

Activity Report of URSI-F

September 18, 2020

Reported by Motoyuki Sato (Chair)

1. Commission meetings in the period of July 2018- March 2019

June 20, 2019 The University of Electro-Communications, Chofu, Tokyo

6 committee members attended

Schedule of meetings in FY 2019

Discussion on URSI-JRSM2019

December 25, 2019, NICT , Koganei, Tokyo

5 committee members attended

Schedule of meetings in FY 2020

Discussion on URSI-GASS2020

2. Meetings

(For more detail, please see <http://ursi-f.nict.go.jp/>)

(1) No. 633 Meeting May 7, 2019, Tokyo Tech Front, Tokyo Institute of Technology, Ookayama, Tokyo

[1] Examination of the clutter loss for urban areas in millimeter wave and visible light

[2] Cluster Frequency Dependency Analysis in Indoor Environments at Microwave and Millimeter Wave Bands

Special session for Memorial of Prof. Takehiko Kobayashi

[1] Radio wave propagation experiment with Prof. Takehiko Kobayashi

[2] In memory of Prof. Takehiko Kobayashi -UWB Research and Space Science-

(2) No.634 Meeting 16 May, 2019, Kanpo-no Yado Arima, Kobe, Hyogo

This meeting was co-sponsored by IEICE Technical Committee on AP and IEEE AP-S Kansai Joint Chapter.

URSI-F Special Lecture

[1] Time-spatial propagation model for cell design by using 2-dimensional massive MIMO arranged on vertical and horizontal planes

Teruya Fujii (Titech)

(3) No.635 Meeting June 20, 2019, The University of Electro-Communications, Chofu, Tokyo

[1] Prediction of Rain Attenuation of Millimeter-Wave Radio by Hybrid T-matrix Approach

- [2] Experimental Study of Finding out Decreased Transmission Power on Client Terminals in Order to Operate Uplink Multi-User Transmission Properly in IEEE 802.11ax Wireless LAN
- [3] Channel Capacity of Massive MIMO in Correlated Fading Environments

(4) No. 636 Meeting July 17-19, 2019, Sakura Hall, Tohoku University, Miyagi, Sendai

This meeting is co-sponsored by IEICE Technical Committee on AP and IEEE AES Society Japan Chapter.

- [1] High-resolution horizontal permittivity distribution estimation of pavement using array ground penetrating radar
- [2] Examination of Dependency of Elastic Modulus of Concrete on Vibration Displacement by Vibro-Radar Method
- [3] Development of RC Doppler radar for hand drill tip monitoring
- [4] Antenna Design of a Passive Cooperative Target For concrete temperature monitoring
- [5] Study on Miniaturization of Bowtie Antenna with Folded Structure for Ground Penetrating Radar
- [6] Application of Cross -Bowtie Antenna to Detection of Buried Pipes by GPR
- [7] Propagation Loss Estimation considering Ray Tracing Results for Deep Learning Input Data
- [8] Development of Radio Propagation Channel Model for Millimeter-Wave Indoor Multi-Gigabit Access Links
- [9] Additional Loss of Each Arrival Angle at 4.7 GHz and 26.4 GHz Bands in Crowded Environments
- [10] Propagation Characteristics in a L-shaped Corridor by Antenna Directivity at 28 GHz Band

(5) No. 637 Meeting

Adjournment due to URSI-JRSM 2019

(6) No. 638 Meeting October 17, 2019, Sigma Hall, Toyonaka Campus, Osaka University, Toyonaka-shi, Osaka

This meeting is co-sponsored by IEICE Technical Committee on AP and IEEE AP-S Kansai Joint Chapter.

URSI-F Special Lecture

- [1] Remote vital sensing with mm-wave UWB radar
Toru Sato, Takuya Sakamoto (Kyoto Univ.)

(7) No. 639 Meeting November 20-22, 2019, Honjo-Campus, Saga University, Saga-city, Saga

This meeting is co-sponsored by IEICE Technical Committee on AP, IEICE Technical Committee on

Radio Communication Systems, and IEEE AP-S Fukuoka Chapter.

- [1] Proposal of location estimation with high resolution using unmanned aerial vehicle
- [2] Simultaneous Heartbeat Detection of Multiple Targets Using Amplitude Equivalent Component in Pseudo-Arctangent Demodulation
- [3] Measurement of Diffused Scattering on Rough-Surface Walls and Intra-Cluster Modeling at Millimeter-Wave band

(8) No. 640 Meeting December 25, 2019, NICT , Koganei, Tokyo

- [1] Experimental Study Based on Monte Carlo Method to Estimate the Reduction Range of Transmission Power Control at Client Terminals in IEEE 802.11ax Uplink Multi-User Transmission
- [2] Rain Attenuation Fluctuation Characteristics due to Typhoon Passage in Ku-band Satellite Links

(9) No. 641 Meeting January 23-24, 2020, Sunport Hall Takamatsu, Takamatsu-shi, Kagawa

This meeting is co-sponsored by IEICE Technical Committee on AP, IEICE Technical Committee on WPT, and IEEE AP-S Kansai Joint Chapter.

- [1] Examination of the Mechanism of Building Penetration Loss of UHF band by Scale Model
- [2] Analysis of Estimation Error by Position Mismatch on Machine-Learning Path Loss Prediction in Urban Environment
- [3] A study on propagation modeling of urban low altitude environment

(10) No. 642 Meeting

Adjournment due to COVID-19

(11) No. 643 Meeting

Adjournment due to COVID-19

(12) No. 644 Meeting

Adjournment due to COVID-19

(13) No. 645 Meeting

Adjournment due to COVID-19

(14) No. 646 Meeting July 15-17, 2020, Online

This meeting is co-sponsored by IEICE Technical Committee on AP, IEICE Technical Committee on SANE, IEICE Technical Committee on SAT, and IEEE AES Society Japan Chapter.

[1] Radio Wave Propagation Model for Radiozone Design at High Frequency Band

3. Others