November 17, 2013

Activity Report of URSI-F

Reported by Y. Maekawa (Chair)

1. Commission meetings in the period of July – November 2013
(For more detail, please see http://ursi-f.nict.go.jp/)

(1) No. 576 Meeting
Date: July 23-25, 2013 Place: Sunrefre Hakodate (Hokkaido)

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

1. A study on Effects of Site Diversity Techniques on the Rain Attenuation in Ku-band Satellite Communications Links according to the Kind of Rain Fronts
2. Evaluation on Block Diagonalization using Beam Selection in MU-MIMO Transmission with User Scheduling
3. Fundamental Study on Stable Marrige Type Node Pair Selection Scheme for MIMO Multiuser System

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

(2) No. 577 Meeting
Date: November 1, 2013 Place: Doshisha University (Kyoto)

Four papers were presented:

1. Effect of Building Configuration of Intersection on Propagation Loss Characteristics of V2V Communications
2. A Study of Correction Method to Predict Path Loss for Sloping Area Based on Measurement of Scale Model and Actual Environment
3. Relationship between the Rain Area Motion Inferred from Ku-band Satellite Signal Rain Attenuation Measurements at Three Locations and the Ground and Upper Atmospheric Wind Velocities
4. UHF Ground Penetrating Radar for Subsurface Sounding of Solid Bodies in the Solar System --Preliminary Design and BBM Evaluation Tests

(3) No. 578 Meeting
Date: November 15, 2013 Place: Niigata University (Niigata)

This meeting was held under the co-sponsorship of Niigata University. Ten papers relevant to the field of URSI-F were presented:

1. Polarimetric Decomposition Theory
2. Complex-Valued Neural Networks in SAR Imaging
3. Polarimetric calibration of Pi-SAR2: Results of Niigata experiments in August 2013
4. Snow wetness estimation using SAR polarimetry technique
5. A Study on improving sea ice monitoring with SAR data at Lake Saroma
6. Performance Improvement of InSAR Local Co-registration Method with Multiresolution Interferogram
7. PolSAR Land Classification by Using Quaternion-Valued Neural Networks
8. A New Complete Scattering Power Decomposition Method
9. Full-Pol-SAR Decomposition Scheme Over Wet Snow Areas
10. Polarimetric SAR Remote Sensing of Mountainous Terrain

2. Others

The 4th Asia-Pacific Conference on Synthetic Aperture Radar (APSAR) 2013 was held in Tsukuba, Japan. Date: Sept. 23-27, 2013. The URSI-F Japan was one of its technical co-sponsors. Eighty four papers relevant to the field of URSI-F were presented from Japan:

1. New Earth Observation Scenario using the ALOS-2 with the L-band high-resolution and full-polarimetric SAR (Plenary talk)
2. Theoretical Study of Backscatter from Rice Paddy Using Discrete Scatterer Model
3. Generalized Hybrid Model-Based/ Eigenvalue Decomposition
4. Soil Moisture and Biomass Retrieval using ALOS/PALSAR Data
5. A Study on Sea Ice Monitoring with SAR Data at Lake Saroma
6. Glacier Surge in West Kunlun Shan, NW Tibet Detected by Synthetic Aperture Radar
7. Long Range Detection of UWB Radar Using Interpulse Cyclic Phase Code
8. Accurate Permittivity Estimation Method for 3-dimensional Dielectric Object with Iterative Correction of Waveform Deformation
9. Extended Imaging Method Using Range-Points-Based Ellipse Extrapolation with Double-Scattered Waves for UWB Radar
10. Polarimetric Calibration of Pi-SAR2
11. Newly Developed X-band SAR System onboard Japanese Small Satellite “ASNARO-2”
12. Synthetic Aperture Radar Compatible with 100kg Class Piggy-Back Satellite
13. Comparison of Model-Based Four-Component Scattering Power Decompositions
14. L-band SAR Data and Spatially Explicit Model to Analyse Forest Loss between 2007 and 2030 in Central Sumatra
15. Use of L-band PALSAR Backscattering Intensity for Estimating the Growing Stages of the Forest
16. Evaluation of Multi-sensor SAR and Optical Data to Monitor Growth Stages of Oilpalm Plants
17. Field Tree Measurement using Terrestrial Laser for Radar Remote Sensing
18. Non-destructive Inspection of Buildings Using Radar Polarimetry
19. Correction Formulae for Soil Roughness Parameters Estimated from a Surface Profile
20. Denoising and Detection of Reflected Waves from Buried Pipes with Ground-penetrating Radar Data
21. Design of a GPR Antenna Array for Asphalt Pavement Inspection
22. System Characteristics for Wide Swath L-band SAR onboard ALOS-2/PALSAR-2
23. Characteristic of L-band SAR Ocean Measurements
24. Autonomous Precision Orbit Control of ALOS-2 for Repeat-Pass SAR Interferometry
25. Efficient Motion Compensation of SAR Imagery by Refocusing Approach
26. Trial Biomass Map Production in Riau Province, Indonesia Using L-band SAR Data
27. An Experiment of Ku-band Airborne Bistatic SAR with a Stationary Receiver
28. Quasi-Monostatic Algorithm for GNSS-SAR
29. Subsidence Monitoring Using SAR Interferometry Time Series Analysis along the Chao Phraya River Areas
30. InSAR Observation and Numerical Modeling of the Water Vapor Signal during 2008 Seino Heavy Rain Event, Central Japan
31. Results from ALOS and Expectations to ALOS-2 in Earthquake/volcano Research
32. Ionospheric Effects Correction of ALOS PALSAR Interferometry in Antarctica
33. Monitoring Changes in Tropical Forests Using L-band Synthetic Aperture Radar Data
34. Calibration and Validation of the Pi-SAR-L2
35. Monitoring of the Changes of Glacier and Ice Sheet on Polar Region by L-band SAR data
36. Performance Improvement of InSAR Local Co-registration Method with Multiresolution Interferogram
37. 3D Terrain Information Reconstruction Application for Airborne InSAR
38. Azimuth Ambiguity Suppression with Triple Channel Receivers – An Experiment Result using Airborne Ku-Band Synthetic Aperture Radar –
39. Present and Future of L band SAR for Small Satellites
40. Automatic Detection of Landslides from SAR Images: Application to the 2011 Kii Landslides
41. Deformation Parameter Estimation in Low-coherence Areas Using a Multisatellite InSAR Approach
42. Development of Spotlight Mode SAR “Live SAR” for Flood Area Surveillance
43. Proposal of Nonhollow Singularity-Spreading Phase Unwrapping
44. SAR Interferometric Phase and Skew Fractional Brownian Motion Model
45. Multi-band Spaceborne SAR Observations of Tsunami Damaged Agricultural Fields

