

2016 IEEE International Geoscience and Remote Sensing Symposium (IGARSS 2016)

**Beijing, China
10-15 July 2016**

Pages 1-648



**IEEE Catalog Number: CFP16IGA-POD
ISBN: 978-1-5090-3333-1**

**Copyright © 2016 by the Institute of Electrical and Electronics Engineers, Inc
All Rights Reserved**

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

******This publication is a representation of what appears in the IEEE Digital Libraries. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP16IGA-POD
ISBN (Print-On-Demand):	978-1-5090-3333-1
ISBN (Online):	978-1-5090-3332-4
ISSN:	2153-6996

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com

TABLE OF CONTENTS

MO3-L1: SAR TOMOGRAPHY OF DISTRIBUTED MEDIA: ADVANCED PROCESSING TECHNIQUES AND INNOVATIVE APPLICATIONS I

MO3-L1.1: SAR TOMOGRAPHY OF NATURAL ENVIRONMENTS: SIGNAL PROCESSING, APPLICATIONS, AND FUTURE CHALLENGES 1

Stefano Tebaldini, Fabio Rocca, Politecnico di Milano; Andreas Reigber, German Aerospace Center (DLR) - Microwaves and Radar Institute; Laurent Ferro-Famil, Université de Rennes 1

MO3-L1.3: TEMPORAL DECORRELATION ON AIRBORNE REPEAT PASS P-, L-BAND T-SAR IN BOREAL FOREST 5

Wenmei Li, Nanjing University of Posts and Telecommunications; Erxue Chen, Zengyuan Li, Chinese Academy of Forestry; Wangfei Zhang, Southwest Forestry University; Hui Li, Xiamen University of Technology

MO3-L1.4: MULTI-DIMENSIONAL AIRBORNE HOLOGRAPHIC SAR TOMOGRAPHY RECONSTRUCTION FOR GLACIERS AT L-/P-BAND 9

Octavio Ponce, Rolf Scheiber, Pau Prats-Iraola, Irena Hajnsek, Andreas Reigber, German Aerospace Center (DLR)

MO3-L1.5: INTERFEROMETRIC EXPERIMENTS WITH THE FIRST ITALIAN AIRBORNE P-BAND RADAR 13

Gianfranco Fornaro, IREA-CNR; Stefano Tebaldini, Politecnico di Milano; Stefano Perna, Università di Napoli Parthenope; Mauro Mariotti d'Alessandro, Politecnico di Milano; Paolo Berardino, Riccardo Lanari, Mariarosaria Manzo, IREA-CNR; Fabio Rocca, Politecnico di Milano; Francesco Soldovieri, IREA-CNR; Giovanni Alberti, Claudio Papa, Giuseppe Salzillo, Giul Pica, Gianfranco Palmese, Dario Califano, Giulia Ciofaniello, CORISTA; Francesco Longo, Claudia Facchinetti, Roberto Formaro, Italian Space Agency

MO4-L1: SAR TOMOGRAPHY OF DISTRIBUTED MEDIA: ADVANCED PROCESSING TECHNIQUES AND INNOVATIVE APPLICATIONS II

MO4-L1.1: A TIME SERIES OF TOMOGRAPHIC PROFILES OF A SNOW PACK MEASURED WITH SNOWSCAT AT X-/KU-BAND 17

Othmar Frey, Gamma Remote Sensing / ETH Zurich; Charles L. Werner, Rafael Caduff, Andreas Wiesmann, Gamma Remote Sensing

MO4-L1.2: FOREST ABOVE GROUND BIOMASS ESTIMATION FROM P-BAND TOMOGRAPHY DATA 21

Lan Li, Erxue Chen, Zengyuan Li, Lei Zhao, Xinzhi Gu, Chinese Academy of Forestry

MO4-L1.3: RADIOMETRICALLY ROBUST SUPERRESOLUTION TOMOGRAPHY: FIRST ANALYSES 24

Fabrizio Lombardini, Federico Viviani, University of Pisa

MO4-L1.4: DISPLACEMENT ESTIMATION AND MONITORING EXPERIMENTS BASED ON TIME-SERIES SAR IMAGING 28

Yanping Wang, China Academy of Safety Science and Technology; Wen Hong, Institute of Electronics, Chinese Academy of Sciences; Yaolong Qi, Xiaolin Yang, Haitao Ma, China Academy of Safety Science and Technology

MO4-L1.5: ASSESSMENT OF FOREST STRUCTURE ESTIMATION BY MEANS OF SAR TOMOGRAPHY: POTENTIAL AND LIMITATIONS 32

Marivi Tello, Victor Cazcarra, Matteo Pardini, Konstantinos Papathanassiou, Deutsches Zentrum für Luft und Raumfahrt

MO3-L2: HYPERSPECTRAL BAND SELECTION AND DIMENSIONALITY REDUCTION

MO3-L2.1: CLODD BASED BAND GROUP SELECTION..... 36
Muhammad Aminul Islam, Derek Anderson, John Ball, Nicolas Younan, Mississippi State University

MO3-L2.2: LOCAL MANIFOLD LEARNING WITH ROBUST NEIGHBORS SELECTION FOR 40
HYPERSPECTRAL DIMENSIONALITY REDUCTION
Dan Feng Hong, German Aerospace Center (DLR); Naoto Yokoya, German Aerospace Center (DLR); Technical University of Munich (TUM); The University of Tokyo; Xiao Xiang Zhu, German Aerospace Center (DLR); Technical University of Munich (TUM)

MO3-L2.3: BAND SELECTION OF HYPERSPECTRAL DATA WITH LOW-RANK DOUBLY 44
STOCHASTIC MATRIX DECOMPOSITION
Jiming Li, Zhejiang Police College

MO3-L2.4: AN OPTIMIZED METHOD OF KERNEL MINIMUM NOISE FRACTION FOR 48
DIMENSIONALITY REDUCTION OF HYPERSPECTRAL IMAGERY
Bin Zhao, Lianru Gao, Bing Zhang, University of Chinese Academy of Sciences

MO3-L2.5: DIMENSIONALITY REDUCTION OF HYPERSPECTRAL IMAGES WITH LOCAL 52
GEOMETRIC STRUCTURE FISHER ANALYSIS
Fulin Luo, Hong Huang, Yaqiong Yang, Key Laboratory of Optoelectronic Technology and Systems of the Education Ministry of China, Chongqing University; Zhiyong Lv, School of Computer Science and Engineering, Xian University of Technology

MO4-L2: SAR IMAGE FEATURE EXTRACTION AND FILTERING

MO4-L2.1: A DATA MINING APPROACH FOR MULTIVARIATE OUTLIER DETECTION IN 56
HETEROGENEOUS 2D POINT CLOUDS: AN APPLICATION TO POST-PROCESSING OF MULTI-TEMPORAL INSAR RESULTS
Matus Bakon, Slovak University of Technology; Irene Oliveira, University of Trás-os-Montes e Alto Douro; Daniele Perissin, Purdue University; Joaquim Sousa, University of Trás-os-Montes e Alto Douro; Juraj Papco, Slovak University of Technology

MO4-L2.2: MODEL SELECTION FOR HIGH RESOLUTION INSAR COHERENCE 60
STATISTICS OVER URBAN AREAS AND ITS APPLICATION IN BUILDING DETECTION
Yue Zhang, Xian Sun, Wenhui Diao, Chenyuan Wang, Guangluan Xu, Hongqi Wang, Key Laboratory of Spatial Information Processing and Application System Technology, Chinese Academy of Sciences

MO4-L2.3: TERRAIN CLASSIFICATION WITH POLARIMETRIC SAR BASED ON DEEP SPARSE 64
FILTERING NETWORK
Hongying Liu, Qiang Min, Key Laboratory of Intelligent Perception and Image Understanding of Ministry of Education of China, Xidian University; Chen Sun, Jin Zhao, Xidian University; Shuyuan Yang, Biao Hou, Jie Feng, Licheng Jiao, Key Laboratory of Intelligent Perception and Image Understanding of Ministry of Education of China, Xidian University

MO4-L2.4: CLASS WISE OPTIMAL FEATURE SELECTION FOR LAND COVER 68
CLASSIFICATION USING SAR DATA
Shruti Gupta, Sandeep Kumar, Indian Institute of Technology, Roorkee; Akanksha Garg, Department of Electronics and Communication Engineering; Dharmendra Singh, Indian Institute of Technology, Roorkee; N. S. Rajput, Indian Institute of Technology (BHU)

MO4-L2.5: AN ITERATIVE LOW-RANK REPRESENTATION FOR SAR IMAGE DESPECKLING..... 72
Jie Geng, Dalian University of Technology; Jianchao Fan, National Marine Environmental Monitoring Center; Xiaorui Ma, Hongyu Wang, Dalian University of Technology; Ke Cao, National Marine Environmental Monitoring Center

MO3-L3: IMAGE PROCESSING TECHNIQUES OF DETECTING

MO3-L3.1: OPTIMIZATION OF IMAGE PROCESSING TECHNIQUES TO DETECT AND RECONSTRUCT THE IMAGE OF CONCEALED BLADE FOR MMW IMAGING SYSTEM 76

Bambam Kumar, Indian Institute of Technology, Roorkee; Prabhat Sharma, Instrument Research and Development Establishment; Rohit Upadhyay, Dharmendra Singh, Indian Institute of Technology, Roorkee; K P Singh, Indian Institute of Technology (BHU) Varanasi

MO3-L3.2: A MORPHOLOGY-BASED APPROACH FOR CLOUD DETECTION 80

Sravan Danda, Aditya Challa, B. S. Daya Sagar, Indian Statistical Institute

MO3-L3.3: APPLICATION OF REMOTE SENSING IMAGES FOR NATURAL DISASTER MITIGATION USING WAVELET BASED PATTERN RECOGNITION ANALYSIS 84

Radhika Sudha, Geethanjali College of Engineering and Technology; Tamura Yukio, Beijing Jiaotong University / Tokyo Polytechnic University; Matsui Masahiro, Tokyo Polytechnic University

MO3-L3.4: REGION OF INTEREST DETECTION BASED ON SALIENT FEATURE CLUSTERING FOR REMOTE SENSING IMAGES 88

Libao Zhang, Xinran Lv, Jie Chen, Lan Zhang, Beijing Normal University

MO3-L3.5: A LOCAL EXTREMA BASED METHOD ON 2D BRIGHTNESS TEMPERATURE MAPS FOR DETECTION OF ARCHAEOLOGICAL ARTIFACTS 92

Alper Koz, Hilal Soydan, H. Sebnem Düzgün, A. Aydin Alatan, Middle East Technical University

MO4-L3: SHIP DETECTION

MO4-L3.1: ATTRIBUTE LEARNING FOR SHIP CATEGORY RECOGNITION IN REMOTE SENSING IMAGERY 96

Quentin Oliveau, Hichem Sahbi, Télécom ParisTech

MO4-L3.2: A NOVEL THRESHOLD TEMPLATE ALGORITHM FOR SHIP DETECTION IN HIGH-RESOLUTION SAR IMAGES 100

Chonglei Wang, Beijing Institute of Technology; Fukun Bi, North China University of Technology; Liang Chen, Beijing Institute of Technology; Jing Chen, North China University of Technology

MO4-L3.3: VERY DEEP LEARNING FOR SHIP DISCRIMINATION IN SYNTHETIC APERTURE RADAR IMAGERY 104

Colin Peter Schwegmann, Waldo Kleynhans, Council for Scientific and Industrial Research; Brian Salmon, University of Tasmania; Lizwe Mdakane, Rory Meyer, Council for Scientific and Industrial Research

MO4-L3.4: A NOVEL ADAPTIVE SHIP DETECTION METHOD FOR SPACEBORNE SAR IMAGERY 108

Xiangguang Leng, Kefeng Ji, Qingju Fan, Shilin Zhou, Huanxin Zou, National University of Defense Technology

MO4-L3.5: A NEW POLSAR SHIP DETECTION METRIC FUSED BY POLARIMETRIC SIMILARITY AND THE THIRD EIGENVALUE OF THE COHERENCY MATRIX112

Yuyang Xi, Beijing University of Chemical Technology; Xi Zhang, State Oceanic Administration; Quan Lai, Inner Mongolia Normal University; Wei Li, Haitao Lang, Beijing University of Chemical Technology

MO3-L4: OBSERVATIONS BY THE NASA SOIL MOISTURE ACTIVE PASSIVE MISSION I

MO3-L4.1: NASA SOIL MOISTURE ACTIVE PASSIVE MISSION STATUS AND SCIENCE PERFORMANCE116

Simon Yueh, Jet Propulsion Laboratory, California Institute of Technology; Dara Entekhabi, Massachusetts Institute of Technology; Peggy O'Neill, NASA Goddard Space Flight Center; Eni G. Njoku, Jet Propulsion Laboratory, California Institute of Technology; Jared Entin, NASA

