

September 15, 2017

Activity Report of URSI-F

Reported by Y. Maekawa (Chair)

1. Commission meetings in the period of April 2017 – September 2017(For more detail, please see <http://ursi-f.nict.go.jp/>)

- (1) No. 613 Meeting
Date: April 26, 2017 Place: Tohoku University (Miyagi)

Four papers were presented:

1. A Study of 3D Measurement of Synthetic Aperture Radar Images Using Stereo Vision
2. Researches in Numerical Simulation of Short Wave Propagation with Account for Global 3D Models of Ionosphere and Terrestrial Magnetic Field
3. On the Use of EM Propagation and GB-SAR Interferometry to Estimate the Atmosphere Phase Delay in a Scene
4. Estimation of Cross-Polarization Discrimination of Ka-band Satellite Communication Signals in Thunderstorm Events

- (2) No. 614 Meeting
Date: May 18-19, 2017 Place: Hotel MERIEGES (Miyazaki)

This meeting was held under the co-sponsorship of IEICE Technical Committee on AP and IEEE AP-S Fukuoka Chapter. Four papers relevant to the field of URSI-F were presented:

1. Numerical Examination on Radio Wave Shadowing Properties by a Two-Dimensional Human Body Model Placed in a Free Space and the Room Model
2. Proposal on the Channel Model for Massive MIMO based on Measured Propagation Channel
3. Effect of Configuration of MIMO Base Station Antenna on Channel Capacity in Street Cell Environment
4. Polarimetric and Interferometric Analyses of Earthquake Damage areas by Using Synthetic Aperture Radar

For more details, please see: <http://www.ieice.org/cs/ap/jpn/>

- (3) No. 615 Meeting
Date: May 31, 2017 Place: The University of Electro-Communication (Tokyo)

Four papers were presented:

1. Electromagnetic Precursory Phenomena associated with the 2016 Kumamoto Earthquake
2. Thundercloud Electric Field Fine Structure and Lightning Initiation in Subcritical Electric Field
3. K-Factor of Nakagami-Rice Distribution estimated by Moment-Method in analyzing Received Power Data Measured in Wireless LAN in an Indoor Office - Based on Computer Experiment to find the optimum number of data for the Moment-Method - Size Reduction of Scale Model for Propagation Loss in Microcell
4. On Capacity of Multipath Fading Channel (Part 2) - For Application to Adaptive Baseband Radio -

- (4) No. 616 Meeting
Date: July 26-28, 2017 Place: Nagoya Institute of Technology (Aichi)

This meeting was held under the co-sponsorship of IEICE Technical Committee on AP, SANE. SAT, and IEEE AP-S Nagoya Chapter. Eight papers relevant to the field of URSI-F were presented:

1. Estimation of Cross-Polarization Discrimination Degradation of Ka-band Satellite Communication Signals due to Lightning Discharges
2. A Study on Rain Attenuation Characteristics of Ku-Band Up- and Down-Link Satellite Communications in the Tropical Region

3. A Study on Relationship between Ground Wind Velocity around the Earth Station and Rain Attenuation Observation at 3 Locations in Ku-Band Satellite Communications Links
4. Millimeter-wave Propagation Characteristics in Urban Environment
5. Path Loss Frequency Dependency of 2-66 GHz in an Urban Macro Cell Environment
6. The Delay and Directional Characteristics of Propagation Channels from 3GHz Band to 28GHz Band in Indoor Environment
7. Radio Propagation Prediction Method with Point Cloud Data in Indoor Office Environments for 26 to 66 GHz Bands
8. Path Loss Characteristics of Human Bodies Blockage Considering Multi-Path in Outdoor Crowded Areas

For more details, please see: <http://www.ieice.org/cs/ap/jpn/>

(5) No. 617 Meeting
Date: September 7, 2017 Place: Hiroshima City University (Hiroshima)

Three papers were presented:

1. Proposal of Housing-site Human Detection System using Specified Low-power Radio and Evaluation of the Radio Propagation Characteristics
2. Frequency Characteristics of the Range of 30 MHz - 5 GHz in Micro-Cell for Mobile Propagation
3. Evaluation of Required Time for Key Generation in Secret Key Agreement Scheme based on Radio Wave Propagation Characteristics over Non Line-of-Sight Intersections

2. Others

XXXIInd URSI GASS (General Assembly and Science Symposium) was held in August 2017 in Montreal, Canada, and Dr. Motoharu Sasaki (NTT) was elected to be Japanese official member of ECR (Early Career Representative) in URSI-F.