

2009 Japan- Korea Joint Technical Workshop on Semiconductor Power Converter

Semiconductor Power Converter (SPC) Technical Committees of
Industry Applications Society, IEE of Japan
Korean Institute of Power Electronics (KIPE)

June 26 (Friday)- 27 (Saturday), 2009
Hotel Epinard Nasu

Japan- Korea Joint Technical Workshop on Semiconductor Power Converter

Date June 26 (Friday) 2009 16:00-17:35

June 27 (Saturday) 2009 9:00-18:00

Venue

Hotel Epinard Nasu

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Semiconductor Power Converter (SPC) Technical Committees of

Industry Applications Society, IEE of Japan

Korean Institute of Power Electronics (KIPE)

Subject: General semiconductor power converters

1st session June 26 (Friday) 16:00-17:35

- 16:00-16:15 Opening ceremony
Chair Toshihisa Shimizu(Tokyo Metropolitan University)
Heung-Gun Kim (Kyungpook National University)
- 16:20-16:45 SOC Estimation based on OCV for Continuous Charging/Discharging Process in
(KIPE-SPC-01) NiMH Battery
Novie Ayub Windarko, Jaeho Choi (Chungbuk National University)
Deoksu Hyun (Sebang Global Battery Co. Ltd.)1
- 16:45-17:10 Study on An Energy Storage System with EDLC for Railway Traction Applications
(IEEJ-SPC-01) Keiichiro Kondo, Hiyoryuki Shibuya (Chiba University)7
- 17:10-17:35 A New Sensorless Control of Brushless DC Motors
(KIPE-SPC-02) Je-Wook Park, Jangmok Kim (Pusan National University)
Jin-Woo Ahn (Kyungsung University)13
- 19:00-21:00 Banquet

2nd session June 27(Saturday) 9:00-11:00

Chair: Noriyuki Kimura(Osaka Institute of Technology)

Hong-Hee Lee (Ulsan University)

- 9:00-9:25 Fundamental Verification of Controller for Power Electronics Using Dynamic
(IEEJ-SPC-02) Reconfigurable Processor
Shinsuke Oida, Koji Imamura
Takahiro Saegusa, Tomoki Yokoyama (Tokyo Denki University)19
- 9:25-9:50 FPGA Based PWM Generator for Multilevel Inverters
(KIPE-SPC-03) Quang-Vinh Tran, Tae-Won Chun, Hong-Hee Lee (University of Ulsan)
Heung-Geun Kim (Kyungpook National University)
Eui-Cheol Nho (Pukyong National University)25
- 9:50-10:15 Reduction in Ripple Current of Grid-Connected Inverter
(IEEJ-SPC-03) Zhongwei Guo, Fujio Kurokawa (Nagasaki University)31
- 10:15-10:40 Analysis and Design of Soft-switched PWM Sepic DC-DC Converter
(KIPE-SPC-04) In-Dong Kim
Jin-Young Kim, Eui-Cheol Nho (Pukyong National University)
Heung-Geun Kim (Kyungpook National University)37
- 10:40-11:00 Break

3rd session June 27 (Saturday) 11:00-12:40

Chair Tomoki Yokoyama, (Tokyo Denki University)

Namhun Kim (Cheongju University)

- 11:00-11:25 Characteristics of PFC Converter used for Induction Generation System for
(IEEJ-SPC-04) Wind Power Generation
Noriyuki Kimura, Makoto Sonoda
Toshimitsu Morizane, Katsunori Taniguchi (Osaka Institute of Technology)45
- 11:25-11:50 Analysis of SCR Thyristor Switching Operation of a 3-Phase Voltage Disturbance
(KIPE-SPC-05) Generator
Heung-Geun Kim (Kyungpook National University)
Tae-Won Chun (University of Ulsan)
Eui-Cheol Nho
Young-Ho Lee, In-Dong Kim (Pukyong National University)51
- 11:50-11:15 Discussion on AC Filter Inductor Loss in a PWM Inverter
(IEEJ-SPC-05) Toshihisa Shimizu, Hirokazu Yamaji (Tokyo Metropolitan University)55
- 12:15-12:40 Design Considerations for a Voltage Disturbance Generator With SCR Thyristors
(KIPE-SPC-06) Eui-Cheol Nho, In-Dong Kim, Heung-Soo Han (Pukyong National University)
Heung-Geun Kim (Kyungpook National University)61
- 12:40-14:00 Lunch

4th session June 27(Saturday) 14:00-15:40

Chair: Atsuo Kawamura (Yokohama National University)

Jin-Woo Ahn (Kyungsoong University)

- 14:00-14:25 A Smooth Ride: Inrush Mitigation Techniques for Voltage Sag Ride-Through
(IEEJ-SPC-06) Solutions of Critical Loads
Yu-Hsing Chen, Po-Tai Cheng (National Tsing Hua University)65
- 14:25-14:50 Drive Characteristics of Active Single-phase SR Converters
(KIPE-SPC-07) Jianing Liang, Jin-Woo Ahn (Kyungsoong University)73
- 14:50-15:15 Unity Input Power-Factor Control of Three-Phase Matrix Converters
(IEEJ-SPC-07) Takaharu Takeshita, Shuta Ishikawa (Nagoya Institute of Technology)79
- 15:15-15:40 New Direct SVM Method to Improve the Efficiency of Power Utilization on
(KIPE-SPC-08) Matrix Converters
Hong-Hee Lee, Hoang M. Nguyen, Tae-Won Chun (University of Ulsan)85
- 15:40-16:00 Break

5th session June 27 (Saturday) 16:00-17:40

Chair: Takaharu Takeshita (Nagoya Institute of Technology)

Tae-Won Chun (Ulsan University)

- 16:00-16:25 Low Voltage Ride-Through of DFIG Wind Turbine Systems Using Crowbar
(KIPE-SPC-09) Thanh Hai Nguyen, Dong-Choon Lee (Yeungnam University)91
- 16:25-16:50 A Control Method for Buck-boost Type Direct Interface Converter With DC
(IEEJ-SPC-08) Power Supply
Koji Kato, Jun-ichi Itoh (Nagaoka University of Technology)97
- 16:50-17:15 A Study on Flux Switching Motor Drive for Fan Applications
(KIPE-SPC-10) Namhun Kim (Cheongu University)
Minhuei Kim (Yeungnam College of Sci.&Tech.)
Bonsam Koo (C&M Tech. Co.)103
- 17:15-17:40 High Power Density Converter Design Based on SAZZ Topology
(IEEJ-SPC-09) Martin Pavlovsky (Kanagawa Academy of Science and Technology)
Yukinori Tsuruta, Atsuo Kawamura (Yokohama National University)109
- 17:40-18:00 Closing ceremony

19:30-21:30 Dinner meeting

20 minutes for speech and 5 minutes for discussion in each presentation.

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