MO3-L4.3: CALIBRATION AND VALIDATION OF THE SMAP L-BAND RADIOMETER	120
<i>Sidharth Misra, Jet Propulsion Laboratory, California Institute of Technology; Jeffrey Piepmeier, Jinzheng Peng, Priscilla Mohammed, Derek Hudson, Giovanni De Amici, Emmanuel Dinnat, David Le Vine, NASA Goddard Space Flight Center; Rajat Bindlish, Thomas Jackson, U.S. Department of Agriculture</i>	
MO3-L4.4: SOIL MOISTURE ACTIVE PASSIVE (SMAP) MICROWAVE RADIOMETER	123
RADIO-FREQUENCY INTERFERENCE (RFI) MITIGATION: ALGORITHM UPDATES AND PERFORMANCE ASSESSMENT	
<i>Joel Johnson, The Ohio State University; Priscilla Mohammed, Jeffrey Piepmeier, NASA Goddard Space Flight Center; Alexandra Bringer, Mustafa Aksoy, The Ohio State University</i>	
MO3-L4.5: EVALUATION OF THE VALIDATED SOIL MOISTURE PRODUCT FROM THE	125
SMAP RADIOMETER	
<i>Peggy O’Neill, NASA Goddard Space Flight Center; Steven Chan, Andreas Colliander, Scott Dunbar, Eni G. Njoku, Jet Propulsion Laboratory; Rajat Bindlish, Fan Chen, Thomas Jackson, U.S. Department of Agriculture; Mariko Burgin, Jet Propulsion Laboratory; Jeffrey Piepmeier, NASA Goddard Space Flight Center; Simon Yueh, Jet Propulsion Laboratory; Dara Entekhabi, Jet Propulsion Laboratory, California Institute of Technology / Massachusetts Institute of Technology; Michael Cosh, U.S. Department of Agriculture; Todd Caldwell, The University of Texas; Jeffrey Walker, Xiaoling Wu, Monash University; Aaron Berg, Tracy Rowlandson, University of Guelph; Anna Pacheco, Heather McNairn, AAFC; Marc Thibeault, CONAE; Jose Martinez-Fernandez, Angel Gonzalez-Zamora, CIALE; Mark Seyfried, David Bosch, Patrick Starks, David Goodrich, John Prueger, U.S. Department of Agriculture; Michael Palecki, NOAA; Eric Small, University of Colorado; Marek Zreda, University of Arizona; Jean-Christophe Calvet, CNRM-GAME; Wade Crow, U.S. Department of Agriculture; Yann Kerr, Centre d’Études Spatiales de la Biosphère - CNES</i>	
 MO4-L4: OBSERVATIONS BY THE NASA SOIL MOISTURE ACTIVE PASSIVE MISSION II	
MO4-L4.1: COMBINING SMAP AND SENTINEL DATA FOR HIGH-RESOLUTION SOIL	129
MOISTURE PRODUCT	
<i>Narendra Das, Dara Entekhabi, Seung-Bum Kim, Simon Yueh, Jet Propulsion Laboratory; Peggy O’Neill, NASA</i>	
MO4-L4.2: LANDSCAPE FREEZE/THAW PRODUCTS FROM SOIL MOISTURE	132
ACTIVE/PASSIVE (SMAP) RADAR AND RADIOMETER DATA	
<i>Xiaolan Xu, Roy Dunbar, Jet Propulsion Laboratory; Chris Derksen, Environment Canada; Andreas Colliander, Jet Propulsion Laboratory; John Kimball, Youngwook Kim, University of Montana</i>	
MO4-L4.3: SMAP LEVEL 4 SURFACE AND ROOT ZONE SOIL MOISTURE.....	136
<i>Rolf Reichle, NASA Goddard Space Flight Center; Gabrielle De Lannoy, Catholic University of Leuven; Qing Liu, Joseph Ardizzone, John Kimball, Randal Koster, NASA Goddard Space Flight Center</i>	
MO4-L4.4: THE SMAP LEVEL 4 CARBON PRODUCT FOR MONITORING TERRESTRIAL	139
ECOSYSTEM-ATMOSPHERE CO₂ EXCHANGE	
<i>Lucas Jones, John Kimball, Nima Madani, University of Montana; Rolf Reichle, NASA Goddard Space Flight Center; Joe Glassy, University of Montana; Joseph Ardizzone, NASA Goddard Space Flight Center</i>	
MO4-L4.5: SURFACE SOIL MOISTURE RETRIEVAL USING L-BAND SMAP SAR DATA AND ITS	143
VALIDATION	
<i>Seung-Bum Kim, Jakob Van Zyl, Jet Propulsion Laboratory; Joel Johnson, The Ohio State University; Mahta Moghaddam, University of Southern California; Leung Tsang, University of Michigan; Andreas Colliander, Scott Dunbar, Jet Propulsion Laboratory; Thomas Jackson, U.S. Department of Agriculture; Sermak Jaruwatanadilok, Richard West, Jet Propulsion Laboratory; Aaron Berg, University of Guelph; Todd Caldwell, The University of Texas at Austin; Michael Cosh, Ernesto Lopez-Baeza, U.S. Department of Agriculture; Marc Thibeault, CONAE; Jeffrey Walker, Monash University; Dara Entekhabi, Massachusetts Institute of Technology; Simon Yueh, Jet Propulsion Laboratory</i>	
 MO3-L5: MULTI-SOURCE REMOTE SENSING APPROACHES TO VEGETATION MONITORING I	
MO3-L5.1: MULTISOURCE ABOVEGROUND CARBON ESTIMATION OF FORESTS.....	147
<i>David G. Goodenough, Hao Chen, University of Victoria; Shane Cloude, AELc; Piper Gordon, University of Victoria</i>	

MO3-L5.3: FOREST REMOTE SENSING ON THE INDIVIDUAL TREE LEVEL BY AIRBORNE MILLIMETERWAVE SAR	151
<i>Michael Schmitt, Muhammad Shahzad, Technische Universität München; Xiao Xiang Zhu, German Aerospace Center (DLR)</i>	
MO3-L5.4: FOREST VERTICAL STRUCTURE PARAMETERS EXTRACTION FROM AIRBORNE X-BAND INSAR DATA	155
<i>Qi Feng, Chinese Academy of Sciences; Erxue Chen, Zengyuan Li, Lan Li, Lei Zhao, Chinese Academy of Forestry</i>	
MO3-L5.5: OPTIMIZING REMOTE SENSING OF NATIVE GRASSLANDS FOR MONITORING AND CHANGE DETECTION	159
<i>Joseph Buckley, Royal Military College of Canada; Anne Smith, Agriculture and Agri-Food Canada</i>	
 MO4-L5: MULTI-SOURCE REMOTE SENSING APPROACHES TO VEGETATION MONITORING II	
MO4-L5.1: SYNERGY OF SENTINEL-1 AND SENTINEL-2 IMAGERY FOR WETLAND MONITORING INFORMATION EXTRACTION FROM CONTINUOUS FLOW OF SENTINEL IMAGES APPLIED TO WATER BODIES AND VEGETATION MAPPING AND MONITORING	162
<i>Hervé Yésou, University of Strasbourg; Eric Pottier, University of Rennes; Grégoire Mercier, Télécom Bretagne; Manuel Grizonnet, CNES; Sadri Haouet, University of Strasbourg; Alain Giros, CNES; Robin Faivre, Claire Huber, University of Strasbourg; Julien Michel, CNES</i>	
MO4-L5.2: FEATURE BASED DECISION METHODOLOGY FOR VEGETATION CLASSIFICATION	166
<i>Wen Hong, Luyi Shao, Qiang Yin, Yang Li, Shenglong Guo, Institute of Electronics, Chinese Academy of Sciences; Pingping Huang, College of Information Engineering, Inner Mongolia University of Technology, Hohhot 010051</i>	
MO4-L5.3: MULTI-BAND SAR DATA FOR RANGELAND PASTURE MONITORING	170
<i>Zheng-Shu Zhou, Peter Caccetta, Neil Sims, Alex Held, The Commonwealth Scientific and Industrial Research Organisation</i>	
MO4-L5.4: A MULTITEXTURE MODEL OF MULTILOOK POLARIMETRIC SAR DATA BASED ON GENERALIZED GAMMA DISTRIBUTION	174
<i>Heng-Chao Li, Chi Liu, Southwest Jiaotong University</i>	
MO4-L5.5: CURRENT SITUATION AND METHOD OF DYNAMIC MONITORING OF DESERTIFICATION IN HUNSHANDAKE SANDY LAND	178
<i>Pingping Huang, Inner Mongolian Key Laboratory of Radar Technology and Application, Inner Mongolia University of Technology; Xiangli Yang, Wuhan University; Yuhai Bao, Shan Yin, Inner Mongolian Key Laboratory of Remote Sensing and Geographic Information System, Inner Mongolia Normal University; Wen Hong, National Key Laboratory of Science and Technology on Microwave Imaging, Institute of Electronics, Chinese Academy of Sciences</i>	
 MO3-L6: EARTH OBSERVING DATA SCIENCE I	
MO3-L6.1: EXPLOITING DARK INFORMATION RESOURCES TO CREATE NEW VALUE ADDED SERVICES TO STUDY EARTH SCIENCE PHENOMENA	182
<i>Rahul Ramachandran, NASA; Manil Maskey, Xiang Li, Kaylin Bugbee, UAH</i>	
MO3-L6.3: DATACUBES AS A SERVICE PARADIGM	186
<i>Peter Baumann, Angelo Pio Rossi, Jacobs University</i>	
MO3-L6.4: BIG DATA AND ITS APPLICATIONS IN AGRO-GEOINFORMATICS	189
<i>Liping Di, George Mason University</i>	
MO3-L6.5: SPATIAL GRID BASED OPEN GOVERNMENT DATA MINING	192
<i>Chenxiao Zhang, Peng Yue, Wuhan University</i>	

MO4-L6: EARTH OBSERVING DATA SCIENCE II

MO4-L6.1: IMPLEMENTING NEXT-GENERATION NATIONAL EARTH OBSERVATION DATA INFRASTRUCTURE TO INTEGRATE DISTRIBUTED BIG EARTH OBSERVATION DATA 194

Jibo Xie, Guoqing Li, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences

MO4-L6.2: DEEP LEARNING APPROACH FOR LARGE SCALE LAND COVER MAPPING BASED ON REMOTE SENSING DATA FUSION 198

Nataliia Kussul, Andrii Shelestov, Mykola Lavreniuk, Igor Butko, Space Research Institute NASU-SSAU; Sergii Skakun, University of Maryland

MO4-L6.4: NEAR REAL-TIME SATELLITE DATA QUALITY MONITORING AND CONTROL..... 206

Weiguo Han, University Corporation for Atmospheric Research (UCAR); Matthew Jochum, National Oceanic and Atmospheric Administration

MO4-L6.5: GEOGATEWAY: A SYSTEM FOR ANALYSIS OF UAVSAR DATA PRODUCTS 210

Andrea Donnellan, Jay Parker, Margaret Glasscoe, Robert Granat, Jet Propulsion Laboratory; Marlon Pierce, Jun Wang, Yu (Marie) Ma, Indiana University; Lisa Grant Ludwig, The University of California, Irvine; John Rundle, The University of California, Davis

MO3-L7: REMOTE SENSING OF LAND SURFACE EVAPOTRANSPIRATION I

MO3-L7.1: EVALUATION OF ET DATA PRODUCTS: PARAMETERIZATIONS, RATE LIMITING PROCESS AND INFLUENTIAL SURFACE PROPERTIES 214

Massimo Menenti, Delft University of Technology; Li Jia, Remote Sensing Digital Earth Institute; Alijafar Mousivand, Tarbiat Modares University; Guangcheng Hu, Chaolei Zheng, Jing Lu, Remote Sensing Digital Earth Institute

MO3-L7.3: GLOBAL LAND SURFACE EVAPOTRANSPIRATION ESTIMATION FROM METEOROLOGICAL AND SATELLITE DATA USING THE SUPPORT VECTOR MACHINE 218

Meng Liu, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences / University of Chinese Academy of Sciences; Rong-Lin Tang, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences; Zhao-Liang Li, Institute of Geographic Sciences and Natural Resources Research, CAS / Ministry of Agriculture/Institute of Agricultural Resources and Regional Planning, Chinese Academy of Agricultural Sciences; Yunjun Yao, Guangjian Yan, Beijing Normal University

MO3-L7.4: GLOBAL EVAPOTRANSPIRATION DERIVED BY ETMONITOR MODEL BASED ON EARTH OBSERVATIONS 222

Chaolei Zheng, Li Jia, Guangcheng Hu, Jing Lu, Kun Wang, Zhansheng Li, State Key Laboratory of Remote Sensing Science, Institute of Remote Sensing and Digital Earth, CAS

MO3-L7.5: MAPPING EVAPOTRANSPIRATION AT MULTIPLE SCALES USING MULTI-SENSOR DATA FUSION 226

Martha Anderson, U.S. Department of Agriculture - ARS; Christopher Hain, ESSIC University of Maryland; Feng Gao, William Kustas, Yun Yang, Liang Sun, Yang Yang, Thomas Holmes, Wayne Dulaney, U.S. Department of Agriculture - ARS

MO4-L7: REMOTE SENSING OF LAND SURFACE EVAPOTRANSPIRATION II

MO4-L7.1: THE TRIANGULAR METHOD FOR EVAPOTRANSPIRATION ESTIMATION FROM LANDSAT DATA IN ARID AND SEMI-ARID REGIONS 230

Lijuan Wang, Ni Guo, Sha Sha, Die Hu, Wei Wang, Institute of Arid Meteorology, China Meteorological Administration

MO4-L7.2: ROLE OF SUBLIMATION AND EVAPOTRANSPIRATION IN THE CONTINENTAL-SCALE LENA RIVER BASIN, EASTERN SIBERIA 234

Kazuyoshi Suzuki, Japan Agency for Marine-Earth Science and Technology (JAMSTEC)

MO4-L7.3: ESTIMATING REGIONAL EVAPOTRANSPIRATION UNDER WATER-LIMITED CONDITIONS BASED ON SEBS AND MODIS DATA IN ARID REGIONS 238

Chunlin Huang, Yan Li, CAREERI, CAS; Juan Gu, Lanzhou University; Ling Lu, Xin Li, CAREERI, CAS

MO4-L7.4: MULTI-TEMPORAL MICROWAVE RETRIEVALS OF SOIL MOISTURE AND VEGETATION PARAMETERS FROM SMAP	242
<i>María Piles, Consejo Superior de Investigaciones Científicas; Dara Entekhabi, Massachusetts Institute of Technology; Alexandra G. Konings, Stanford University; Kaighin A. McColl, Massachusetts Institute of Technology; Narendra Das, Jet Propulsion Laboratory; Thomas Jagdhuber, German Aerospace Center (DLR)</i>	
MO3-L8: INTERNATIONAL SPACEBORNE IMAGING SPECTROSCOPY MISSIONS: UPDATES AND NEWS I	
MO3-L8.1: PERSPECTIVES ON CHINESE DEVELOPMENTS IN SPACEBORNE IMAGING SPECTROSCOPY: WHAT TO EXPECT IN THE NEXT 5-10 YEARS	250
<i>Lifu Zhang, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
MO3-L8.3: THE PRISMA MISSION	253
<i>Laura Candela, Roberto Formaro, Rocchina Guarini, Rosa Loizzo, Francesco Longo, Giancarlo Varacalli, Italian Space Agency</i>	
MO3-L8.4: CURRENT STATUS OF HYPERSPECTRAL IMAGER SUITE (HISUI) AND ITS DEPLOYMENT PLAN ON INTERNATIONAL SPACE STATION	257
<i>Tsuneo Matsunaga, National Institute for Environmental Studies; Akira Iwasaki, The University of Tokyo; Satoshi Tsuchida, Koki Iwao, National Institute of Advanced Industrial Science and Technology; Jun Tanii, Osamu Kashimura, Japan Space Systems; Ryosuke Nakamura, Hirokazu Yamamoto, Soushi Kato, National Institute of Advanced Industrial Science and Technology; Koichiro Mouri, Tetsushi Tachikawa, Japan Space Systems; Masao Moriyama, Nagasaki University</i>	
MO3-L8.5: OVERVIEW OF THE ENMAP IMAGING SPECTROSCOPY MISSION	261
<i>Luis Guanter, Karl Segl, Saskia Foerster, André Hollstein, GFZ Potsdam; Godela Rossner, Christian Chlebek, German Aerospace Center (DLR) - Space Administration; Tobias Storch, Uta Heiden, Andreas Müller, Rupert Müller, Earth Observation Center (EOC), German Aerospace Center (DLR); Bernhard Sang, OHB System AG</i>	
MO4-L8: INTERNATIONAL SPACEBORNE IMAGING SPECTROSCOPY MISSIONS: UPDATES AND NEWS II	
MO4-L8.1: VERY HIGH SPECTRAL RESOLUTION IMAGING SPECTROSCOPY: THE FLUORESCENCE EXPLORER (FLEX) MISSION	264
<i>José Moreno, University of Valencia; Yves Goulas, Laboratoire de Météorologie Dynamique, Centre National de la Recherche Scientifique; Andreas Huth, Helmholtz Centre for Environmental Research; Elizabeth Middleton, NASA Goddard Space Flight Center; Franco Miglietta, Research and innovation Centre – Fondazione Edmund Mach; Gina Mohammed, P & M Technologies; Ladislav Nedbal, Uwe Rascher, Forschungszentrum Jülich GmbH; Wouter Verhoef, University of Twente; Matthias Drusch, European Space Agency - ESTEC</i>	
MO4-L8.2: THE HYPERSPECTRAL SENSOR DESIS ON MUSES: PROCESSING AND APPLICATIONS	268
<i>Grégoire Kerr, Janja Avbelj, Emiliano Carmona, Andreas Eckardt, Birgit Gerasch, German Aerospace Center (DLR); Lewis Graham, GeoCue; Burghardt Günther, Uta Heiden, Uwe Knodt, David Krutz, Harald Krawczyk, Aliaksei Makarau, German Aerospace Center (DLR); Randy Miller, Teledyne; Rupert Müller, German Aerospace Center (DLR); Ray Perkins, Teledyne; Ingo Walter, German Aerospace Center (DLR)</i>	
MO4-L8.3: HIGH RESOLUTION TEMPERATURE AND SPECTRAL EMISSIVITY MAPPING (HITESEM)	272
<i>Thomas Udelhoven, Christian Bossung, Gilles Rock, University of Trier; Peter Fischer, Andreas Müller, Tobias Storch, German Aerospace Center (DLR); Karl Segl, Andreas Eisele, GFZ German Research Centre for Geosciences; Martin Schlerf, Luxembourg Institute of Science and Technology; Thiemo Knigge, Airbus Defence and Space</i>	
MO4-L8.4: A WIDE-SWATH FREQUENT REVISIT CANADIAN HYPERSPECTRAL MISSION – CONCEPT STUDY OUTCOMES	276
<i>Shen-En Qian, Martin Bergeron, Ralph Girard, Canadian Space Agency; Gary Buttner, Tony Sanz, Jennifer Busler, MacDonald, Dettwiler and Associates Ltd.</i>	

