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Thursday, May 9 11:00 - 12:30

THB2: Static and Dynamic Wireless Charging 1

Chairs: Ben Minnaert (University of Antwerp, Belgium), Hongjie Wang (Utah State University, USA)

Thursday, May 9 11:00 - 12:30

THC2: Near-field WPT1

Chairs: Nathis Cote (CEA-LETI, France), Hiroo Sekiya (Chiba University, Japan)

Thursday, May 9 11:30 - 12:30

THA2: Advances in WPT Circuits and Systems (I)

Chairs: Masaya Tamura (Toyohashi University of Technology, Japan), Akio Wakejima (Kumamoto University, Japan)

Thursday, May 9 15:00 - 16:30

THA3: Advanced Control Methods for Dynamic Wireless Power Transfer Systems (Special Session)

Organizer: Kaiwen Chen (The Hong Kong Polytechnic University, China)

Thursday, May 9 15:00 - 16:30

THB3: Wireless Power Beam Forming and Steering Technology (Special Session)

Organizer: Shi-Wei Dong (China Academy of Space Technology (Xi'an), China)

Thursday, May 9 15:00 - 16:30

THC3: Far-field WPT1

Chairs: Tamami Maruyama (National Institute of Technology, Hakodate College, Japan), Takayuki Matsumuro (Advanced Telecommunications Research Institute International, Japan)

Thursday, May 9 17:00 - 18:30

THA4: WPT Devices for EV and High Voltage Applications

Chairs: Hiroshi Fujimoto (The University of Tokyo, Japan), Tamami Maruyama (National Institute of Technology, Hakodate College, Japan)

Thursday, May 9 17:00 - 18:30

THB4: Static and Dynamic Wireless Charging 2

Chairs: Huawei Yuan (The University of Hong Kong, Hong Kong), Toshiyuki Fujita (The University of Tokyo, Japan)

Nozomi Murayama and Takehiro Imura (Tokyo University of Science, Japan); Yoichi Hori (Tokyo University, Japan)

Thursday, May 9 17:00 - 18:30

THC4: Near/Far-field WPT

Chairs: Simon Hemour (University of Bordeaux, France), Takashi Hirakawa (SoftBank Corporation, Japan)

Friday, May 10 11:00 - 11:30

Keynote 4: Listening to the Whispers: Enhanced SWIPT Wake-Up Receiver for IoT Sensors

Speaker: Dominique Schreurs (KU Leuven, Belgium)

Chair: Qiaowei Yuan (Tohtech, Japan)

Abstract:

To address the challenges of energy constraints in Wireless Sensor Networks (WSNs) and Internet of Things (IoT) devices, this work presents an enhanced wake-up receiver for Simultaneous Wireless Information and Power Transfer (SWIPT) applications. The proposed design incorporates a passive 2 × 2 Multiple-Input Multiple-Output (MIMO) antenna configuration, which enhances the sensitivity and reliability of detecting wakeup signals under diverse environmental conditions. The architecture also includes a 2stage rectifier and operational amplifiers (op-amps) to efficiently harvest energy from radio-frequency (RF) signals. An important breakthrough is the integration of backscattering technology, which allows the wake-up receiver to support battery-less operations in IoT networks. This effectively minimizes energy consumption and prolongs the

lifespan of the devices. The double capacity of the receiver to activate sensor nodes and transmit data through radio frequency signals provides a practical and environmentally friendly solution for the IoT.

Friday, May 10 11:30 - 12:30

FRA2: Static and Dynamic Wireless Charging 3

Chairs: Chengbin Ma (Shanghai Jiao Tong University, China), Sakahisa Nagai (The University of Tokyo, Japan)

Friday, May 10 11:30 - 12:30

FRB2: Advances in WPT Circuits and Systems (II)

Chairs: Heng-Ming Hsu (National Chung Hsing University, Taiwan), Mamiko Inamori (Tokai University, Japan)

Friday, May 10 11:30 - 12:30

FRC2: Far-field WPT2

Chairs: Neil Buchanan (Queens University of Belfast, United Kingdom (Great Britain)), Tomohiko Mitani (Kyoto University, Japan)

