FOREWORD

Special Section on 2nd Pan-Pacific EMC Joint Meeting — PPEMC'06 —

This issue is dedicated to presenting technical results that were discussed in the 2nd Pan-pacific EMC meeting — or PPEMC'06 — held May 25–26, 2006, at Okayama University, which was operated by the IEICE Technical Committee on Electromagnetic Compatibility.

"Electromagnetic compatibility, EMC" is a key subject when an electronic product is put into practical use. Electromagnetic emissions from a device should be controlled within a prescribed level, and devices must endure high electromagnetic radiation from outside. Otherwise a system that comprises many electronic devices will fall into confusion and lose their required function. These factors are called "emission" and "immunity" in the field of EMC, and compatibility is required between them. "The prescribed level" should be described in the degree of effects of the object that is exposed to electromagnetic radiation.

Emissions from an electronic device annoy engineers who design, produce and put the devices on the market. Electromagnetism in and around a printed circuit board (PCB) as well as around a cable which is indispensable in practical applications are of the prime interest for the designer to improve the EMC performances. Electro-static discharge is still the subject of examination though human beings have known about it for thousands of years: the phenomenon is still too fast for measurement. Measurement for EM radiation is also a key technology: probes of wider-bandwidth, smaller-profile and more versatility are still required and new devices are proposed in response to the requirements. New materials are required to solve problems and overcome limitations that are intrinsic to traditional materials. New materials as "exotic" materials which have artificial electromagnetic structure must be exploited to solve electromagnetic problems, not only materials that are invented through chemical research.

PPEMC'06 was held in Okayama University as the third venue since the meeting began in 2004 as a trial. Another objective of PPEMC meetings is to give researchers from Pan-pacific area opportunities to see together between the period of five years in which Japanese International Symposium on EMC is held. The Symposium on EMC is held every five years and is rapidly growing bigger and more sophisticated. However, the period of five-year is too long to keep EMC members in close contact with each other and to accommodate EMC novices. Thus EMCJ committee has launched the PPEMC to prepare for the coming International EMC Symposium held in 2009, Kyoto. People who got together in preceeding PPEMC's are again to meet at EMC'09.

For PPEMC'06, 17 papers were contributed for normal papers, with 15 ultimately accepted. Four researchers from Korea, Taiwan, Australia and the Netherlands were invited to present their specific subjects. After the PPEMC'06 meeting, 11 papers were contributed to his issue and 10 of them were accepted by the editorial team.

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Ryuji Koga, Guest Editor-in-Chief

Ryuji Koga *(Member)* was born in Tokyo, Japan, on January 1, 1945. He received B.E., M.E., and Dr. E. in Electrical Engineering from Kyoto University, Japan, in 1967, 1969 and 1975, respectively. From 1972 to 1976 he was with the Atomic Energy Institute, Kyoto University. Then he moved to the Department of Electronics, Okayama University, as a Lecturer in 1976. He is now a Professor of the Graduate School of Natural Science and Technology, as well as of the Department of Communication Network Engineering, Faculty of Engineering, Okayama University. Prof. Koga is the Chairman of Technical Committee on Electromagnetic Compatibility (EMCJ) which is a unit of the Institute of Electronics, Information and Communication Engineers (IEICE). Since his university days he has enjoyed flying gliders in cooperation with his students and friends.

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