**MO4-L8.5: HYPERSPECTRAL IMAGE RECONSTRUCTION FROM RANDOM PROJECTIONS 280
ON GPU**

Jorge Sevilla, Laboratory of Instrumentation and Experimental Particle Physics; Gabriel Martín, Jose Nascimento, Jose Bioucas-Dias, Instituto de Telecomunicações

MO3-L9: L-BAND MICROWAVE RADIOMETRY

**MO3-L9.1: RESOLUTION ENHANCEMENT OF SMAP RADIOMETER DATA USING THE 284
BACKUS GILBERT OPTIMUM INTERPOLATION TECHNIQUE**

Julian Chaubell, Simon Yueh, Jet Propulsion Laboratory; Dara Entekhabi, Massachusetts Institute of Technology; Jinzheng Peng, NASA Goddard Space Flight Center

MO3-L9.2: FARADAY ROTATION MEASUREMENT WITH THE SMAP RADIOMETER 288

David Le Vine, Saji Abraham, NASA Goddard Space Flight Center

**MO3-L9.3: SOIL MOISTURE ACTIVE/PASSIVE (SMAP) RADIOMETER SUBBAND 291
CALIBRATION AND CALIBRATION DRIFT**

Jinzheng Peng, NASA Goddard Space Flight Center / GESTAR; Jeffrey Piepmeier, Giovanni De Amici, NASA Goddard Space Flight Center; Priscilla Mohammed, NASA Goddard Space Flight Center / Morgan State University

**MO3-L9.4: CALIBRATION AND CHARACTERIZATION OF A SCANNING L-BAND ACTIVE 294
PASSIVE (SLAP) MICROWAVE RADIOMETER**

Lynn Miles Jr., Mark Wong, Albert Wu, Eugenia De Marco, Edward Kim, Tammy Haynes, NASA

**MO3-L9.5: ON THE ENHANCEMENT OF THE SMOS SALINITY PRODUCTS AT CP34-BEC: 296
FROM L0 TO L4**

Antonio Turiel, Verónica González-Gambau, Estrella Olmedo, Justino Martínez, Joaquim Ballabrera-Poy, Marcos Portabella, Institut de Ciències del Mar (ICM-CSIC)

**MO4-L9: RADIO FREQUENCY INTERFERENCE IN MICROWAVE REMOTE SENSING AND
RADIO ASTRONOMY**

**MO4-L9.1: THE CUBESAT RADIOMETER RADIO FREQUENCY INTERFERENCE 299
TECHNOLOGY VALIDATION (CUBERTT) MISSION**

Joel Johnson, Chi-Chih Chen, Andrew O'Brien, Graeme Smith, Christa McKelvey, Mark Andrews, Christopher Ball, The Ohio State University; Sidharth Misra, Shannon Brown, Jonathan Kocz, Robert Jarnot, NASA Jet Propulsion Laboratory; Damon Bradley, Priscilla Mohammed, Jared Lucey, Jeffrey Piepmeier, NASA Goddard Space Flight Center

**MO4-L9.2: TIME DOMAIN CLASSIFICATION OF TRANSIENT RADIO FREQUENCY 302
INTERFERENCE**

Daniel Czech, Amit Kumar Mishra, Michael Inggs, University of Cape Town

**MO4-L9.3: INTERFERENCE DETECTION AND ESTIMATION FOR SPATIAL FILTERING : 306
APPLICATION TO RADIO INTERFEROMETRY**

Gregory Hellbourg, CSIRO

**MO4-L9.5: RFI DETECTION AND REMOVAL IN RANGE-TIME AZIMUTH-FREQUENCY 313
DOMAIN**

Ryo Natsuaki, Manabu Watanabe, Takeshi Motohka, Shinichi Suzuki, Japan Aerospace Exploration Agency

MO3-L10: TANDEM-X: MISSION STATUS AND SCIENCE ACTIVITIES I

**MO3-L10.1: TANDEM-X MISSION STATUS: THE COMPLETE NEW TOPOGRAPHY OF THE 317
EARTH**

Manfred Zink, Alberto Moreira, Markus Bachmann, Benjamin Bräutigam, Thomas Fritz, Irena Hajnsek, Gerhard Krieger, Birgit Wessel, German Aerospace Center (DLR)

MO3-L10.3: TANDEM-X: SCIENCE ACTIVITIES	321
<i>Irena Hajnsek, German Aerospace Center (DLR) / ETH; Thomas Busche, German Aerospace Center (DLR)</i>	
MO3-L10.4: DUAL-POLARIMETRIC AGRICULTURAL CHANGE ANALYSIS OF LONG BASELINE TANDEM-X TIME SERIES DATA	325
<i>Alberto Alonso-Gonzalez, Hannah Joerg, Konstantinos Papathanassiou, German Aerospace Center (DLR); Irena Hajnsek, ETH Zurich / German Aerospace Center (DLR)</i>	
MO3-L10.5: BIOMASS CHANGE IN DISTURBED, SECONDARY, AND PRIMARY TROPICAL FORESTS FROM TANDEM-X	329
<i>Robert Treuhaft, Maxim Neumann, Jet Propulsion Laboratory, California Institute of Technology; Michael Keller, U.S. Department of Agriculture, EMBRAPA-CPNM; Fabio Goncalves, Agrosatelite; Joao Roberto dos Santos, Instituto Nacional de Pesquisas Espaciais</i>	
 MO4-L10: TANDEM-X: MISSION STATUS AND SCIENCE ACTIVITIES II	
MO4-L10.1: MONITORING PERMAFROST AND THERMOKARST PROCESSES WITH TANDEM-X DEM TIME SERIES: OPPORTUNITIES AND LIMITATIONS	332
<i>Simon Zwieback, Swiss Federal Institute of Technology Zurich; Annett Bartsch, Zentralanstalt fur Meteorologie und Geodynamik; Julia Boike, Guido Grosse, Frank Guenther, Birgit Heim, Anne Morgenstern, Alfred Wegener Institute; Irena Hajnsek, Swiss Federal Institute of Technology Zurich</i>	
MO4-L10.2: EVALUATION OF LONG-BASELINE TANDEM-X DEM IN TIDAL FLAT	336
<i>Changhyun Choi, Duk-Jin Kim, Seoul National University</i>	
MO4-L10.3: TIDAL FLAT DIGITAL EVELVATION MODEL (DEM) CONSTRUCTION BY MEANS OF TANDEM-X	340
<i>Seung-Kuk Lee, NASA Goddard Space Flight Center; Joo-Hyung Ryu, Yoon-Kyung Lee, Kye-Lim Kim, Korea Institute of Ocean Science and Technology</i>	
MO4-L10.4: GEODETIC MASS BALANCE OF THE PATAGONIAN ICEFIELDS DERIVED FROM SRTM AND TANDEM-X DATA	342
<i>Wael Abdel Jaber, Dana Floricioiu, German Aerospace Center (DLR); Helmut Rott, ENVEO IT GmbH</i>	
MO4-L10.5: SEA ICE DETECTION WITH TANDEM-X SAR DATA IN THE BOHAI SEA.....	346
<i>Xi Zhang, Jie Zhang, Junmin Meng, First Institute of Oceanography, State Oceanic Administration; Zhiyong Wang, Shandong University of Science and Technology</i>	
 MO3-L11: ATMOSPHERE REMOTE SENSING AND ITS APPLICATION IN AIR POLLUTION I	
MO3-L11.1: SATELLITE REMOTE SENSING OF THE REGIONAL HAZE POLLUTION IN CHINA	350
<i>Liangfu Chen, Minghui Tao, Zifeng Wang, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
MO3-L11.3: RETRIEVALS OF TRACE GASES FROM HYPERSPECTRAL SOUNDERS	353
<i>Quanhua Liu, NOAA; Xiaozhen Xiong, NOAA/NESDIS/STAR; Flavio Iturbide-Sanchez, NOAA; Xu Liu, Wan Wu, NASA Langley Research Center; Antonia Gambacorta, Science and Technology Corporation</i>	
MO3-L11.4: A NEW CLOUD MASK ALGORITHM USED IN AEROSOL RETRIEVAL OVER LAND FOR SUO-NPP VIIRS	356
<i>Wang Yang, Chen Liangfu, Shang Huazhe, CAS</i>	
MO3-L11.5: MONITORING OZONE IN DIFFERENT SPECTRAL REGIMES FROM SPACE AND BALLOON (SENTINEL-4/5P, TELIS)	360
<i>Jian Xu, Franz Schreier, Diego Loyola, Olena Schüssler, Adrian Doicu, Thomas Trautmann, German Aerospace Center (DLR)</i>	

MO4-L11: ATMOSPHERE REMOTE SENSING AND ITS APPLICATION IN AIR POLLUTION II

MO4-L11.1: DUST AEROSOL IMPACT ON THE RETRIEVAL OF CLOUD TOP HEIGHT 364 FROM PASSIVE AND ACTIVE SATELLITE OBSERVATIONS

Wencai Wang, Ocean University of China

MO4-L11.2: IMPACTS OF AEROSOL SCATTERING ON THE SHORT-WAVE INFRARED 367 SATELLITE OBSERVATIONS OF CO₂

Meng Fan, Liangfu Chen, Shenshen Li, Jinhua Tao, Lin Su, Mingmin Zou, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences

MO4-L11.3: EVALUATION OF THE REPRESENTATIVENESS OF GROUND-BASED 370 VISIBILITY FOR ANALYSIS THE SPATIAL AND TEMPORAL VARIABILITY OF AEROSOL OPTICAL THICKNESS IN CHINA

Zhaoyang Zhang, Man Sing Wong, The Hong Kong Polytechnic University

MO4-L11.4: AN IMPROVED CONSTRAINT METHOD IN OPTIMAL ESTIMATION OF CH₄ 374 FROM GOSAT SWIR OBSERVATIONS

Mingmin Zou, Liangfu Chen, Meng Fan, Shenshen Li, Jinhua Tao, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences

MO4-L11.5: OPTICAL CHARACTERISTICS OF AEROSOLS AND CLOUDS STUDIED BY 377 USING GROUND-BASED SKYNET AND SATELLITE REMOTE SENSING DATA

Pradeep Khatri, Hitoshi Irie, Tamio Takamura, Chiba University; Husi Letu, Chinese Academy of Sciences

MO3-L12: STATUS AND DEVELOPMENT OF CHINESE METEOROLOGICAL AND OCEANOGRAPHIC SERIES SATELLITES I

MO3-L12.1: THE NEXT GENERATION GNOS INSTRUMENT FOR FY-3 METEOROLOGICAL 381 SATELLITES

Qifei Du, Yueqiang Sun, Weihua Bai, Xianyi Wang, Dongwei Wang, Xiangguang Meng, Yuerong Cai, Congliang Liu, Di Wu, Chunjun Wu, Wei Li, Junming Xia, Cheng Liu, National Space Science Center, Chinese Academy of Sciences

MO3-L12.3: RETRIEVAL AND ANALYSIS OF INTEGRATED PRECIPITABLE WATER VAPOR IN 384 TYPHOON AREA FROM MWHTS ONBOARD FY-3C SATELLITE

Jieying He, Shengwei Zhang, Ying Zhang, Key Laboratory of Microwave Remote Sensing, National Space Science Center, Chinese Academy of Sciences

MO3-L12.4: INSTRUMENT PERFORMANCE AND CROSS CALIBRATION OF FY-3C MWRI..... 388

Shengli Wu, Jie Chen, National Satellite Meteorological Center, China Meteorological Administration

MO3-L12.5: COMPARISON SIMULATED BRIGHTNESS TEMPERATURE BY RTTOV-11 WITH 392 THE MEASUREMENTS FROM MWHS-II ONBOARD FY-3C SATELLITE

Yingzhu Huang, Zhenzhan Wang, National Space Science Center, Chinese Academy of Sciences / Key Lab. Of Microwave Remote Sensing, Chinese Academy of Sciences

MO4-L12: STATUS AND DEVELOPMENT OF CHINESE METEOROLOGICAL AND OCEANOGRAPHIC SERIES SATELLITES II

MO4-L12.1: ESTIMATING THE SEA STATE BIAS OF HY-2A RADAR ALTIMETER BY USING A 396 THREE-DIMENSIONAL NONPARAMETRIC MODEL

Maofei Jiang, Ke Xu, National Space Science Center, Chinese Academy of Sciences; Yalong Liu, Yantai Marine Environmental Monitoring Center Station, State Oceanic Administration; Lei Wang, National Space Science Center, Chinese Academy of Sciences

