANGYONG Motor Company

IC2P-0832 **Effects of Ground Connections on CISPR 25 Conducted Emission Test**
Hyun Gwi Hong[1], Beom Jin Choi[1], Eun Ha Kim[1], Seung Real Ryu[1], Jae Hyun Lee[2]
[1]Korea Automotive Technology Institute, [2]Chungnam National University

Imbedded System for Vehicle (IC3)

Oct. 12, 2012 (Fri.)

IC3P (Imbed System for Vehicle) Poster Presentation

Athens

Chair: Shin-Hyeong Choi (Kangwon National University) 15:00-16:10
Sung Geun Song (Korea Electronics Technology Institute)

IC3P-0721 **PREcup-1: An Embedded System Platform for Prototyping ECU Power Management**
Andreas Barthels[1], Florian Ruf[1], Alexander Schlenk[1], Gregor Walla[1], Hans-Ulrich Michel[2], Uwe Baumgarten[1]
[1]Technische Universitaet Muenchen, [2]BMW Group

IC3P-0815 **The Research of Sensor Node Power Management**
Shin-Hyeong Choi, Choon-Sam Kim, Dong-Kurl Kwak
Kangwon National University

Additional Paper:

Vehicle Electrification and Traction Inverter Design
Lihua Chen, V. Anand Sankaran