

電磁環境/マグネティックス合同研究会

[委員長] 山崎健一 (電力中央研究所)
[幹事] 石上 忍 (東北学院大学), 池畑正輝 (鉄道総合技術研究所)
[幹事補佐] 井瀨貴章 (大阪大学)

[委員長] 山口 正洋 (東北大学)
[幹事] 小原 学 (明治大学), 山田 啓壽 (東芝)

日 時 平成30年11月22日 (木) 9:00~17:40
平成30年11月23日 (金) 9:00~11:30

場 所 National Nano Fab Center (NNFC),
Korea Advanced Institute of Science and Technology (KAIST), South Korea

連 催 IEICE Technical Committee on Electromagnetic Compatibility (EMCJ)

協 賛 IEEE EMC Society Sendai Chapter
IEEE EMC Society Japan Joint Chapter
Japan National Committee of URSI (URSI-JNC)

議 題 テーマ「EMC 一般 (EMC Joint Workshop, 2018, Daejeon)」

Thu, Nov. 22 Regular session 9:00 - 10:30

9:00-9:10 Opening Address (10 min.)

EMC-18-047 EMI Reduction Method for Wireless Charging Mobile Devices Application
MAG-18-119 using Planar Resonance Reactive Shield
○Jaehyoung Park, Seungyoung Ahn (Korea Advanced Institute of Science and Technology)

EMC-18-048 Study of Non-contact Heartbeat Sensing Method using EM Waves Passing through the
MAG-18-120 Human Body
○Kazutaka Mitsui, Jianqing Wang, Daisuke Anzai (Nagoya Institute of Technology),
Takashi Saito, Hiroyuki Mori, Shunsuke Shibata (SOKEN),
Kouichi Yamada (DENSO)

EMC-18-049 ESD Evaluation of Wireless Myoelectric Artificial Hand with Bio-Equivalent Arm Phantom
MAG-18-121 ○Keinosuke Nagai, Daisuke Anzai, Jianqing Wang (Nagoya Institute of Technology)

EMC-18-050 Design of Differential Transmission Lines with Periodic Structure for Crosstalk Suppression
MAG-18-122 by Preference Set-based Design Method
○Hiroaki Takeda, Kengo Iokibe, Yoshitaka Toyota (Okayama University)

10:30-10:50 Break (20 min.)

Thu, Nov. 22 Invited Talk 10:50 - 12:10

- EMC-18-051 [Invited Talk]
 MAG-18-123 Novel numerical analysis based on the finite-difference time-domain method
 in the low frequencies bands
 ○SangWook Park (KATECH), Minhyuk Kim (Samsung),
 Hyun-Kyo Jung (Seoul National University), EunHa Kim (KATECH)
- EMC-18-052 [Invited Talk]
 MAG-18-124 Security Simulation of Cryptographic Module in Side-Channel Analysis Attack
 ○Kengo Iokibe (Okayama University)

12:10-13:40 Lunch Break (90 min.)

Thu, Nov. 22 Regular session 13:40 - 15:00

- EMC-18-053 Fast and Accurate Modeling of Power Distribution Network (PDN) for a Silicon Interposer
 MAG-18-125 ○Kyungjun Cho, Youngwoo Kim, Subin Kim, Hyunwook Park,
 Joungho Kim (Korea Advanced Institute of Science and Technology)
- EMC-18-054 Investigation of CAN transceiver and controller response to electromagnetic disturbance by
 MAG-18-126 using current injection probe
 ○Ryunosuke Isshiki, Kengo Iokibe, Takuya Kusaka,
 Tetsushi Kamegawa, Yasuyuki Nogami (Okayama University)
- EMC-18-055 A Novel Eye-Diagram Estimation Method for Pulse Amplitude Modulation with N-level on
 MAG-18-127 Stacked Through Silicon Vias
 ○Junyong Park, Youngwoo Kim, Kyungjun Cho, Seongsoo Lee,
 Joungho Kim (Korea Advanced Institute of Science and Technology)
- EMC-18-056 Electromagnetic radiation by IC chip and evaluation of mobile communication interference
 MAG-18-128 ○Yoshifumi Sugimoto, Koh Watanabe, Makoto Nagata, Noriyuki Miura (Kobe University),
 Yasunori Miyazawa, Satoshi Tanaka, Masahiro Yamaguchi (Tohoku University)

15:00-15:10 Break (15 min.)