MO4-L12.2: DATA FUSION OF SEA SURFACE HEIGHT ANOMALY FROM HY-2A AND JASON-2.....	400
<i>Yalong Liu, Yantai Marine Environmental Monitoring Center Station, State Oceanic Administration; Ke Xu, CAS Key Laboratory of Microwave Remote Sensing, National Space Science Center, Chinese Academy of Sciences; Youguang Zhang, National Satellite Ocean Application Service</i>	
MO4-L12.3: WIND FIELD RETRIEVING UNDER RAINY CONDITION FROM COMBINED OBSERVATIONS OF SCATTEROMETER AND RADIOMETER ONBOARD HY-2A	404
<i>Xingou Xu, Xiaolong Dong, Di Zhu, The CAS Key Laboratory of Microwave Remote Sensing; Shuyan Lang, National Satellite Ocean Application Service; Kuntang Chen, The CAS Key Laboratory of Microwave Remote Sensing</i>	
MO4-L12.4: ON THE IMPROVEMENT OF THE HY-2A SCATTEROMETER WIND QUALITY CONTROL	407
<i>Wenming Lin, Marcos Portabella, Institut de Ciències del Mar (ICM-CSIC); Ad Stoffelen, Anton Verhoef, Royal Netherlands Meteorological Institute (KNMI); Shuyan Lang, Youguang Zhang, Mingsen Lin, National Satellite Ocean Application Service</i>	
MO4-L12.5: THE VALIDATION OF HY-2A ACMR RETRIEVAL ALGORITHMS AND PRODUCT.....	411
<i>Jin Zhao, Dehai Zhang, Zhenzhan Wang, Yun Li, National Space Science Center, Chinese Academy of Sciences</i>	
MOP-P1: APERTURE SYNTHESIS RADIOMETRY	
MOP-P1.1: AN IMPROVED METHOD OF COMPENSATING THE MUTUAL COUPLING EFFECT FOR APERTURE SYNTHESIS RADIOMETERS	414
<i>Hailiang Lu, Qingxia Li, Wenchao Zheng, Qianqian Zhang, Yanhua Li, Yue Yuan, Huazhong University of Science and Technology</i>	
MOP-P1.2: EXPERIMENTAL STUDY OF AN L-BAND SYNTHETIC APERTURE RADIOMETER FOR OCEAN SALINITY MEASUREMENT	418
<i>Lijie Niu, Hao Liu, Lin Wu, Ji Wu, National Space Science Center, Chinese Academy of Sciences</i>	
MOP-P1.3: MICROWAVE INTERFEROMETRIC RADIOMETER WITH UNIFORM CIRCULAR ANTENNA ARRAY	422
<i>Ji Wu, Cheng Zhang, Hao Liu, Jingye Yan, National Space Science Center, Chinese Academy of Sciences</i>	
MOP-P1.4: ANALYSIS AND SIMULATION OF GIMS OBSERVATION ON DYNAMIC TARGETS.....	426
<i>Ying Zhang, Hao Liu, Ji Wu, Cheng Zhang, Jieying He, National Space Science Center, Chinese Academy of Sciences</i>	
MOP-P1.5: MICROWAVE RADIATION IMAGING APPROACH BASED ON SPARSE REPRESENTATION	430
<i>Xiaocheng Yang, Lurong Ding, Long Wu, Zhejiang Sci-Tech University; Jingye Yan, Ji Wu, Lin Wu, National Space Science Center, Chinese Academy of Sciences; Wentao Lv, Zhejiang Sci-Tech University</i>	
MOP-P1.6: FPIR: CONSIDERATION FOR A NEW CALIBRATION SYSTEM.....	434
<i>Lin Wu, Jingye Yan, Ji Wu, National Space Science Center, Chinese Academy of Sciences</i>	
MOP-P2: BUILDING FEATURES DETECTION	
MOP-P2.7: BUILT-UP AREA EXTRACTION USING DATA FIELD FROM HIGH-RESOLUTION SATELLITE IMAGES	437
<i>Yixiang Chen, Nanjing University of Posts and Telecommunications; Kun Qin, Wuhan University; Houjun Jiang, Nanjing University of Posts and Telecommunications; Tao Wu, Lingnan Normal University; Ye Zhang, Wuhan University</i>	
MOP-P2.8: MODELING BACKSCATTER REFLECTIVITY OF KU-BAND SAR ON PERIODIC STRUCTURES	441
<i>Takuma Anahara, Hirokazu Hoshino, Japan Aerospace Exploration Agency</i>	
MOP-P2.9: BUILDING EXTRACTION FROM STEREO AERIAL IMAGES BASED ON MULTI-LAYER LINE GROUPING WITH HEIGHT CONSTRAINT	445
<i>Lechuan Hao, Ye Zhang, Zhimin Cao, Harbin Institute of Technology</i>	

MOP-P2.10: A NOVEL CLOUD REMOVAL METHOD BASED ON IHOT	449
<i>Shuli Chen, Xuehong Chen, Jin Chen, Xin Cao, Beijing Normal University</i>	
MOP-P2.11: EXPLOITING LOCATION INFORMATION TO DETECT LIGHT POLE IN MOBILE LIDAR POINT CLOUDS	453
<i>Huan Luo, Cheng Wang, Xiamen University; Hanyun Wang, National University of Defense Technology; Ziyi Chen, Dawei Zai, Shanxin Zhang, Jonathan Li, Xiamen University</i>	
MOP-P2.12: JOINT FEATURE AND KNOWLEDGE RULE-BASED AUTOMATIC RECOGNITION OF BRIDGE OVER WATER	457
<i>Lin Sang, Ye Zhang, Yiming Yan, Harbin Institute of Technology</i>	
MOP-P3: CLASSIFICATION OF HYPERSPECTRAL IMAGE I	
MOP-P3.13: SUB-PIXEL MAPPING FOR HYPERSPECTRAL IMAGERY USING SUPER-RESOLUTION THEN SPECTRAL UNMIXING	461
<i>Liguo Wang, Peng Wang, Harbin Institute of Technology</i>	
MOP-P3.14: THREE-DIMENSIONAL LOCAL BINARY PATTERNS FOR HYPERSPECTRAL IMAGERY CLASSIFICATION	465
<i>Sen Jia, Jie Hu, College of Computer Science and Software Engineering, Shenzhen University; Lin Deng, College of Information Engineering, Shenzhen University; Xiuping Jia, University of New South Wales</i>	
MOP-P3.15: ACTIVE LEARNING BASED AUTOENCODER FOR HYPERSPECTRAL IMAGERY CLASSIFICATION	469
<i>Yibao Sun, Wuhan University; Jun Li, Sun Yat-sen University; Wei Wang, Wuhan University; Antonio Plaza, University of Extremadura; Zeqiang Chen, Wuhan University</i>	
MOP-P3.16: SPECTRAL-SPATIAL CLASSIFICATION OF HYPERSPECTRAL IMAGES WITH GAUSSIAN PROCESS	473
<i>Shujin Sun, Ping Zhong, Huaitie Xiao, Yuting Chen, Zhiqiang Gong, Runsheng Wang, National University of Defense Technology</i>	
MOP-P3.17: KERNEL LOW-RANK REPRESENTATION FOR HYPERSPECTRAL IMAGE CLASSIFICATION	477
<i>Lu Du, Zebin Wu, Yang Xu, Wei Liu, Zhihui Wei, Nanjing University of Science and Technology</i>	
MOP-P3.18: JOINT MULTI-FEATURE HYPERSPECTRAL IMAGE CLASSIFICATION WITH SPATIAL CONSTRAINT IN SEMANTIC MANIFOLD	481
<i>Xiangrong Zhang, Zeyu Gao, Jinliang An, Yanning Hu, Yangyang Li, Biao Hou, Xidian University</i>	
MOP-P3.19: A COMPARISON OF DIFFERENTIAL EVOLUTION AND HARMONY SEARCH METHODS FOR SVM MODEL SELECTION IN HYPERSPECTRAL IMAGE CLASSIFICATION	485
<i>Oguzhan Ceylan, Istanbul Kemerburgaz University; Gulsen Taskin, Istanbul Technical University</i>	
MOP-P3.20: A COMPREHENSIVE EVALUATION OF FEATURE SELECTION ALGORITHMS IN HYPERSPECTRAL IMAGE CLASSIFICATION	489
<i>Hamed Gholami Vijouyeh, Gulsen Taskin, Istanbul Technical University</i>	
MOP-P4: CLASSIFICATION OF HYPERSPECTRAL IMAGE II	
MOP-P4.21: LOCALITY CONSTRAINED LOW-RANK REPRESENTATION FOR HYPERSPECTRAL IMAGE CLASSIFICATION	493
<i>Lei Pan, Heng-Chao Li, Xiang-Dong Chen, Southwest Jiaotong University</i>	
MOP-P4.22: ELM-BASED SPECTRAL-SPATIAL CLASSIFICATION OF HYPERSPECTRAL IMAGES USING BILATERAL FILTERING INFORMATION ON SPECTRAL BAND-SUBSETS	497
<i>Yu Shen, Jinhuan Xu, Heng Li, Liang Xiao, Nanjing University of Science and Technology</i>	

MOP-P4.23: SPATIALLY CONSTRAINED BAG-OF-VISUAL-WORDS FOR HYPERSPECTRAL IMAGE CLASSIFICATION	501
<i>Xiangrong Zhang, Kai Jiang, Yaoguo Zheng, Jinliang An, Yanning Hu, Licheng Jiao, Xidian University</i>	
MOP-P4.24: MULTI-CLASSIFICATION METHOD FOR HYPERSPECTRAL DATA BASED ON CHERNOFF DISTANCE AND PAIRWISE DECISION TREE STRATEGY	505
<i>Miao Zhang, Zheqi Lin, Yiming Cui, Harbin Institute of Technology; Fei Shen, Shanghai Institute of Spaceflight Control Technology; Yi Shen, Harbin Institute of Technology</i>	
MOP-P4.25: NON-LOCAL SPECTRAL-SPATIAL CENTRALIZED SPARSE REPRESENTATION FOR HYPERSPECTRAL IMAGE CLASSIFICATION	509
<i>Bushra Naz Soomro, Liang Xiao, Shahzad Hyder Soomro, Nanjing University of Science and Technology</i>	
MOP-P4.26: MAPPING LAND COVER WITH HYPERSPECTRAL AND MULTISPECTRAL SATELLITES USING MACHINE LEARNING AND SPECTRAL MIXTURE ANALYSIS	513
<i>Matthew Clark, Sonoma State University</i>	
 MOP-P5: CLOUDS AND PRECIPITATION	
MOP-P5.27: STUDY ON CORRECTION OF DAILY PRECIPITATION DATA OF THE QINGHAI-TIBETAN PLATEAU WITH MACHINE LEARNING MODELS	517
<i>Chen Ning, Baoji University of Science and Art; Yudan Wang, Cold and Arid Regions Environmental and Engineering Research Institute, Chinese Academy of Sciences; Zhuotong Nan, Nanjing Normal University; Hao Chen, Canran Liu, Baoji University of Science and Art</i>	
MOP-P5.28: THE RESULTS OF MULTI-FREQUENCY MEASUREMENTS OF CLEAR SKY AND CLOUDS APPARENT TEMPERATURES	521
<i>Astghik Hambaryan, Artashes Arakelyan, Arsen Arakelyan, ECOSERV Remote Observation Centre Co. Ltd.</i>	
MOP-P5.30: A NEW APPROACH IN HAIL DETECTION AND PREVENTION	528
<i>Artashes Arakelyan, Astghik Hambaryan, Arsen Arakelyan, ECOSERV Remote Observation Centre Co. Ltd.</i>	
MOP-P5.31: ESTIMATION OF RAIN ATTENUATION LOSSES IN SIGNAL LINK FOR MICROWAVE FREQUENCIES USING ITU-R MODEL	532
<i>Shradha Mohanty, Indian Institute of Technology, Bombay; Charu Singh, Varun Tiwari, Indian Institute of Remote Sensing</i>	
 MOP-P6: CLOUDS AND PRECIPITATION: GROUND-BASED SENSING	
MOP-P6.32: ATTENUATION CORRECTION AND RAINDROP SIZE DISTRIBUTION WITH DUAL-POLARIZATION RADAR MEASUREMENTS AT KU-BAND	536
<i>Haonan Chen, V. Chandrasekar, Colorado State University; Sanghun Lim, Korea Institute of Civil Engineering and Building Technology; Robert M. Beauchamp, Colorado State University</i>	
MOP-P6.33: PROBABILISTIC ATTENUATION CORRECTION IN DUAL-POL RADAR NETWORK	540
<i>Shigeharu Shimamura, Tomoo Ushio, Gwan Kim, Osaka University; Eiichi Yoshikawa, Japan Aerospace Exploration Agency; V. Chandrasekar, Colorado State University</i>	
MOP-P6.34: A PRELIMINARY ANALYSIS OF CLOUD CLASSIFICATION RESULTS USING KA-BAND POLARIMETRIC RADAR SIGNATURES	544
<i>Abhishek Kodilkar, Arvind Agarwal, SAMEER; Mcr Kalapureddy, Indian Institute of Technology, Madras; J.S Pillai, SAMEER</i>	

MOP-P7: CLOUDS AND PRECIPITATION: SATELLITE REMOTE SENSING I

MOP-P7.38: CLOUD DETECTION OF OPTICAL REMOTE SENSING IMAGE TIME SERIES 560 USING MEAN SHIFT ALGORITHM

Jiang Qian, School of Resources and Environment, University of Electronic Science and Technology of China; Ye Luo, School of Software Engineering, Tongji University; Yong Wang, Daotong Li, University of Electronic Science and Technology of China

MOP-P7.39: ISCCP CLOUD BASED VERIFICATION OF CMIP5 CLIMATE SIMULATIONS..... 563

Lindsey Hayden, Zaitao Pan, Saint Louis University

MOP-P7.40: DYNAMIC THRESHOLD CLOUD DETECTION ALGORITHMS FOR MODIS AND 566 LANDSAT 8 DATA

Jing Wei, Lin Sun, Chen Jia, Yikun Yang, Xueying Zhou, Ping Gan, Shangfeng Jia, Fangwei Liu, Ruibo Li, Shandong University of Science and Technology

MOP-P7.41: SIMULATION OF THIN CLOUDS IN VISIBLE SPECTRUM USING THE 570 SIMPLIFIED RADIATIVE TRANSFER EQUATION

Haitao Lv, Yong Wang, University of Electronic Science and Technology of China

MOP-P7.42: CLOUD REMOVAL FROM THE AVHRR/2 IMAGES WITH CLOUD AND SNOW 574 OVER QINGHAI-TIBET PLATEAU

Ji Zhu, Shuqin Cao, Guofei Shang, Hebei GEO University

MOP-P8: CLOUDS AND PRECIPITATION: SATELLITE REMOTE SENSING II

MOP-P8.44: RESEARCH ON CIRRUS CLOUDS IN TIBETAN PLATEAU USING MWHS 581 ONBOARD CHINESE FY-3B/C METEOROLOGICAL SATELLITE

Jieying He, Shengwei Zhang, Key Laboratory of Microwave Remote Sensing, National Space Science Center, Chinese Academy of Sciences

MOP-P8.45: TOWARD A GENERAL METHOD FOR DETECTING CLOUDS AND SHADOWS IN 585 OPTICAL REMOTE SENSING IMAGERY

Tianxing Wang, Jiancheng Shi, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Guangjian Yan, Beijing Normal University; Bo Gao, Capital Normal University; Ling Chen, Beijing Forestry University; Dabin Ji, Chuan Xiong, Tianjie Zhao, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences

MOP-P8.47: CORRECTION OF DAILY PRECIPITATION DATA OF ITPCAS DATASET OVER 593 THE QINGHAI-TIBETAN PLATEAU WITH KNN MODEL

Yudan Wang, University of Chinese Academy of Sciences; Zhuotong Nan, School of Geography Science, Nanjing Normal University; Hao Chen, Baoji University of Science and Art; Xiaobo Wu, University of Chinese Academy of Sciences

MOP-P8.48: MERGED OF GAUGE-SATELLITE PRECIPITATION BENEFITS TO DATA-SPARSE 597 REGIONS AND TO EXTREME RAINFALL EVENTS

Huan Li, Institute of Geographic Sciences and Natural Resources Research, CAS

MOP-P9: CLOUDS AND PRECIPITATION: TRMM/GPM

MOP-P9.49: DAILY RAINFALL MODEL TO MERGE TRMM AND GROUND BASED 601 OBSERVATIONS FOR RAINFALL ESTIMATIONS

Lei Zhou, Yuanhang Chen, Nian Liang, Yong Ni, China National Environmental Monitoring Center