Friday, May 10 13:30 - 15:00

FRD1: Poster Session 1

Chairs: Mamiko Inamori (Tokai University, Japan), Ryo Ishikawa (University of Electro-Communications, Japan), Takashi Hikage (Hokkaido University, Japan), Tsunayuki Yamamoto (National Institute of Technology, Tsuyama College, Japan)

Friday, May 10 15:00 - 16:30

FRB3: High Performance Microwave and RF Power Rectification Techniques (Special Session)

Organizer: Changjun Liu and Jiafeng Zhou (University of Liverpool, United Kingdom)

Friday, May 10 15:00 - 16:30

FRC3: Energy Harvesting/Scavenging

Chairs: Koji Kotani (Akita Prefectural University, Japan), Tsunayuki Yamamoto (National Institute of Technology, Tsuyama College, Japan)

Saturday, May 11 9:00 - 10:30

SAA1: Acoustic, Optical, Solar and Omni-Directional Transfer

Chairs: Sangwook Nam (Seoul National University, Korea (South)), Jiafeng Zhou (University of Liverpool, United Kingdom (Great Britain))

Saturday, May 11 9:00 - 10:30

SAB1: Technologies for Wireless Power Transfer and its Applications

Chairs: Yoshiaki Narusue (Tokyo University, Japan), Francescaromana Maradei (University of Rome La Sapienza, Italy)

Saturday, May 11 9:00 - 10:30

SAC1: Near-field WPT2

Chairs: Hiroshi Yoda (Railway Technical Research Institute, Japan), Tianxu Feng (Chongqing University of Posts and Telecommunications, China)

Saturday, May 11 11:00 - 11:30

Keynote 7: High Power Electric Generation and WPT Demonstration Mission

Speaker: Xinbin Hou (China Academy of Space Technology, China)
Chair: Bo Yang (Kyoto University, Japan)

Abstract:
Space Solar Power is important development directions for the world to tackle the climate change. High power generation and long distance wireless power transmission are the most important technologies of SSP and need to be demonstrated step by step to meet the demand to construct the commercial SSP. This paper presents a proposed firststep demonstration mission in space. The mission includes a main spacecraft and an energy receiving spacecraft in LEO. The main spacecraft will emit about 4kW microwave and 1km laser to the receiving station on ground to demonstration the WPT chain. At same time, the receiving spacecraft will receive laser to demonstrate LPT in space.

Saturday, May 11 11:30 - 12:30

SAA2: Dynamic Wireless Power Transfer for Electric Vehicle Charging (Special Session)

Organizer: Seho Kim (The University of Auckland, New Zealand)

Saturday, May 11 11:30 - 12:30

SAB2: High Power and Dynamic Wireless Power Transfer Technology

Chairs: Nejila Parspour (University of Stuttgart, Germany), Minoru Okada (Nara Institute of Science and Technology, Japan)

Saturday, May 11 11:30 - 12:30

SAC2: High Power Transfer and Detection on Inductive Coupling

Chairs: Ching-Ming Lai (National Chung Hsing University, Taiwan), Yun Yang (Nanyang Technological University, Singapore)

Saturday, May 11 13:30 - 15:00

SAD1: Poster Session 2

Chairs: Takehiro Imura (Tokyo University of Science, Japan), Xiuqin Wei (Chiba Institute of Technology, Japan), Akio Wakejima (Nagoya Institute of Technology, Japan), Naoki Sakai (Kanazawa Institute of Technology, Japan), Hiroyuki Tani (Panasonic Holdings Corporation, Japan), Asako Suzuki (Fujiwaves CO.,LTD, Japan), Tatsuya Hosotani (Murata Manufacturing Co., Ltd., Japan), Kanako Wake (National Institute of Information and Communications Technology, Japan)

Saturday, May 11 15:00 - 16:30

SAB3: Near-field WPT3

Chairs: Ben Minnaert (University of Antwerp, Belgium), Seungyoung Ahn (Korea Advanced Institute of Science and Technology, Korea (South))

Saturday, May 11 15:00 - 16:30

SAC3: Microwave Power Transmitter, Rectifier, Backscattering, and RFIDs

Chairs: Nuno Borges Carvalho (Universidade de Aveiro, Portugal), Simon Hemour (University of Bordeaux, France)