Thu, Nov. 22 Poster session 15:10 - 16:10

- EMC-18-057 [Poster Presentation]
 MAG-18-129 Fundamental Study on Degradation of Randomness in TRNG Due to Intentional
 Electromagnetic Interference
 ○Saki Osuka, Daisuke Fujimoto (Nara Institute of Science and Technology),
 Naofumi Homma (Tohoku University),
 Arthur Beckers, Josep Balasch, Benedikt Gierlich, Ingrid Verbauwhede (KU Leuven),
 Yu-ichi Hayashi (Nara Institute of Science and Technology)
- EMC-18-058 [Poster Presentation]
 MAG-18-130 WideBand Equivalent Circuit Model of Through-Silicon-Via with MOS Capacitance Effect
 ○Kibeom Kim, Seungyoung Ahn (Korea Advanced Institute of Science and Technology)
- EMC-18-059 [Poster Presentation]
 MAG-18-131 A Specification Method of Faulty Bytes in Cryptographic Module Using EM Information
 Leakage
 ○Naoto Saga (Tohoku University),
 Yu-ichi Hayashi (Nara Institute of Science and Technology),
 Takaaki Mizuki, Hideaki Sone (Tohoku University)
- EMC-18-060 [Poster Presentation]
 MAG-18-132 Design and Analysis of EMI Shielding Method using Intermediate Coil for Train WPT
 System

- Seongsoo Lee, Seungtaek Jeong, Seokwoo Hong, Boogyo Sim,
Kyungjun Cho, Junyong Park,
Joungho Kim (Korea Advanced Institute of Science and Technology)
- EMC-18-061 [Poster Presentation]
MAG-18-133 Suppression Method of Near Magnetic Field Leaking from Ventilation Holes of Metallic Enclosure
○Hiroshi Takahara, Shinichiro Yamamoto, Kenichi Hatakeyama (University of Hyogo), Tohru Iwai (Kawasaki Techno), Satoru Aikawa, Masakazu Morimoto (University of Hyogo)
- EMC-18-062 [Poster Presentation]
MAG-18-134 Design and Analysis of Receiver Channels of Glass Interposers for 5G Small Cell Front End Module
○Gapyeol Park, Youngwoo Kim, Kyungjun Cho, Junyong Park, Kyungjune Son, Hyunwook Park (Korea Advanced Institute of Science and Technology), Atom Watanabe, Pulugurtha Markondeya Raj, Venky Sundaram, Rao Tummala (Georgia Tech), Joungho Kim (Korea Advanced Institute of Science and Technology)
- EMC-18-063 [Poster Presentation]
MAG-18-135 Analysis of Undesired Emission From Microstrip Line With Ground Slot Using Transmission Line Method
○Kento Kanai, Teruo Tobana, Yoji Isota (Akita Prefectural University)
- EMC-18-064 [Poster Presentation]
MAG-18-136 Noise coupling path analysis of RF Interference in a Vehicular Electronic System
○Jangyong Ahn, Seungyoung Ahn (Korea Advanced Institute of Science and Technology)
- EMC-18-065 [Poster Presentation]
MAG-18-137 Numerical Simulation of Abdominal Fat Measurement by Through-hole Wave Guide with Realistic Voxel Model
○Nobuaki Tanaka, Takahiro Aoyagi (Tokyo Institute of Technology)
- EMC-18-066 [Poster Presentation]
MAG-18-138 An Electromagnetic Field Reduction Method for Inductive Power Transfer in Transportation System
○Jedok Kim, Seungyoung Ahn (Korea Advanced Institute of Science and Technology)
- EMC-18-067 [Poster Presentation]
MAG-18-139 Study on Estimation of Sensing Timing Based on Observation of EM Radiation from Ultrasonic Range Finder
○Daisuke Fujimoto, Yu-ichi Hayashi (Nara Institute of Science and Technology)
- EMC-18-068 [Poster Presentation]
MAG-18-140 Ground Integrity Analysis in an On-chip Low-Dropout Regulator to PCB Hierarchical Power Distribution Network
○Shinyoung Park, Subin Kim, Joungho Kim (Korea Advanced Institute of Science and Technology)
- EMC-18-069 [Poster Presentation]
MAG-18-141 EM Shielding Effectiveness of Artificial Designed Materials from Microwave to Millimeter-wave Band
○Takaki Nishiuchi, Shinichiro Yamamoto, Kenichi Hatakeyama (University of Hyogo), Tohru Iwai (Kawasaki Techno), Satoru Aikawa, Masakazu Morimoto (University of Hyogo)
- EMC-18-070 [Poster Presentation]
MAG-18-142 Influence of IEMI considering injected signal phase on faulty outputs in a cryptographic module
○Mitsuki Takenouchi (Tohoku University), Yu-ichi Hayashi (Nara Institute of Science and Technology), Takaaki Mizuki, Hideaki Sone (Tohoku University)
- EMC-18-071 [Poster Presentation]
MAG-18-143 Signal Integrity Analysis for High-speed Memory Test Interface using Data Capture PCB
○Hyesoo Kim, Kyungjun Cho, Seongguk Kim, Joungho Kim (Korea Advanced Institute of Science and Technology)
- EMC-18-072 [Poster Presentation]
MAG-18-144 Improvement of broadband artificial network (BAN) to evaluate immunity of CAN-FD to