MOP-P9.50: STUDY ON THE SATELLITE-BASED PRECIPITATION DOWNSCALING 605 ALGORITHM IN TIANSHAN MOUNTAIN

Qisheng He, Hohai University; Tao Yang, Xinjiang Institute of Ecology and Geography, Chinese Academy of Sciences; Baozhu Liu, Si Zhou, Hohai University

MOP-P9.51: CALIBRATION OF TRMM RAINFALL CLIMATOLOGY OVER UTTARAKHAND STATE, INDIA DURING 1998-2012	609
<i>Anoop Kumar Shukla, C.S.P Ojha, Rahul Dev Garg, Indian Institute of Technology, Roorkee; Rajendra Prasad Singh, Southeast University</i>	
MOP-P9.52: EVALUATION AND COMPARISON OF NEWEST GPM AND TRMM PRODUCTS OVER MEKONG RIVER BASIN AT DAILY SCALE	613
<i>Wei Wang, Hui Lu, Tsinghua University</i>	
MOP-P9.53: CONSIDERING MULTI-VIEWING DIRECTIONS TO IMPROVE PRECIPITATION RETRIEVAL PERFORMANCE FROM OFF-NADIR VIEWING PASSIVE MICROWAVE RADIOMETERS	617
<i>Dong-Bin Shin, Yeji Choi, Yonsei University</i>	
 MOP-P10: DATA MANAGEMENT AND SYSTEMS I	
MOP-P10.55: RESEARCH ON MULTI-SOURCE HETEROGENEOUS DATA COLLECTION FOR THE SMART CITY PUBLIC INFORMATION PLATFORM	623
<i>Shufu Liu, Ling Peng, Tianhe Chi, Xiaomeng Wang, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
MOP-P10.56: CAPTURING IMPLICIT KNOWLEDGE IN EARTH OBSERVATION DATA	627
<i>Jitao Yang, Beijing Language and Culture University; Guoqing Li, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
MOP-P10.57: CLOUDARRAY: EASING HUGE IMAGE PROCESSING	631
<i>Andre Lage-Freitas, Alejandro C. Frery, Naelson Oliveira, Raphael Ribeiro, Rivo Sarmento, Federal University of Alagoas</i>	
MOP-P10.58: ENERGY-EFFICIENT STRATEGY FOR CLOUD STORAGE BASED ON THE CHARACTERISTICS OF REMOTE SENSING IMAGE DATA	635
<i>Xinchen Ye, Yurong Qian, Jiong Yu, Xinjiang University; Jiayi Wu, Xidian University; Hailong Zhang, Xinjiang Astronomical Observatory, CAS</i>	
 MOP-P11: DATA MANAGEMENT AND SYSTEMS II	
MOP-P11.60: REMOTE SENSING DATA PROCESSING ACCELERATION BASED ON MULTI-CORE PROCESSORS	641
<i>Xiao Zheng, Hainan Tropical Ocean University; Yong Xue, Jie Guang, Jia Liu, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
MOP-P11.61: ATOMIC-FREE OPTIMIZATION ON GPU BASED SAR RAW DATA SIMULATION	645
<i>Xiaojie Yao, Chen Hu, Fan Zhang, Wei Hu, Wei Li, Beijing University of Chemical Technology</i>	
MOP-P11.62: DISASTER EVENT MANAGEMENT BASED ON INTEGRATED DISASTER REDUCTION AND RAPID SERVICE PLATFORM	649
<i>Yan Cui, Suju Li, National Disaster Reduction Center of China, Ministry of Civil Affairs; Liying Wang, Moquan Sha, Twenty First Century Aerospace Technology Co.,Ltd.; Yang Shu, National Disaster Reduction Center of China, Ministry of Civil Affairs</i>	
 MOP-P12: DETECTION WITH HIGH RESOLUTION IMAGES	
MOP-P12.63: A CASCADE STRUCTURE OF AIRCRAFT DETECTION IN HIGH RESOLUTION REMOTE SENSING IMAGES	653
<i>Bangyu Li, Xiaoguang Cui, Jun Bai, Institute of Automation, Chinese Academy of Sciences</i>	
MOP-P12.64: SEMI-AUTOMATIC BUILDING EXTRACTION FROM VERY HIGH RESOLUTION REMOTE SENSING IMAGERY VIA ENERGY MINIMIZATION MODEL	657
<i>Yihua Tan, Yujie Yu, Shengzhou Xiong, Jinwen Tian, Huazhong University of Science and Technology</i>	

MOP-P12.65: CNN BASED SUBURBAN BUILDING DETECTION USING MONOCULAR HIGH RESOLUTION GOOGLE EARTH IMAGES	661
<i>Qinchuan Zhang, Yunhong Wang, Qingjie Liu, Xiangyu Liu, Beihang University; Wei Wang, China Ministry of Civil Affairs</i>	
MOP-P12.67: A VEHICLE DETECTION METHOD TAKING SHADOW AREAS INTO ACCOUNT FOR HIGH RESOLUTION AERIAL IMAGERY	669
<i>Jiaxing Zhang, Chao Tao, Zhengrong Zou, Hongbo Pan, Central South University</i>	
MOP-P12.68: COMBINATION OF TEXTURE AND SHAPE ANALYSIS FOR A RAPID RIVERS EXTRACTION FROM HIGH RESOLUTION SAR IMAGES	673
<i>Moslem Ouled Sghaier, École de technologie supérieure; Samuel Foucher, Centre de recherche informatique de montréal; Richard Lepage, École de technologie supérieure; Mohamed Dahmane, Centre de Recherche Informatique de Montréal</i>	
MOP-P13: DISASTER AND ANOMALY DETECTION	
MOP-P13.69: GEOLOGICAL DISASTER DETECTION FROM REMOTE SENSING IMAGE BASED ON EXPERTS' KNOWLEDGE AND IMAGE FEATURES	677
<i>Yuhuan Ren, Yalan Liu, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
MOP-P13.70: THERMAL ANOMALY DETECTION BASED ON SALIENCY COMPUTATION FOR DISTRICT HEATING SYSTEM	681
<i>Yao Xu, Xinyu Wang, Yanfei Zhong, Liangpei Zhang, Wuhan University</i>	
MOP-P13.71: ERROR ENTROPY MODEL BASED DETERMINATION OF MINIMUM DETECTABLE DEFORMATION MAGNITUDE OF TERRESTRIAL LASER SCANNING	685
<i>Xijiang Chen, School of Resource and Environment Engineering, Wuhan University of Technology; Kegen Yu, School of Geodesy and Geomatics and Collaborative Innovation Center for Geospatial Technology, Wuhan University</i>	
MOP-P13.72: AUTOMATIC DETECTION AND MAPPING OF AVALANCHES IN SAR IMAGES	689
<i>Jarle Bauck Hamar, Arnt-Børre Salberg, Norwegian Computing Center; Florina Ardelean, West University of Timisoara</i>	
MOP-P13.73: CONVOLUTIONAL NEURAL NETWORKS FOR NEAR REAL-TIME OBJECT DETECTION FROM UAV IMAGERY IN AVALANCHE SEARCH AND RESCUE OPERATIONS	693
<i>Mesay Belete Bejiga, Abdallah Zeggada, Farid Melgani, University of Trento</i>	
MOP-P13.74: RECOGNITION OF OIL CONTAMINATED WASTEWATER USING LANDSAT 8 IMAGERY	697
<i>Yang Liu, Nannan Zhang, Liqun Zou, Research Institute of Petroleum Exploration & Development, PetroChina; Shanhong Huang, PetroChina Exploration & Production Company; Hongyan Guo, Wentong Dong, Research Institute of Petroleum Exploration & Development, PetroChina</i>	
MOP-P14: FEATURE EXTRACTION AND DETECTION ALGORITHM I	
MOP-P14.75: CLOUD DETECTION OF REMOTE SENSING IMAGES BY DEEP LEARNING	701
<i>Mengyun Shi, Fengying Xie, Yue Zi, Jihao Yin, Beihang University</i>	
MOP-P14.76: ECHO CORRELATION ANALYSIS OF TARGETS WITH DOMINANT SCATTERERS IN DIVERSITY MIMO RADAR	705
<i>Jieyi Liu, Linrang Zhang, Shanshan Zhao, Nan Liu, Juan Zhang, Xidian University</i>	
MOP-P14.77: POINT PATTERN MATCHING ALGORITHM BASED ON LOCAL TOPOLOGICAL CHARACTERISTIC AND PROBABILISTIC RELAXATION LABELING	709
<i>Lin Lei, Huanxin Zou, Xiongqing Zhong, National University of Defense Technology</i>	
MOP-P14.78: AN AMPLITUDE OPTIMIZATION METHOD FOR SUPPRESSING SIDELOBES AT SPECIFIED INTERVALS	713
<i>Liang Tang, Yongfeng Zhu, Qiang Fu, National University of Defense Technology; Hucheng Pei, Institute of Mechanical and Electrical Engineering</i>	

MOP-P14.79: RESEARCH ON REEF REMOTE SENSING DETECTION BASED ON GVF	717
SNAKE MODEL—TAKEN YIN LITAN FOR EXAMPLE	
<i>Qinpei Sun, First Institute of Oceanography; Yi Ma, Weifu Sun, Jingyu Zhang, FIO</i>	
MOP-P14.81: DEVELOPMENT OF ELECTROMAGNETIC APPROACH FOR EARLY BREAST	724
TUMOR DETECTION	
<i>Nagmani Kumar, Varsha Mishra, Smitha Puthucheri, Dharmendra Singh, Indian Institute of Technology, Roorkee; Keshava P Singh, Indian Institute of Technology Banaras Hindu University (IIT BHU); N. S. Rajput, Indian Institute of Technology (BHU)</i>	
MOP-P15: FOREST MONITORING BY RADAR AND LIDAR	
MOP-P15.82: REALISTIC 3D-SIMULATION OF LARGE-SCALE FOREST SCENE BASED ON	728
INDIVIDUAL TREE DETECTION	
<i>Jianbo Qi, Donghui Xie, Guangjian Yan, Beijing Normal University</i>	
MOP-P15.83: THE IMPORTANCE OF FOREST SPATIAL HETEROGENEITY: EXPLORING	732
THE EFFECT OF MIX SCENES USING COHERENCE THREE-DIMENSION RADAR	
BACKSCATTERING MODEL	
<i>Le Yang, Qinhuo Liu, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Mahta Moghaddam, University of Southern California</i>	
MOP-P15.84: BUILDING BLOCKS FOR SEMI-EMPIRICAL MODELS FOR FOREST	736
PARAMETER EXTRACTION FROM INTERFEROMETRIC X-BAND SAR IMAGES	
<i>Jaan Praks, Aalto University; Aire Olesk, University of Tartu; Kaupo Voormansik, Tartu Observatory; Oleg Antropov, Aalto University; Karlis Zalite, Tartu Observatory; Mart Noorma, University of Tartu</i>	
MOP-P15.85: A CLASSIFICATION METHOD OF UNMANNED-AERIAL-SYSTEMS-DERIVED	740
POINT CLOUD FOR GENERATING A CANOPY HEIGHT MODEL OF FARM FOREST	
<i>Chinsu Lin, Ka-Lok Lo, Puo-Lin Huang, National Chiayi University</i>	
MOP-P15.87: ESTIMATION OF CLUMPING INDEX AND LAI FROM TERRESTRIAL LIDAR	747
DATA	
<i>Yunfei Bao, Beijing Institute of Space Mechanics and Electricity</i>	
MOP-P16: HIGH RESOLUTION IMAGES CLASSIFICATION	
MOP-P16.88: EFFECTS OF SHADOW CORRECTION ON VEGETATION AND LAND COVER	751
CLASSIFICATION FROM HIGH RESOLUTION AERIAL IMAGES	
<i>Teemu Kumpumäki, Tarmo Lipping, Tampere University of Technology</i>	
MOP-P16.89: APPLICATION OF RELIEFF ALGORITHM TO SELECTING FEATURE SETS FOR	755
CLASSIFICATION OF HIGH RESOLUTION REMOTE SENSING IMAGE	
<i>Zhi Wang, Yan Zhang, Zhichao Chen, Huan Yang, Northeastern University; Yaxin Sun, Jianmin Kang, Yong Yang, Xiaojun Liang, Anshan Iron & Steel Group Mining Co.</i>	
MOP-P16.90: HIGH RESOLUTION REMOTE SENSING CLASSIFICATION OF CORAL REEF	759
SUBSTRATE, BASE ON SVM—TAKEN XISHA ZHAOSHU ISLAND AS AN EXAMPLE	
<i>Guoqiang Yang, First Institute of Oceanography; Yi Ma, Guangbo Ren, FIO; Yuhai Bao, College of Geographical Science, Inner Mongolia Normal University</i>	
MOP-P16.91: SCENE SEMANTIC CLASSIFICATION BASED ON RANDOM-SCALE STRETCHED	763
CONVOLUTIONAL NEURAL NETWORK FOR HIGH-SPATIAL RESOLUTION REMOTE SENSING	
IMAGERY	
<i>Yanfei Liu, Yanfei Zhong, Feng Fei, Liangpei Zhang, Wuhan University</i>	
MOP-P16.92: SCENE CLASSIFICATION OF HIGH RESOLUTION REMOTE SENSING IMAGES	767
USING CONVOLUTIONAL NEURAL NETWORKS	
<i>Gong Cheng, Chengcheng Ma, Peicheng Zhou, Xiwen Yao, Junwei Han, Northwestern Polytechnical University</i>	

MOP-P17: LAND COVER MAPPING

MOP-P17.93: A HYBRID LAND-USE MAPPING APPROACH BASED ON MULTI-SCALE SPATIAL 771 CONTEXT

Jingbo Chen, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Hichem Sahli, Vrije Universiteit Brussel, Department of Electronics & Informatics, Pleinlaan 2, B-1050 Brussels, Belgium; Interuniversity Microelectronics Centre (IMEC), Kapeldreef 75, 3001 Heverlee, Belgium; Jiansheng Chen, Chengyi Wang, Dongxu He, Anzhi Yue, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences

MOP-P17.94: A SUPPORT VECTOR MACHINE-BASED PARTICLE FILTER FOR IMPROVED 775 LAND COVER CLASSIFICATION APPLIED TO MODIS DATA

Patcharin Insom, The State Key Laboratory of Remote Sensing Science, Institute of Remote Sensing and Digital Earth, CAS / The University of the Chinese Academy of Sciences; Chunxiang Cao, The State Key Laboratory of Remote Sensing Science, Institute of Remote Sensing and Digital Earth, CAS; Pisit Boonsrimuang, Department of Telecommunication Engineering, Faculty of Engineering, King Mongkut's Institute of Technology Ladkrabang(KMITL); Shanning Bao, The State Key Laboratory of Remote Sensing Science, Institute of Remote Sensing and Digital Earth, CAS / The University of the Chinese Academy of Sciences; Wei Chen, Xiliang Ni, The State Key Laboratory of Remote Sensing Science, Institute of Remote Sensing and Digital Earth, CAS

MOP-P17.95: SPARSE GRAPH REGULARIZATION FOR ROBUST CROP MAPPING USING 779 HYPERSPPECTRAL REMOTELY SENSED IMAGERY: A CASE STUDY IN HEIHE, ZHANGYE OASIS

Zhaohui Xue, Hongjun Su, Hohai University; Peijun Du, Nanjing University

MOP-P17.97: REMOTE SENSING AND GIS BASED IMPACT ASSESSMENT OF LAND 787 TRANSFORMATIONS ON GROUND WATER LEVEL OF A RAPIDLY URBANIZING WATERSHED OF INDIA

Satyavati Shukla, M. V. Khire, S. S. Gedam, Indian Institute of Technology, Bombay

MOP-P18: LAND TARGETS

MOP-P18.98: DIGITAL TERRAIN MODEL EXTRACTION IN SUAS CLEARANCE SURVEY 791 USING LIDAR DATA

Dengchao Feng, North China Institute of Aerospace Engineering; Xiaohui Yuan, University of North Texas

MOP-P18.99: RESEARCH ON AUTOMATIC DETECTION OF SEISMIC LANDSLIDES 795 INFORMATION

Qi Yan, Hui Li, Linhai Jing, Chinese Academy of Sciences; Wenyan Ge, China University of Geosciences; Haifeng Ding, Yunwei Tang, Chinese Academy of Sciences; Kongwen Zhang, Selkirk College

MOP-P18.100: AUTOMATIC IDENTIFICATION AND EXTRACTION OF FOREST ROAD 799 THROUGH ADVANCED LOG MATCHING TECHNIQUES

Wen Zhang, Baoxin Hu, York University; Lauren Quist, Hearst Forest Management Inc.