46. Changes of Polarimetric Scattering Characteristics of ALOS PALSAR Caused by Volcanic Ash Fall Analyzed by the Unsupervised Wishart Classifier
47. Detection of Water-logging in a Large Number of Paddy Fields
48. Automated Method for Tracing Shorelines in L-band SAR Images
49. An Advanced InSAR Algorithm for Surface Deformation Monitoring: SqueeSAR™
50. Method to Obtain Phase Continuous ScanSAR Interferogram
51. Comparison of Model-Based Polarimetric Decomposition Algorithms
52. Comparison of Speckle Filtering Methods for POLSAR Analysis of Earthquake Damaged Areas
53. Experimental Evaluations of Polarimetric Observation for Bistatic Radar Using GPS Reflected Signals
54. The Development and Performance of Chirp Pulse Generator and Processor for Pi-SAR-L2
55. Spaceborne SAR Data Analysis for Marine Debris after the Great East Japan Earthquake
56. Mapping Displacement around Tokyo International Airport after The Great East Japan Earthquake 2011 Derived from TerraSAR-X Imageries
57. Damage Detection after Earthquake by an X-band High Resolution Airborne SAR
58. Mathematical Morphology Approach to the Detection of the off the Pacific Coast of Tohoku Japan Tsunami Reached Farmland from PALSAR Data
59. Detection of Damaged Area by Polarimetric SAR
60. Evaluation of Wave Height Retrieval Algorithm for Ocean SAR Image by Using Numerical Simulation
61. Nonstationary Image Noise Removal (NINR)
62. Building Damage Estimation by Integration Between Seismic Intensity Information and ALOS/PALSAR Images of the 2007 Peru Earthquake
63. Ground Deformation Related to Active Faults Detected by Persistent Scatterer InSAR
64. Case Study of Landslides Recognition Using Dual/Quad Polarization Data of ALOS/PALSAR
65. Trial of Volcanic Ash Detection Using Pi-SAR-L2
66. Volcanic Monitoring by Polarimetric and Interferometric Airborne SAR (Pi-SAR2)
67. A Case Study of Land Cover Classification Using Combined PolSAR and Optical
68. Evalutaion of PollnSAR Classification by ALOS/PALSAR
69. Experiment on Human and Vehicle Detection Using Pi-SAR2
70. ALOS PALSAR Tomography: An Experiment in Suburban Environment
71. Long-term Landslide Monitoring by GB-SAR Interferometry in Kurihara, Japan
72. The 2011 Tohoku Earthquake and the Related Disasters Observed by InSAR Using ALOS/PALSAR: Mainshock, Induced Inland Earthquakes, and Liquefaction
73. Detection of Crustal Movements Due to the 11 April 2011 Fukushima Earthquake from SAR Images
74. Detection of Soil Liquefaction Areas in the Kantou Region Using Multitemporal InSAR Coherence
75. Monitoring of Displacement on a Landslide Slope by GB-SAR Interferometry
76. Simplified Algorithm for Detecting Oriented Man-made Objects Using Correlation Coefficients in Circular Polarization Basis
77. Unique Decomposition of a POLSAR Coherency Matrix Using a Generalized Scattering Model
78. Experimental Study on Radar Backscatterer from a Simplified Forest Model
79. Fast Calculation of Adaptive-Non-Negative-Eigenvalue-Decomposition Employing Particle Swarm Optimization
80. An Experimental Study on Image Based Multi-Channel SAR-GMTI Algorithm
81. Slightly Moved Vehicle Detection with Coherent Change Detection on X-band High Resolution SAR Imagery
82. Evaluation of the Ship Detection by Dual Polarimetric Along-Track Interferometry
83. PolSAR Land Classification by Using Quaternion-Valued Neural Networks
84. Efficient Automatic Target Recognition Method for Aircraft SAR Image Using Supervised SOM Clustering

For more details, please see: http://www.apsar2013.org/