- conducted disturbance
 ○ Yuya Mii, Tohlu Matsushima, Yukihiro Fukumoto (Kyushu Institute of Technology)
- EMC-18-073 [Poster Presentation]
 MAG-18-145 Fundamental study on a detection method against EM side-channel attacks
 using noise distributed around a module
 ○ Shinpei Wada, Daisuke Fujimoto, Yuichi Hayashi (Nara Institute of Science and Technology)
- EMC-18-074 [Poster Presentation]
 MAG-18-146 Design, Analysis and Implementation of Smartwatch Strap Wireless Power Transfer System
 using Flexible Coil and Shielding Materials
 ○ Seungtaek Jeong, Seongsoo Lee, Seokwoo Hong, Boogyo Sim, Subin Kim, Shinyoung Park, Joungho Kim (Korea Advanced Institute of Science and Technology)
- EMC-18-075 [Poster Presentation]
 MAG-18-147 Estimation of discharge current using a shielded loop probe caused by micro-gap ESD in
 spherical electrode
 ○ Masato Oikawa, Ken Kawamata, Shinobu Ishigami, Shigeki Minegishi (Tohoku-Gakuin University), Osamu Fujiwara (Nagoya Institute of Technology)
- EMC-18-076 [Poster Presentation]
 MAG-18-148 Fundamental Study on Reproducibility of Faulty Outputs from Cryptographic Module Using
 TEM Cell
 ○ Taiyo Suzuki (Tohoku-Gakuin University), Yuichi Hayashi (Nara Institute of Science and Technology), Shinobu Ishigami, Ken Kawamata, Shigeki Minegishi (Tohoku-Gakuin University)

16:10-16:20 Break (10 min.)

Thu, Nov. 22 Invited Talk 16:20 - 17:40

- EMC-18-077 [Invited Talk]
 MAG-18-149 Statistical Eye-diagram Estimation Method Considering Power/Ground Noise Generated by
 Simultaneous Switching Output Buffers
 ○ Youngwoo Kim, Junyong Park, Kyungjun Cho, Joungho Kim (Korea Advanced Institute of Science and Technology)
- EMC-18-078 [Invited Talk]
 MAG-18-150 Evaluation and compensation of common mode voltage induced on the differential voltage
 probe in floating measurement of high voltage power electronics circuit
 ○ Tsuyoshi Funaki, Kei Hayashi, Takaaki Ibuchi (Osaka University)

Thu, Nov. 22 Banquet 18:30 - 20:30

Fri, Nov. 23 Regular session 9:00 - 10:20

- EMC-18-079 Magnetic Powder Composite Noise Suppressor to be Embedded in IC Chip Interposer
 MAG-18-151 Akihiro Takahashi, Mitsuharu Sato, Yasunori Miyazawa, Satoshi Tanaka,
 ○ Masahiro Yamaguchi (Tohoku University), Kosuke Jike, Koh Watanabe, Yoshifumi Sugimoto, Noriyuki Miura, Makoto Nagata (Kobe University)
- EMC-18-080 Magnetic Field Shielding Effectiveness Measurement and Comparative Analysis of Package
 MAG-18-152 Level Shielding Materials
 ○ Kyunghwan Song, Jounho Kim, Seungyoung Ahn (Korea Advanced Institute of Science and Technology)
- EMC-18-081 A study on common and differential mode separation for conducted disturbance measured
 MAG-18-153 with DP-LISN
 ○ Shunji Mori, Takaaki Ibuchi, Tsuyoshi Funaki (Osaka University)

EMC-18-082 Quasi-distributed constant line filter mounted on actual equipment: Relationship between
MAG-18-154 conductive noise suppression effect and parasitic capacitance of substrate
○Yusuke Ohdaira, Masaki Kurimoto, Koichi Kondo, Koki Harada (TOKIN)

10:20-10:40 Break (20 min.)

Fri, Nov. 23 Invited talk 10:40 - 11:20

EMC-18-083 [Invited Talk]
MAG-18-155 Measurements of electromagnetic radiation disturbance for heavy WPT systems -- For
Activity at CISPR B/WG1/Ad-hoc Group 5 & 6 --
○Yangbae Chun, Seungyoung Ahn (Korea Advanced Institute of Science and Technology)

11:20-11:30 Closing Address (10 min.)

◎ 講演時間

ポスター講演：フロアディスカッション60分
一般講演：1件あたり20分（質疑応答を含む）
特別講演：1件あたり40分（質疑応答を含む）

◎ 2日目(11/23)の午後に、KAIST 施設見学会が計画中となっております（詳細は未定）

◎最新プログラムや見学会情報は下記 URL（EMC Joint Workshop 2018 Daejeon 特設ページ）等をあわせてご参照ください

http://www.ieice.org/~emcj/jpn/regular/emcj-ws2018_02.html