MOP-P18.101: MAPPING OF THE HYDROTHERMAL MINERAL ALTERATION ZONES USING 802 ASTER DATA

Qian Feng, Binbin He, University of Electronic Science and Technology of China

MOP-P18.102: SPECTRAL UNMIXING FOR FIRE SMOKE DETECTION AND REMOVAL..... 806

Meng Xu, Xiuping Jia, Mark Pickering, UNSW Canberra; Dar Roberts, The University of California, Santa Barbara

MOP-P18.103: HYPERSPPECTRAL FACE RECOGNITION WITH MINIMUM NOISE FRACTION, 809 LOG-POLAR FOURIER FEATURES AND COLLABORATIVE REPRESENTATION-BASED CLASSIFIER

Guangyi Chen, Wenfang Xie, Concordia University; Shaoping Wang, Haokuo Liu, Beihang University

MOP-P19: MICROWAVE AND OPTICAL CALIBRATION

MOP-P19.105: RFI MITIGATION OF SMOS IMAGE BASED ON CLEAN ALGORITHM..... 816
Xiaohui Peng, Fei Hu, Feng He, Liang Wu, Jun Li, Dong Zhu, Huazhong University of Science and Technology; Zhiqiang Liao, Cui Fang Qian, Sichuan Institute of Aerospace Electronic Equipment

MOP-P19.106: SMOS RFI MITIGATION USING ARRAY FACTOR SYNTHESIS OF SYNTHETIC 820
APERTURE INTERFEROMETRIC RADIOMETRY
Jun Li, Fei Hu, Feng He, Liang Wu, Xiaohui Peng, Huazhong University of Science and Technology

MOP-P19.107: ANALYSIS OF RFI STATISTICS FOR AQUARIUS RFI DETECTION AND 824
MITIGATION IMPROVEMENTS
Paolo de Matthaeis, Yan Soldo, David Le Vine, NASA Goddard Space Flight Center

MOP-P19.108: CALIBRATING THE EFFECTIVE SCATTERING ALBEDO IN THE SMOS 826
ALGORITHM: SOME FIRST RESULTS
Roberto Fernández Morán, Jean-Pierre Wigneron, INRA; Gabrielle De Lannoy, NASA Goddard Space Flight Center; Ernesto Lopez-Baeza, University of Valencia; Arnaud Mialon, Mahmoodi Ali, Marie Parrens, Ahmad Al Bitar, Philippe Richaume, Yann Kerr, Centre d'Études Spatiales de la Biosphère (CESBIO)

MOP-P19.109: OCO-2 XCO₂ VALIDATION USING TCCON DATA..... 830
Ailin Liang, Wei Gong, Ge Han, Wuhan University

MOP-P19.110: AN INTEGRATION TIME OPTIMIZATION APPROACH FOR GEO-SAR..... 834
Zhao Bingji, Zhang Qingjun, Liu Liping, Dai Chao, Liu Jie, Zhu Yu, Shu Weiping, Han Xiaolei, Huan Zhang, Beijing Institute of Spacecraft System Engineering

MOP-P19.111: A FILTER ALGORITHM FOR GPS/INS INTEGRATED NAVIGATION SYSTEM 838
BASED ON IMM-AF
Zhilu Wu, Yuyuan Zhang, Jinlong Sun, Zhendong Yin, Harbin Institute of Technology

MOP-P20: MICROWAVE RADIOMETER CALIBRATION AND EMERGING TECHNIQUES

MOP-P20.112: SMOS SIMPLIFIED ITERATIVE FULL-POL BRIGHTNESS TEMPERATURE 842
RETRIEVAL
Israel Durán, UPC; Wu Lin, NSSC; Francesc Torres, Ignasi Corbella, Núria Duffo, UPC; Manuel Martín-Neira, European Space Agency

MOP-P20.113: EARTH ANTENNA TEMPERATURE VARIABILITY FOR CYGNSS..... 846
Mary Morris, David Chen, Christopher Ruf, University of Michigan

MOP-P20.114: ARRAY CONFIGURATION OPTIMIZATION FOR ONE-DIMENSIONAL 850
NONUNIFORM APERTURE SYNTHESIS RADIOMETERS
Li Feng, Hubei University of Technology; Qingxia Li, Huazhong University of Science and Technology; Minghu Wu, Hubei University of Technology; Yufang Li, Huazhong University of Science and Technology; Dongjian Wang, Pengcheng Gong, Jie Li, Hubei University of Technology

MOP-P20.115: ARRAY CONFIGURATION OPTIMIZATION FOR ROTATING MIRRORED 853
APERTURE SYNTHESIS (RMAS)
Yufang Li, Qingxia Li, Rong Jin, Huazhong University of Science and Technology; Li Feng, Hubei University of Technology; Haofeng Dou, Hang Liu, Huazhong University of Science and Technology

MOP-P20.116: POINTING AND GEOLOCATION FOR THE SMAP PASSIVE INSTRUMENT 857
Giovanni De Amici, Jeffrey Piepmeier, Derek Hudson, Jinzheng Peng, NASA Goddard Space Flight Center

MOP-P20.117: REBUILD THE INSTRUMENT MOUNTING MATRIX FOR MICROWAVE 860
INSTRUMENT ON-ORBIT GEOMETRIC CALIBRATION
Jun Zhou, Hu Yang, University of Maryland; Fuzhong Weng, National Oceanic and Atmospheric Administration

MOP-P21: MICROWAVE RADIOMETRY

MOP-P21.118: EXAMINING GMI INTERCALIBRATION DEPENDENCE ON THE FULL DYNAMIC RANGE OF BRIGHTNESS TEMPERATURE USING COLD AND WARM END TIE POINTS 864

John Xun Yang, Darren McKague, Christopher Ruf, University of Michigan; Hu Yang, University of Maryland, College Park; Fuzhong Weng, NOAA Center for Satellite Applications and Research

MOP-P21.119: INTERCOMPARISON OF INTEGRATED WATER VAPOR PRODUCTION RETRIEVALS FROM HY-2 AND AMSR2 868

Xiaoqi Huang, Yili Zhao, Jianhua Zhu, National Ocean Technology Center

MOP-P21.120: SENSIVITY OF XCAL DOUBLE DIFFERENCE APPROACH TO OCEAN SURFACE EMISSIVITY AND ITS IMPACT ON INTER-CALIBRATION IN GPM CONSTELLATION 871

Ruiyao Chen, Hamideh Ebrahimi, W. Linwood Jones, University of Central Florida

MOP-P21.121: INTER-CALIBRATION OF MICROWAVE RADIOMETERES ON POLAR ORBITERS IN THE GPM CONSTELLATION 875

Hamideh Ebrahimi, Ruiyao Chen, University of Central Florida; Thomas Wilheit, Texas A&M University; Saswati Datta, Data and Image Processing Consultants; W. Linwood Jones, University of Central Florida

MOP-P21.123: CHARACTERISTICS OF AMSR-E SLOW ROTATION DATA..... 883

Keiji Imaoka, Yamaguchi University; Misako Kachi, Takashi Maeda, Satoko Miura, Susumu Saitoh, Japan Aerospace Exploration Agency; Yuji Taniguchi, Mitsubishi Space Software Co., Ltd.

MOP-P22: MULTI-SOURCE IMAGES FUSION AND CLASSIFICATION

MOP-P22.124: COASTAL WETLAND CLASSIFICATION BASED ON HIGH RESOLUTION SAR AND OPTICAL IMAGE FUSION 886

Junfang Yang, Guangbo Ren, Yi Ma, The First Institute of Oceanography; Yanguo Fan, China University of Petroleum

MOP-P22.125: CLASSIFICATION OF GROUNDWATER POTENTIAL IN CHAOYANG AREA BASED ON QUEST ALGORITHM 890

Duan Huajie, Deng Zhengdong, Deng Feifan, PLA University of Science and Technology

MOP-P22.126: FOREST LAND TYPE PRECISE CLASSIFICATION BASED ON SPOT5 AND GF-1 IMAGES 894

Chong Ren, Hongbo Ju, Huaiqing Zhang, Jianwen Huang, Chinese Academy of Forestry

MOP-P22.127: ON THE PREDICTIVE VALUE OF THE WORLDVIEW-3 VNIR AND SWIR SPECTRAL BANDS 898

Fabio Pacifici, DigitalGlobe, Inc.

MOP-P22.128: LAND COVER CLASSIFICATION AND MONITORING THROUGH MULTISENSOR IMAGE AND DATA COMBINATION 902

Pia Addabbo, Università Telematica Giustino Fortunato; Mariano Focareta, MAPSAT Benevento; Salvo Marcuccio, Claudio Votto, Università di Pisa; Silvia Liberata Ullo, Università degli Studi del Sannio

MOP-P23: OBJECT DETECTION AND RECOGNITION WITH SAR IMAGES

MOP-P23.129: SIMULATION OF SAR IMAGES OF SUBMARINE WAKES 906

Jie Ren, Junfeng Wang, Shanghai Jiao Tong University

MOP-P23.130: MULTISCALE CONVOLUTIONAL NEURAL NETWORK FOR THE DETECTION OF BUILT-UP AREAS IN HIGH-RESOLUTION SAR IMAGES 910

Jingge Li, Rong Zhang, Yue Li, University of Science and Technology of China

MOP-P23.131: VIRTUAL SAR TARGET IMAGE GENERATION AND SIMILARITY.....	914
<i>Weibo Huo, Yulin Huang, Jifang Pei, Xiaojia Liu, Jianyu Yang, University of Electronic Science and Technology of China</i>	
MOP-P23.133: THE SHADOW ENHANCEMENT FOR TARGETS WITH FLAT STRUCTURES IN SAR IMAGES	921
<i>Yueting Zhang, Xiaolan Qiu, Bin Lei, Kun Fu, Fangfang Li, Chibiao Ding, Institute of Electronics, Chinese Academy of Sciences</i>	
MOP-P23.134: AN LAND MASKING ALGORITHM FOR SHIP DETECTION IN SAR IMAGES.....	925
<i>Kefeng Ji, Xiangguang Leng, Qingju Fan, Shilin Zhou, Huanxin Zou, National University of Defense Technology</i>	
MOP-P23.135: ANGULAR RESOLUTION ENHANCEMENT OF REAL-BEAM SCANNING RADAR	929
BASE ON ACCELERATED ITERATIVE SHINKAGE/THRESHOLDING ALGORITHM	
<i>Ke Tan, Wenchao Li, Yulin Huang, Jianyu Yang, University of Electronic Science and Technology of China</i>	
 MOP-P24: REGION BASED IMAGE CLASSIFICATION	
MOP-P24.136: HYPERSPECTRAL IMAGE CLASSIFICATION VIA REGION-BASED COMPOSITE KERNELS	933
<i>Jianjun Liu, Xiaoqian Shi, Jiangnan University; Zebin Wu, Liang Xiao, Nanjing University of Science and Technology; Zhiyong Xiao, Yunhao Yuan, Jiangnan University</i>	
MOP-P24.137: SUPERVISED CLASSIFICATION OF THERMAL INFRARED HYPERSPECTRAL IMAGES THROUGH BAYESIAN, MARKOVIAN, AND REGION-BASED APPROACHES	937
<i>Francesco Barisione, David Solarna, Andrea De Giorgi, Gabriele Moser, Sebastiano B. Serpico, University of Genoa</i>	
MOP-P24.138: FUSION OF INTENSITY/COHERENT INFORMATION USING REGION COVARIANCE FEATURES FOR UNSUPERVISED CLASSIFICATION OF SAR IMAGERY	941
<i>Xiangli Yang, Wuhan University; Shangtan Tu, Shanghai Institute of Satellite Engineering; Yu Bai, Wen Yang, Wuhan University</i>	
MOP-P24.139: CONVOLUTIONAL NEURAL NETWORK FOR SAR IMAGE CLASSIFICATION AT PATCH LEVEL	945
<i>Juanping Zhao, Weiwei Guo, Shanghai Jiao Tong University; Shiyong Cui, German Aerospace Center (DLR); Zenghui Zhang, Wenxian Yu, Shanghai Jiao Tong University</i>	
MOP-P24.140: SPARSE SAR PATCH CLASSIFICATION USING COMPLEX VALUED APPROACH.....	949
<i>Dusan Gleich, Univeristy of Maribor</i>	
 MOP-P25: REMOTE SENSING DATA AND POLICY DECISIONS	
MOP-P25.141: ICE, ICE, BABY INQUIRY-BASED, HANDS-ON ACTIVITIES AND LESSONS FOR UNDERSTANDING THE DYNAMICS OF POLAR ICE SHEETS IN SEA LEVEL RISE	953
<i>Jennah Seaver, Krystle Barnett, Cheri Hamilton, Darryl Monteau, Center for Remote Sensing of Ice Sheets</i>	
MOP-P25.145: IDENTIFYING HOT SPOTS FOR STORMWATER HARVESTING AND REUSE IN URBAN AREAS APPLYING REMOTE SENSING, GIS AND SYSTEM OPTIMIZATION TECHNIQUES	967
<i>Shray Pathak, Anoop Kumar Shukla, C.S.P Ojha, Rahul Dev Garg, Indian Institute of Technology, Roorkee</i>	
 MOP-P26: SAR AND SONAR IMAGE ANALYSIS AND CLASSIFICATION	
MOP-P26.163: SAR IMAGE CLASSIFICATION BASED ON CRFS WITH OBJECT STRUCTURE PRIORS	971
<i>Yongke Ding, Weiwei Guo, Juanping Zhao, Yuanxiang Li, Shanghai Jiao Tong University; Weidong Xiang, University of Michigan; Zenghui Zhang, Wenxian Yu, Shanghai Jiao Tong University</i>	

