Technical Committee on Electromagnetic Compatibility

1. Objective

The Technical Committee on Electromagnetic Compatibility deals with technical requirements in fields related to the "electromagnetic environment" or "electromagnetic compatibility (EMC)." "Electromagnetic environments" are roughly divided into environments in which electromagnetic fields are present and are generated by natural phenomena such as lightning and earthquakes, and environments in which electromagnetic fields are present and are generated by man-made systems, such as electrical and electronic equipment. In addition, "EMC (Electromagnetic Compatibility)" is defined as "the capability of a device or system to not produce electromagnetic interference in other machines or systems and enable a machine or system to function normally under the electromagnetic environment in which the machine or system is present." This technical committee serves the following objectives:

(1) Investigate the causes and actual conditions of electromagnetic interference
(2) Establish measurement techniques and countermeasures for EMC
(3) Invigorate research in related fields and guide engineers in relevant fields
(4) Provide information and knowledge to the IEEJ members
(5) Contribute to improvement in technology in relevant fields through exchange with related committees of the IEEJ and other academic societies

2. Fields of activity

This technical committee conducts research and investigation in the following fields:

- ○ Electromagnetic interference generation factors (high voltage, static electricity, large current, discharge, power electronics equipment, etc.) and target equipment
- ○ Actual conditions of electromagnetic interference
- ○ Measurement techniques for EMC
- ○ Electromagnetic interference countermeasures
- ○ Domestic and overseas EMC-related standards

3. Activity content

The main activities of this technical committee are as follows:

- ○ Technical committee meetings: 4 times a year
- ○ Secretariat: 4 times a year
- ○ Technical Meetings: 2 or 3 times a year for sponsored Technical Meetings and once a year for independent Technical Meetings
- ○ Investigation committee: Four investigation committees are active in fiscal year 2021.

4. Introduction to activities

Currently, the following four investigating R&D committees are active:

・Measurement and Evaluation Technology for EMC Investigation of ESD Phenomena

(Chairperson: Takahiro Yoshida, Professor, Tokyo University of Science)

・System and EMC Investigation in IoT Era (Chairperson: Shinji Tsuzuki, Professor, Ehime University)

・ Trends on Basic Technologies for Advanced Assessment of Electromagnetic Exposure
(Chairperson: Yukihisa Suzuki, Professor, Tokyo Metropolitan University)

・Human Health Risk Assessment of Electromagnetic Fields (The Third Term)
(Chairperson: Masaharu Ikehata, Railway Research Institute)

Another activity is "Round-table Talk on Discharge EMC Problems," which includes discussion on ESD-related experimentation three to four times a year. Activities are currently suspended due to the COVID-19 pandemic.

5. Committee members

Position	Name	Affiliation
Chairperson	Shinobu Ishigami	Tohoku Gakuin University
Primary member	Takeshi Ishida	Noise Laboratory Co., Ltd.
〃	Hiroshi Ichikawa	Tokyo Electric Power Company Holdings, Inc.
〃	Tomo Ushio	Osaka University
〃	Chiyoji Okubo	Japan Electrical Safety & Environment Technology Laboratories
〃	Yoshitsugu Kamimura	Utsunomiya University
〃	Shinji Seto	Nippon Automatic Control Co.
〃	Masao Taki	Tokyo Metropolitan University
〃	Masamitsu Tokuda	The University of Tokyo
〃	Katsumi Nakamura	Denso Corporation
〃	Yuichi Hayashi	Nara Institute of Science and Technology
〃	Hiroyuki Hayama	Kansai Transmission and Distribution, Inc.
〃	Akimasa Hirata	Nagoya Institute of Technology
〃	Yukio Mizuno	Nagoya Institute of Technology
〃	Ryoji Yoshino	Environmental Research Office
〃	Kanako Wake	National Institute of Information and Communications Technology
〃	Osami Wada	Kyoto University
Secondary member	Takahiro Yoshida	Tokyo University of Science
〃	Yukihisa Suzuki	Tokyo Metropolitan University
Secretary	Masateru Ikehata	Railway Technical Research Institute
Assistant secretary	Takaaki Ibuchi	Osaka University
Observer	Ken Kawamata	Tohoku Gakuin University
〃	Osamu Fujiwara	The University of Electro-Communications
〃	Tsuyoshi Funaki	Osaka University
〃	Kenichi Yamazaki	Central Research Institute of Electric Power Industry

(October 31st, 2021)

6. Investigating R&D Committees

・Measurement and Evaluation Technologies to Clarify ESD Phenomena from EMC Perspectives
・Trends in Basic Technologies for Advanced Dosimetries of Electromagnetic Exposure
・Health Risk Analysis of Electromagnetic Fields (The Third Term)