

## Commission E (Electromagnetic Noise and Interference) Activity Report

July 2018 - March 2019

Commission E in Japan is holding technical meetings and sub-committee activities in collaboration with the Technical Committee on Electromagnetic Compatibility (EMCJ) of the Institute of Electronics, Information and Communication Engineers (IEICE), the Technical Committee on Electromagnetic Compatibility of the Institute of Electrical Engineers of Japan (IEEJ-EMC), IEEE EMC Society Japan Joint Chapter and Sendai Chapter, and some related technical groups.

### **New committee members**

Sixteen new committee members for Commission E of Japan National Committee (24th) were approved during the committee meeting held on 27 July in Tokyo.

### **Domestic academic activities of EMCJ and IEEJ-EMC:**

#### **1. Regular EMCJ Meetings**

The EMCJ of IEICE had 6 regular technical meetings in the period of July 2018 to March 2019. These regular meetings were technically co-sponsored by IEEE EMC Society Japan Joint Chapter and IEEE EMC Society Sendai Chapter. Three of them were co-organized with Technical Committee on Electromagnetic Compatibility of the Institute of Electrical Engineers of Japan (IEEJ-EMC). In total 118 regular technical reports including 5 invited talks were presented.

( <http://www.ieice.org/ken/program/index.php?instsoc=IEICE-B&tgid=IEICE-EMCJ> )

The featuring technical topic of the October meeting was “EM Simulation , EMC and Microwaves” and co-organized with the Technical Committee on Microwaves (MW of IEICE) and Electronics Simulation Technology (EST of IEICE). The November 2018 meeting was held in Korea Advanced Institute of Science and Technology (KAIST), Daejeon, Korea, co-organized with the IEE-EMC Committee and IEE-MAG committee. The second meeting in July 2018 was held as the annual “EMCJ Young Researchers' Presentation Meeting” which is co-sponsored by the Japan Institute of Electronics Packaging (JIEP) Electromagnetic Technology Committee. The March meeting was co-organized by the Technical Committee on Healthcare and Medical Information Communication Technology (MICT) of IEICE.

### **Domestic academic activities in the field of natural electromagnetic noise:**

Commission E members in Japan working actively in the field of natural electromagnetic noise are presented their research results in the following meetings and/or symposiums.

## 1. International conference/workshop

### (1) 2019 URSI Asia-Pacific Radio Science Conference

This is one of the signature international meetings related to URSI and held every three years. In 2019 meeting was held from 9 ~ 15 March in India Habitat Centre, New Delhi, India (<http://aprasc2019.com>) and was very successful. More than 950 papers in relation with all aspects of radio science across 10 commissions were submitted and ~ 700 participants were registered.

Regarding activities of commission E members of Japan National Committee (JNC) of URSI,  
 -The keynote lecture for commission F was delivered by Prof. Tomoo Ushio (Tokyo Metropolitan University).

Title: Multi-satellite Global Satellite Mapping of Precipitation (GSMaP) - Design and Products

-Joint session 'EM Noise and Radio Remote Sensing Applications in Terrestrial and Planetary Environment' were proposed and organized by Prof. Yasuhide Hobara (UEC, Tokyo), Dr. Sujay Pal (University of Calcutta) and Prof. Subra Ananthakrishnan (University of Pune). Seven oral papers were presented (including two invited talks) in the session such as modeling ionospheric perturbation using VLF/LF transmitter signals, lightning observations with extreme weather events, optical and radio signal observations from International Space Station, Schumann resonance, seismo-electromagnetics, EM interference in radar observation etc.

### (2) American Geophysical Union (AGU) Fall Meeting 2018

This international conference is held every year in December in USA and the largest one in the field of Earth and space science. In 2018, the meeting was held in Washington D.C. from 10 to 14 December. About 28000 scientists were attended. Several URSI-E committee members were presented the papers in the field of atmospheric electricity and seismo-electromagnetics.

## 2. Domestic conference/workshop

### (1) Society of Atmospheric Electricity of Japan (SAEJ) annual meeting 2019

This is an annual meeting held in January. In 2019, the meeting was held in the satellite campus of University of Gifu on 11 and 12 January and 61 scientific papers were presented. Several URSI-E committee members were presented the papers related to the areas covered by Commission E.