MOP-P26.164: SMALL SHIPS DON'T SHINE: CLASSIFICATION OF OCEAN VESSELS FROM LOW RESOLUTION, LARGE SWATH AREA SAR ACQUISITIONS	975
<i>Rory Meyer, Waldo Kleyhans, Colin Peter Schwegmann, Council for Scientific and Industrial Research</i>	
MOP-P26.165: UNSUPERVISED CLASSIFICATION BASED ON THE LOGARITHMIC CIRCULAR POLARIZATION RATIO PARAMETER FOR HYBRID POLARIMETRIC SAR	979
<i>Shiqiang Chen, Shenglong Guo, Institute of Electronics, Chinese Academy of Sciences; Yang Li, Beijing Institute of Electronic System Engineering; Qiang Yin, Wen Hong, Institute of Electronics, Chinese Academy of Sciences</i>	
MOP-P26.166: SUPERVISED CLASSIFICATION USING POLARIMETRIC SAR DECOMPOSITION PARAMETERS TO DETECT ANOMALIES ON EARTHEN LEVEES	983
<i>Ramakalavathi Marapareddy, James Aanstoos, Nicolas Younan, Lori Bruce, Mississippi State University</i>	
MOP-P26.167: USING SPATIAL MODELLING TECHNIQUE TO INVESTIGATE THE RELATIONSHIPS BETWEEN SEDIMENT PROPERTIES AND MULTIBEAM BACKSCATTER INTENSITY	987
<i>Wei Xu, East China Normal University; Zhi Huang, National Earth and Marine Observations Group, Geoscience Australia; Heqin Cheng, East China Normal University</i>	
MOP-P26.168: LOCALIZED DICTIONARY DESIGN FOR GEOMETRICALLY ROBUST SONAR ATR	991
<i>John McKay, Vishal Monga, Pennsylvania State University; Raghu Raj, Naval Research Laboratory</i>	
 MOP-P27: SAR IMAGING TECHNIQUES I	
MOP-P27.169: A NOVEL APPROACH FOR HIGHLY SQUINTED BEAM STEERING SAR DATA FOCUSING	995
<i>Shiyang Tang, Ping Guo, Yu Zhou, Nan Liu, Linrang Zhang, Gaogao Liu, Yan Zhang, Xidian University</i>	
MOP-P27.170: A NOVEL FAST BACK PROJECTION ALGORITHM BASED ON SUBAPERTURE FREQUENCY SPECTRUM FUSION IN CARTESIAN COORDINATES	999
<i>Min Liu, Qian Xuesen Laboratory of Space Technology; Zhou Li, Beijing Institute of remote sensing</i>	
MOP-P27.171: SPACEBORNE SAR AZIMUTH AMBIGUITIES REMOVAL BASED ON APODIZATION ALGORITHM	1003
<i>Min Liu, Qian Xuesen Laboratory of Space Technology; Zhou Li, Beijing Institute of remote sensing; Bo Liu, Qian Xuesen Laboratory of Space Technology</i>	
MOP-P27.172: A NOVEL MONOSTATIC SAR HRWS IMAGING SCHEME FOR MARITIME SURVEILLANCE	1007
<i>Jia Cheng Ni, Qun Zhang, Air Force Engineering University, Institute of Information and Navigation; Kai Wang, Air Force Engineering University; Fu-fei Gu, Ying Luo, Air Force Engineering University, Institute of Information and Navigation</i>	
MOP-P27.173: A BLOCK SPARSE BAYESIAN LEARNING BASED ISAR IMAGING METHOD	1011
<i>Yongqiang Zou, Xunzhang Gao, Xiang Li, National University of Defense Technology</i>	
MOP-P27.174: A HIGH-ORDER HYPERBOLIC RANGE MODEL FOR HIGH-RESOLUTION SPACEBORNE SAR	1015
<i>Wei Wang, Robert Wang, Yunkai Deng, Zhimin Zhang, Institute of Electronics, Chinese Academy of Sciences</i>	
 MOP-P28: SAR IMAGING TECHNIQUES II	
MOP-P28.175: RECEIVER DISPOSITION OPTIMIZATION IN DISTRIBUTED PASSIVE RADAR IMAGING	1018
<i>Xianyang Hu, Shunsheng Zhang, Zhongguo Lu, Research Institute of Electronic Science and Technology; Wen-Qin Wang, Department of Communication and Information Engineering; Jinyu Xiong, National Defense Key Laboratory on Blind Signal Processing</i>	

MOP-P28.176: AN AUTOMATIC RCMC TECHNIQUE BASED ON BFGS METHOD	1022
<i>Qianrong Lu, Kaizhi Wang, Xingzhao Liu, Xiaojiang Guo, Shanghai Jiao Tong University</i>	
MOP-P28.177: FREQUENCY HOPPING INVERSE SYNTHETIC APERTURE RADAR IMAGING	1026
SIMULATION AIDED WITH REAL RADAR DATA	
<i>Can-Bin Yin, Da Ran, Equipment Academy</i>	
MOP-P28.178: AN ADAPTIVE SAR IMAGE SPECKLE REDUCTION ALGORITHM BASED ON	1030
UNDECIMATED WAVELET TRANSFORM AND NON-LOCAL MEANS	
<i>Fan Yang, Ze Yu, Chunsheng Li, Beihang University</i>	
MOP-P28.179: SUPERPIXEL-BASED COASTLINE EXTRACTION IN SAR IMAGES WITH	1034
SPECKLE NOISE REMOVAL	
<i>Xiaofang Liu, Hong Jia, Liujuan Cao, Cheng Wang, Jonathan Li, Ming Cheng, Xiamen University</i>	
MOP-P28.180: SALIENCY TARGET DETECTION IN POLARIMETRIC SAR IMAGES	1038
<i>Haipeng Wang, Feng Xu, Fudan University</i>	
 MOP-P29: SAR IMAGING TECHNIQUES III	
MOP-P29.181: SAR DESPECKLING BASED ON ENHANCED WIENER FILTER.....	1042
<i>Fabio Baselice, Giampaolo Ferraioli, Angel Caroline Johnsny, Vito Pascazio, Gilda Schirinzi, Università degli Studi di Napoli Parthenope</i>	
MOP-P29.182: ANALYSIS OF SUPER-RESOLUTION RADAR IMAGING BASED ON SPARSE	1046
REGULARIZATION	
<i>Xiaoxiang Zhu, Guanghu Jin, Feng He, Zhen Dong, National University of Defense Technology; Guozhong Chen, Di Zhao, Shanghai Institute of Satellite Engineering</i>	
MOP-P29.183: POLARIMETRIC SAR INTERFEROMETRY FOR FOREST CANOPY ANALYSIS	1050
BY USING THE ITERATIVE METHOD	
<i>Ming Guo, Yonghong Zhang, Chinese Academy of Surveying and Mapping; Zhen Li, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Hongan Wu, Chinese Academy of Surveying and Mapping; Zhong-Qiong Wang, Beijing Research Institute of Uranium Geology</i>	
MOP-P29.184: SYNTHETIC APERTURE RADAR AUTOFOCUS BASED ON CROSS RELATION	1054
APPROACH	
<i>Yin-wei Li, Qing Peng, Ming-Li Zhang, Cheng-long Jiang, Shanghai Radio Equipment Research Institute; Lifu Chen, Changsha University of Science and Technology</i>	
MOP-P29.185: EFFICIENT STRIPMAP SAR RAW DATA GENERATION ACCOUNTING FOR	1058
TRAJECTORY DEVIATION AT NON-ZERO SQUINT	
<i>Yuhua Guo, Qinhuo Liu, Bo Zhong, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
MOP-P29.186: GROUND MOVING TARGET DETECTION IN MIMO-SAR SYSTEM	1062
<i>Dong Yang, Xi'an institute of space radio technology; Xi Yang, Xidian University; Xiaomin Tan, Hongxing Dang, Xi'an institute of space radio technology; Kai Wang, Xi'an Information Technique Institute of Surveying and Mapping</i>	
 MOP-P30: SAR IMAGING TECHNIQUES IV	
MOP-P30.187: URBAN BUILDING HEIGHT ESTIMATION FROM RADARSAT 2 IMAGERY, A	1066
CASE STUDY IN BEIJING, CHINA	
<i>Ye Tian, Shixin Wang, Yi Zhou, Wenliang Liu, Chenxi Lin, University of Chinese Academy of Sciences</i>	
MOP-P30.188: CONVERSE BEAM CROSS SLIDING SPOTLIGHT SAR IMAGING	1070
PROCESSING WITH DATA-BLOCKING BASED FAST BACK PROJECTION	
<i>Can-Bin Yin, Da Ran, Equipment Academy</i>	

MOP-P30.189: CARTESIAN FACTORIZED BACKPROJECTION ALGORITHM FOR SYNTHETIC APERTURE RADAR	1074
<i>Qi Dong, National Laboratory of Radar Signal Processing; Zemin Yang, DFH SATELLITE CO., LTD; Guangcai Sun, Mengdao Xing, National Laboratory of Radar Signal Processing</i>	
MOP-P30.190: DEMONSTRATION OF BACKPROJECTION ALGORITHM FOR ISAR IMAGE FORMATION WITH FMCW RADAR	1078
<i>Ashish Kumar Roy, Shashikala Achyut Gangal, Savitribai Phule Pune University; Chinmoy Bhattacharya, Armament Research Development Establishment, DRDO</i>	
MOP-P30.191: INVERSE SYNTHETIC APERTURE RADAR IMAGING OF MANEUVERING TARGETS BASED ON JOINT TIME-FREQUENCY ANALYSIS	1082
<i>Tiantian Feng, Lixin Guo, Yi Zhang, Xidian University</i>	
MOP-P30.192: ABSOLUTE GEO-POSITIONING ACCURACY OF TERRASAR-X – EXPERIMENTAL VALIDATION IN WUHAN	1086
<i>Timo Balz, Jinghui Wang, Mingsheng Liao, Wuhan University</i>	
 MOP-P31: SAR IMAGING TECHNIQUES IX	
MOP-P31.193: SAR SCATTERING AND IMAGING WITH FOCUSING BY AN EXTENDED TARGET MODEL	1090
<i>Chiung-Shen Ku, National Central University; Kun-Shan Chen, Saibun Tjuatja, The University of Texas at Arlington; Pao-Chi Chang, National Central University; Yang-Lang Chang, National Taipei University of Technology</i>	
MOP-P31.194: COMPRESSIVE SENSING SAR IMAGE RECONSTRUCTION BASED ON A PSEUDORANDOM 2-D SUBSAMPLING MEASUREMENT MATRIX	1094
<i>Tengfei Li, Qingjun Zhang, China Academy of Space Technology</i>	
MOP-P31.195: SPACE-BORNE SAR IMAGING DEGRADATION DUE TO THE IONOSPHERIC HIGH ORDER DISPERSIVE DELAY	1098
<i>Cheng Wang, Liang Chen, Lu Liu, China Academy of Space Technology</i>	
MOP-P31.196: THE PARAMETER DESIGN RESULTS OF NEAR SPACE AIRSHIP SAR SYSTEM	1102
<i>Xihong Liu, Peng Zhou, China University of Petroleum; Xi Zhang, First Institute of Oceanography, State Oceanic Administration; Weifeng Sun, Yongshou Dai, China University of Petroleum</i>	
MOP-P31.197: A NOVEL ANTENNA BEAM STEERING STRATEGY FOR GEO SAR STARING OBSERVATION	1106
<i>Jiabiao Zhang, Ze Yu, Peng Xiao, Beihang University</i>	
MOP-P31.198: A SAR RAW ECHO SIGNAL SIMULATOR FOR TERRAIN SURFACE	1110
<i>Xu Qin, Hui Chen, Tie Jun Cui, State Key Laboratory of Millimeter Waves, Southeast University</i>	
MOP-P31.199: PERFORMANCE ANALYSIS ON SPC-MAB BASED MULTI-ASPECT DATA ACQUISITION MODE	1114
<i>Wenjie Shen, Yun Lin, Baowen Zheng, Weixian Tan, Wen Hong, Lingjuan Yu, Institute of Electronics, Chinese Academy of Sciences</i>	
 MOP-P32: SAR IMAGING TECHNIQUES V	
MOP-P32.200: OPTIMAL SUB-CHIRP COMBINATION WAVEFORM DESIGN BASED ON MIMO SAR GENERAL AMBIGUITY FUNCTION	1118
<i>Guanhua Zhao, Yaowen Fu, Lei Nie, Zhaowen Zhuang, National University of Defense Technology</i>	
MOP-P32.201: FMCW SAR: FROM DESIGN TO REALIZATION	1122
<i>Wenge Chang, Haishan Tian, Chengfei Gu, National University of Defense Technology</i>	

MOP-P32.202: A OPTRONIC SAR PROCESSOR WITH HIGH-SPEED AND HIGH-PRECISION PHASE MODULATION	1126
<i>Lei Liu, Yesheng Gao, Kaizhi Wang, Xingzhao Liu, Shanghai Jiao Tong University</i>	
MOP-P32.203: INVESTIGATION OF MULTICHANNEL SCANSAR WITH UP AND DOWN CHIRP MODULATION FOR RANGE AMBIGUITY SUPPRESSION	1130
<i>Hongbo Mo, Zhimin Zeng, Beijing University of Posts and Telecommunication</i>	
MOP-P32.204: AMPLITUDE-PHASE CALIBRATION METHOD FOR DOWNWARD-LOOKING SAR	1134
<i>Weixian Tan, Pingping Huang, Inner Mongolia University of Technology; Kuoye Han, Information Science Academy (ISA), China Electronics Technology Group Corporation; Wen Hong, Institute of Electronics, Chinese Academy of Sciences</i>	
MOP-P32.205: AN ANALYSIS AND COMPENSATION OF VIBRATION ERROR OF HIGH FREQUENCY SYNTHETIC APERTURE RADAR	1138
<i>Zhiwei Huang, Zihua He, Zaoyu Sun, Zhen Dong, National University of Defense Technology</i>	
 MOP-P33: SAR IMAGING TECHNIQUES VI	
MOP-P33.206: DRYLAND SUMMER CROP CLASSIFICATION USING MULTI-TEMPORAL RADARSAT-2 IMAGES AND OBJECTS INFORMATION FROM OPTICAL IMAGE	1142
<i>Shuang Zhu, Beijing Polytechnic College; Jinshui Zhang, Guanyuan Shuai, Hongli Liu, College of Resources Science and Technology/State Key Laboratory of Earth Surface Processes and Resource Ecology, Beijing Normal University</i>	
MOP-P33.207: SAR IMAGE CLASSIFICATION BASED ON THE MULTI-LAYER NETWORK AND TRANSFER LEARNING OF MID-LEVEL REPRESENTATIONS	1146
<i>Chenyao Kang, Chu He, Wuhan University</i>	
MOP-P33.208: CLASSIFICATION OF POLSAR IMAGE WITH NON-NEGATIVE TENSOR FACTORIZATION APPROACH	1150
<i>Shuiping Gou, Wenshuai Chen, Yizhou Liu, Pengcheng Li, Licheng Jiao, Xidian University</i>	
MOP-P33.209: ONE-STEP MOTION COMPENSATION ALGORITHM FOR SQUINTED SAR	1154
<i>Angel Ribalta, Fraunhofer FHR</i>	
MOP-P33.210: MODELLING OF LUNAR CRATER EJECTA EXTENT FOR HIGHLAND AND MARE USING MINI-RF DATA	1158
<i>Ami Desai, Gujarat Institute of Disaster Management; Shiv Mohan, S.V.S Murty, Physical Research Laboratory</i>	
MOP-P33.211: CLASSIFICATION OF TIME SERIES OF SAR IMAGES BASED ON GENERATIVE MODEL	1162
<i>Yaping Ye, Chu He, Zhang Zhi, Wuhan University</i>	
 MOP-P34: SAR IMAGING TECHNIQUES VII	
MOP-P34.212: TIME SERIES INTERFEROMETRY INTEGRATED WITH GROUNDWATER DEPLETION MEASUREMENT FROM GRACE	1166
<i>Zheyuan Du, Linlin Ge, Alex Hay-Man Ng, Xiaojing Li, The University of New South Wales</i>	
MOP-P34.213: A METHOD FOR EXTRACTING INSAR IMAGE FEATURES OF NEGATIVE AND POSITIVE OBSTACLES	1170
<i>Zhibiao Jiang, Qian Song, Jian Wang, Zhimin Zhou, College of Electronic Science and Technology, National University of Defense Technology</i>	
MOP-P34.214: A NOVEL INSAR BASED OFF-ROAD POSITIVE AND NEGATIVE OBSTACLE DETECTION TECHNIQUE FOR UNMANNED GROUND VEHICLE	1174
<i>Jian Wang, Qian Song, Zhibiao Jiang, Zhimin Zhou, National University of Defense Technology</i>	

