

Commission A (Electromagnetic Metrology) Activity Report

July 2011 - October 2012

1. International Meetings in the Period

In the 30th General Assembly and Scientific Symposium of URSI held in Istanbul, Turkey, in August 2011, commission A hosted following 9 sessions including joint sessions with other commissions.

A02 – Fractals - Design and Measurement

A03 – Time Scale

A04 – EM Materials

AB – Antenna Measurement

ABD – Low Noise Microwave Generation

AC – Communication Metrology

AD – Optical Frequency Metrology

AGJ – Pulsar Timing and Time Transfer

AT – Single Electron Tunneling (SET)

From Japan, 4 papers from Shonan Institute of Technology, University of Electro-Communications, National Institute of Information and Communications Technology (NICT) were presented in the A03, ABD, and AGJ sessions. AD session was chaired by a researcher from National Metrology of Japan (NMIJ) where 10 papers were presented including 4 papers from Japan.

The General Assembly and Related Meetings of Asia-Pacific Metrology Program (APMP) was held in Kobe International Conference Center from December 4 to December 9, 2011. NMIJ hosted the meetings with collaborations from NICT, Chemicals Evaluation and Research Institute (CERI), and Japan Electric Meters Inspection Corporation (JEMIC).

The 43rd Annual Precise Time and Time Interval Systems and Applications (PTTI) Meeting was held at Long Beach, California, USA, in November 2011.

The Conference of Precision Electromagnetic Measurements (CPEM) 2012 was held at Washington DC, USA, from July 1 to 6, 2012. In this conference, GT-RF meeting was held, and 10 papers from NMIJ were presented.

The 28th General Assembly of International Astronomical Union was held in National Conference Center of China, in Beijing, China, from August 20 to 31, 2012. In relation to Electromagnetic Metrology, “Space-time Reference Systems for Future Research” was held as a joint discussion session. From Japan, two papers were presented from NICT. During the General Assembly, Dr. Mizuhiko Hosokawa from NICT was elected as the President of Commission 31 for Time. The term of the President is 3 years until the next General Assembly to be held in Hawaii, USA, in 2015.

The 19th Meeting of Consultative Committee for Time and Frequency (CCTF) was held in International Bureau of Weights and Measures in Sèvres, France, on September 13 and 14, 2012. From Japan, representatives from NMIJ and NICT participated in the meeting.

The International Workshop on Ultracold Group II Atoms was held in Koganei Campus of NICT, Tokyo, from October 9 to 12, 2012. Recent achievements in the experimental and theoretical aspects on cooling, trapping, and applications of ultracold Group II atomic species (Mg, Ca, Sr, Ba, Ra, Zn, Cd, Yb, Hg) were presented. 3 papers were given from NICT and 2 papers were given from NMIJ.

The Progress In Electromagnetics Research Symposium (PIERS2012) was held in Kuala Lumpur from March 27 to 30, 2012. 3 papers from NMIJ were presented, and Dr. Masahiro Horibe organized the Microwave and Millimeter-wave Measurement session.

IMS/ARFTG was held in Montreal, Canada from June 22, 2012. 2 papers were presented from NMIJ regarding millimeter-wave coaxial vector network analysis (VNA) and terahertz waveguide VNA metrology.

Thailand-Japan Microwave (TJMW2012) was held at Bangkok, Thailand, from August 7 to 10, 2012, and Dr. Masahiro Horibe made invited talk.

The 37th International Conference on Infrared, Millimeter and Terahertz Waves (IRMMW-THz2012) was held in Wollongong, Australia from September 23 to 28, 2012. 5 papers regarding a dry calory meter for electromagnetic wave power standard in D-band frequency range, etc., were presented.

2. Future Meetings

The General Assembly and Related Meetings of APMP will be held in Wellington, New Zealand from November 25 to 30, 2012. The 44th Annual PTTI Meeting will be held in Reston, USA, from November 26 to 29, 2012.