## **Program Track 2**

## 2. Power Electronics Room 4

2-1 Power Electronics 1 Co-chairs: P.Viriya and H.Kubota

2-1-1 (9:45-10:15) -Invited

An Efficiency Improvement of a Switched Reluctance Motor Akira Chiba, and Hiroaki Hayashi Tokyo University of Science, Japan

## 2-1-2 (10:15-10:45)

A Position Sensorless Control Method for Switched Reluctance Motor Based on Variation of Phase Inductance Akitomo Komatsuzaki, Tatsunori Banba, and Ichiro Miki *Meiji University, Japan* 

#### 2-1-3 (10:45-11:15) - Invited

Performance Improvements of RB-IGBT based Matrix Converter fed Induction Motor Drive
Kai Sun<sup>1</sup>, Lipei Huang<sup>1</sup>, Kouki Matsuse<sup>2</sup>
1) Tsinghua University, China
2) Meiji University, Japan

2-2 Power Electronics 2 Co-chairs: A.Chiba and I.Miki

## 2-2-1 (11:30-12:10) - Invited

The Effect of Mosfet Drain-Source Capacitance on Switching Condition in Phase-Shift Series Resonant Inverter with the Load of Induction Heating Pichetjamroen Viriya, Naras Yongyuth King Mongkut's Institute of Technology Ladkrabang, Thailand

2-2-2 (12:10-12:35)

Sensor-less Drives of IPMSM Based on DC Link Current Measurement Hisao Kubota, Takayuki Kobayashi Meiji University, Japan

## 2-2-3 (12:35-13:00)

A Novel Low-Loss Medium-Voltage Inverter with Series Connected 1.2-kV IGBTs Yasushi Abe<sup>1</sup>, Kouki Matsuse<sup>1</sup>, Kunio Matsubara<sup>2</sup>, Kiyoaki Sasagawa<sup>2</sup>

- 1) Meiji University, Japan
- 2) Fuji Electric Advanced Technology Co., Ltd.

2-3 Power Electronics 3 Co-chairs: H. Kubota and Sun KAI

## 2-3-1 (15:45-16:15) - Invited

# Development of a Deeply-Buried Permanent Magnet Type Bearingless Motor Equipped with 2-pole Motor Windings and 4-pole Suspension Windings

Masatsugu Takemoto<sup>1</sup>, Satoshi Yajima<sup>1</sup>, Yoshitomo Kodama<sup>1</sup>, Yasuhiro Tanaka<sup>1</sup>, Akira Chiba<sup>2</sup>

- 1) Musashi Institute of Technology, Japan
- 2) Tokyo University of Science, Japan

## 2-3-2 (16:15-16:35)

# Performance of the Inverter with the Super Capacitor for Vector Controlled Induction Motor Drives

Koichi Yamashita, Kouki Matsuse Meiji University, Japan

#### 2-3-3 (16:35-16:55)

# Improved Performance of Voltage Utility Factor for PWM Control Method of Five-Leg Inverter

Kazuo Oka, Yusuke Nozawa, Ryuji Omata, Atsushi Furuya, Kouki Matsuse Meiji University, Japan

## 2-3-4 (16:55-17:15)

**Performance of Driving Two Permanent Magnet Synchronous Motors with Five-Leg Inverter** Yusuke Nozawa, Kazuo Oka, Ryuji Omata, Kanta Suzuki, Kouki Matsuse *Meiji University, Japan* 

2-4 Power Electronics 4 Co-chairs: K. Matsuse and I. Miki

#### 2-4-1 (17:30-17:50)

A Position Sensorless Control Method of Interior Permanent Magnet Synchronous Motor Yuji Ota and Ichiro Miki Meiji University, Japan

## 2-4-2 (17:50-18:10)

Simulation Study on Simple Vector Control of AC Machines with an LC Filter Ryosuke Saito, Hisao Kubota 2-4-3 (18:10-18:30)

Simulation Study on Sensor-less Induction Motor Drives using Estimation Error Index Tetsuya Sasao, Hisao Kubota *Meiji University, Japan* 

2-p Poster Session (14:00-15:30) Room A5

2-p-1 **Improved critical sequences for Matrix Converter commutation** Yasuhiro Nakayama, Hiroyuki Kokubun, Kouki Matsuse *Meiji University, Japan* 

2-p-2 Characteristics of Speed-Sensorless Vector Control of Parallel-Connected Multiple Induction Motor

Masahiro Taniguchi, Jun Nishimura, Kouki Matsuse Meiji University, Japan

#### 2-p-3 A Control Method for a 5-Level Double Converter

Jun Mitsuta, Shuji Matsumoto, Kouki Matsuse Meiji University, Japan

# 2-p-4 High Performance Diode Rectifier with Active Filter and assisted by Super Capacitor

Takeo Tomida, Kouki Matsuse Meiji University, Japan

#### 2-p-5 Basic Characteristics of 40kW Switched Reluctance Motor for Electric Vehicle

Ryosuke Tsuchihashi, Kenta Watanabe, Akitomo Komatsuzaki, and Ichiro Miki Meiji University, Japan

## 2-p-6 A Study on the Reduction of vibration and Acoustic Noise for Switched reluctance Motor Drive

Daisuke Tanaka, Akitomo Komatsuzaki, and Ichiro Miki Meiji University, Japan

## 2-p-7 A Position Sensorless Control for Switched Reluctance Motor

Tatsunori Bamba, Akitomo Komatsuzaki, and Ichiro Miki Meiji University, Japan

# 2-p-8 A Reduction Method of Cogging Torque in IPMSM

Hiromichi Kawano<sup>1</sup>, Atsushi Yamada<sup>1</sup>, Ichiro Miki<sup>1</sup>, and Masanori Nakamura<sup>2</sup>

- 1) Meiji University, Japan
- 2) Toyo Electric Mfg. Co., Ltd.