MOP-P34.215: DETECTION PERFORMANCE OF MOVING TARGET WITH COMPRESSIVE SENSING VIA DUAL-CHANNEL SPACEBORNE SAR	1178
<i>Huilin Mu, Yun Zhang, Meng Lian, Yicheng Jiang, Tianyun Yang, Harbin Institute of Technology</i>	
MOP-P34.216: RIGOROUSLY GEOMETRIC CORRECTION FOR AIR-BORNE SAR IMAGES BASED ON AFFINE TRANSFORMATION	1182
<i>Bo Zhang, Chao Wang, Hong Zhang, Fan Wu, Jinxing Chen, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
MOP-P34.217: THREE DIMENSIONAL SUBSIDENCE MONITORING IN THE SOUTH OF SYDNEY	1186
<i>Zheyuan Du, Linlin Ge, Alex Hay-Man Ng, Xiaojing Li, The University of New South Wales</i>	
MOP-P35: SAR IMAGING TECHNIQUES VIII	
MOP-P35.218: DEM-ASSISTED BACK-PROJECTION ALGORITHM IN HIGH RESOLUTION GEOSYNCHRONOUS SAR IMAGING	1190
<i>Yuanhao Li, Xichao Dong, Kai Cui, Cheng Hu, Dongyang Ao, Teng Long, Beijing Institute of Technology</i>	
MOP-P35.219: IMPACTS OF IONOSPHERIC TEMPORAL VARIABILITY ON L-BAND GEO SAR IMAGING	1194
<i>Qingbo Zhang, Ze Yu, Peng Xiao, Beihang University</i>	
MOP-P35.220: A SPACEBORNE SAR ON-BOARD PROCESSING SIMULATOR USING MOBILE GPU	1198
<i>Hanyuan Tang, Guojun Li, Fan Zhang, Wei Hu, Wei Li, Beijing University of Chemical Technology</i>	
MOP-P35.221: OCEAN INTERNAL WAVES FEATURES EXTRACTION BY ANALYSIS OF AERIAL OBLIQUE PHOTOGRAPHY	1202
<i>Shengke Wang, Long Chen, Jianping Yang, Caixia Wang, Muwei Jian, Ocean University of China; Lifang Lin, Qingdao Huanghai University; Junyu Dong, Ocean University of China</i>	
MOP-P35.222: OPTIMIZING PLANAR ARRAY IN MIMO-SAR RADAR USING GENETIC ALGORITHM	1206
<i>Ya-Nan Duan, Xiao-Ling Zhang, Shun-Jun Wei, Xiao-Tian Fan, University of Electronic Science and Technology of China</i>	
MOP-P35.223: SIMULTANEOUS SAR IMAGING AND GMTI BY FRACTIONAL FOURIER TRANSFORM PROCESSING	1210
<i>Wen-Qin Wang, Shunsheng Zhang, University of Electronic Science and Technology of China; Pingping Huang, Inner Mongolia University of Technology</i>	
MOP-P35.224: FREESAR, AN INNOVATIVE SAR DATA PROCESSING FRAMEWORK	1214
<i>Davide D'Aria, Riccardo Piantanida, Antonio Valentino, Davide Riva, ARESYS S.r.l.</i>	
MOP-P36: SATELLITE MISSIONS	
MOP-P36.225: AN AIRBORNE MULTI-ANGLE HYPERSPECTRAL EXPERIMENT IN A BOREAL FOREST OF NORTHEAST CHINA	1217
<i>Yong Pang, Zengyuan Li, Wen Jia, Hao Lu, Bowei Chen, Yongjie Xia, Chinese Academy of Forestry; Guang Zheng, Nanjing University; Xianlian Gao, Academy of Forest Inventory and Planning; Qiang Wang, Heilongjiang Institute of Technology</i>	
MOP-P36.226: A NEW METHOD FOR ATTITUDE REFINEMENT OF EARTH OBSERVATION SATELLITE WITH ASYNCHRONOUS IMAGES	1221
<i>Tao Sun, Li Huang, Hui Long, Key Laboratory of Technology in Geo-spatial Information Processing and Application System, Institute of Electronics, Chinese Academy of Sciences; Bao-Cheng Liu, TH-Centre of China</i>	

MOP-P36.228: OBIA SHIP DETECTION WITH MULTISPECTRAL AND SAR IMAGES: A SIMULATION FOR COPERNICUS SECURITY APPLICATIONS	1229
<i>Marco Gianinetto, Martina Aiello, Andrea Marchesi, Francesco Topputo, Mauro Massari, Riccardo Lombardi, Francesco Banda, Stefano Tebaldini, Politecnico di Milano</i>	
MOP-P36.229: THE USE OF AHI DATA IN PREPARATION FOR ABI ALGORITHMS IN SAPF	1233
<i>Aiwu Li, Shanna Sampson, I.M. Systems Group, Inc.; Walter Wolf, NOAA; Tianxu Yu, Ruiyue Chen, Meizhu Fan, Hua Xie, Alexander Ken, Rickey Rollins, Veena Jose, Zhuo Zhang, Yunhui Zhao, I.M. Systems Group, Inc.; William Straka, University of Wosconcin</i>	
MOP-P36.230: NEAR REAL-TIME PROCESSING AT ASSIST: AHI WINDS AND JPSS RISK REDUCTION PROJECT PRODUCTS	1237
<i>Meizhu Fan, Claire McCaskill, Hua Xie, Yunhui Zhao, Shanna Sampson, I.M. Systems Group, Inc.; Walter Wolf, NOAA/NESDIS/STAR; John Lindeman, Aiwu Li, I.M. Systems Group, Inc.; Jaime Daniels, NOAA/NESDIS/STAR; Zhuo Zhang, Rickey Rollins, Veena Jose, I.M. Systems Group, Inc.</i>	
MOP-P37: SHIP DETECTION	
MOP-P37.232: HIGH-RESOLUTION OPTICAL SATELLITE IMAGE SIMULATION OF SHIP TARGET IN LARGE SEA SCENES	1241
<i>Yuan Yao, Zhiguo Jiang, Haopeng Zhang, Beihang University</i>	
MOP-P37.233: SHIP DETECTION USING VIIRS SENSOR SPECIFIC DATA	1245
<i>Benjamin Lebona, University of the Witwatersrand, CSIR Meraka Institute; Waldo Kleynhans, Council for Scientific and Industrial Research Meraka Institute; Turgay Celik, University of the Witwatersrand; Lizwe Mdakane, Council for Scientific and Industrial Research Meraka Institute</i>	
MOP-P37.234: MOVING SHIP DETECTION BASED ON VISUAL SALIENCY FOR VIDEO SATELLITE	1248
<i>Haichao Li, Yiyun Man, Qian Xuesen Laboratory of Space Technology</i>	
MOP-P37.235: FAST SHIP DETECTION FOR SCANSAR MODE IN WIDE SEA AREAS	1251
<i>Ning Li, Robert Wang, Yunkai Deng, Zhimin Zhang, Chunhui Zhou, Institute of Electronics, Chinese Academy of Sciences</i>	
MOP-P37.236: SHIP DETECTION BASED ON THE POWER OF THE RADARSAT-2 POLARIMETRIC DATA	1254
<i>Tao Zhang, Zhen Yang, Huilin Xiong, Wenxian Yu, Shanghai Jiao Tong University</i>	
MOP-P37.237: A SHIP TARGET AUTOMATIC DETECTION METHOD FOR HIGH-RESOLUTION REMOTE SENSING	1258
<i>Tong Shuai, Kang Sun, The 54th Institute of China Electronics Technology Group Corporation; Xiangnan Wu, Space Star Technology Co., Ltd; Xia Zhang, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Benhui Shi, The 54th Institute of China Electronics Technology Group Corporation</i>	
MOP-P38: URBAN TARGETS AND ROADS	
MOP-P38.238: URBAN ROAD NETWORK EXTRACTION FROM IKONOS IMAGERY BASED ON MULTI-RESOLUTION ANALYSIS	1262
<i>Xuewen Wu, Xiamen University of Technology; Hanqiu Xu, Fuzhou University; Hui Li, Xiamen University of Technology</i>	
MOP-P38.239: ROAD DETECTION IN HIGH-RESOLUTION SAR IMAGES USING DUDA AND PATH OPERATORS	1266
<i>Fanghong Xiao, Yan Chen, Ling Tong, Lei He, Longfei Tan, Baolong Wu, University of Electronic Science and Technology of China</i>	
MOP-P38.240: BUILDING BOUNDARIES EXTRACTION FROM POINTS CLOUD USING AN IMAGE EDGE DETECTION METHOD	1270
<i>Xiaohuan Xi, Yiping Wan, Cheng Wang, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	

MOP-P38.241: ROAD EXTRACTION BASE ON ZERNIKE ALGORITHM ON SAR IMAGE.....	1274
<i>Huilin Mu, Yun Zhang, Hongbo Li, Yiran Guo, Yuan Zhuang, Harbin Institute of Technology</i>	
MOP-P38.242: A COMPLEX TARGET RECONSTRUCTION CHARACTERIZED BY CANONICAL SCATTERING OBJECTS	1278
<i>Yongchen Li, Fudan University; Feng Xu, Ya-Qiu Jin, Fudan University</i>	
MOP-P38.243: USING MATHEMATICAL MORPHOLOGY ON LIDAR DATA TO EXTRACT INFORMATION FROM URBAN VEGETATION	1281
<i>Jiahui Zhang, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Sébastien Mavromatis, Aix-Marseille University, Marseille; Qingyan Meng, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Jean Sequeira, Aix-Marseille University, Marseille; Yunxiao Sun, Ying Zhang, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
MOP-P39: VEGETATION MONITORING BY MODIS	
MOP-P39.243: ASSESSMENT OF THE CORRELATION BETWEEN REFLECTANCE ANISOTROPY AND NDVI USING MODIS BRDF PRODUCT	1284
<i>Hu Zhang, Tianjin Normal University; Ziti Jiao, Beijing Normal University; Pengfei Liu, Tianjin Normal University; Yadong Dong, Beijing Normal University; Yi Lian, Hongyuan Huo, Tiejun Cui, Tianjin Normal University</i>	
MOP-P39.244: ASSESSMENT OF TERRESTRIAL VEGETATION DYNAMICS FROM MODIS FAPARCHL PRODUCT AND LAND SURFACE MODEL	1288
<i>Tian Yao, Qingyuan Zhang, Universities Space Research Association / NASA Goddard Space Flight Center</i>	
MOP-P39.245: EXTRACTING THE VEGETATION PHENOLOGY OF INDIA MONSOON FOREST	1292
<i>Rong Shang, Ronggao Liu, Yang Liu, Lu Zuo, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences</i>	
MOP-P39.246: ASSIMILATION OF 30M RESOLUTION LAI INTO CROP GROWTH MODEL FOR IMPROVING LAI ESTIMATION IN PLATEAU GRASSLAND	1296
<i>Xueting Zhang, Binbin He, Xingwen Quan, University of Electronic Science and Technology of China</i>	
MOP-P39.247: SIMULATION AND PREDICTION OF THE SPATIOTEMPORAL TRANSMISSION OF SUDDEN OAK DEATH (SOD) BASED ON SPATIAL INFORMATION TECHNOLOGY	1300
<i>Houzhi Jiang, Chunxiang Cao, Wei Chen, Zhou Fang, Cheng Liu, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
MOP-P39.248: WIND FARM EFFECT ON GRASSLAND VEGETATION DUE TO ITS INFLUENCE ON THE RANGE, INTENSITY AND VARIATION OF WIND DIRECTION	1304
<i>Guoqing Li, Chunhua Zhang, Li Zhang, School of Resources and Environmental Engineering, Ludong University; Meng Zhang, State Key Laboratory of Earth Surface Processes and Resource Ecology, College of Resources Science and Technology, Beijing Normal University</i>	
MOP-P40: VEGETATION MONITORING I	
MOP-P40.249: ESTABLISH IUCN RED LIST OF ECOSYSTEMS IN SOUTHWESTERN CHINA BASED ON REMOTE SENSING DATA	1307
<i>Jianbo Tan, Ainong Li, Guangbin Lei, Institute of Mountain Hazards and Environment, Chinese Academy of Sciences</i>	
MOP-P40.250: INFLUENCE OF BRANCH ARCHITECTURES ON GAP FRACTION AND CLUMPING INDEX OF CANOPIES	1311
<i>Jun Geng, Lili Tu, Qingjiu Tian, Xiaofei Wang, Xiaobo Zhu, Yanjun Yang, Ranran Yang, Lei Wang, Chunguang Lv, Yuchen Fang, Nanjing University</i>	

MOP-P40.251: ESTIMATING THE CLUMPING INDEX AT TWO CONTRASTING POINTS IN THE GROWING SEASON USING A VARIETY OF FIELD-BASED METHODS	1315
<i>Kairi Raabe, Jan Pisek, Mait Lang, Tartu Observatory; Lauri Korhonen, University of Eastern Finland</i>	
MOP-P40.252: ASSESSING THE EFFECTS OF UNDERSTORY TO FOREST CANOPY LEAF AREA INDEX BY COMBINING MODERATE RESOLUTION DATA AND GEOMETRIC OPTICAL (GO) MODEL IN TEMPERATE FOREST	1318
<i>Xiaoman Lu, Guang Zheng, Nanjing University</i>	
MOP-P40.253: DOUGLAS FIR PRODUCTIVITY ESTIMATION USING VERY HIGH SPATIAL RESOLUTION IMAGERY – A CASE STUDY ON GROUND TREATMENT IMPACT IN WEST KOOTENAY, BRITISH COLUMBIA, CANADA	1322
<i>Kongwen Zhang, Selkirk College; Linhai Jing, Chinese Academy of Sciences; Justin Robinson, Selkirk College</i>	
MOP-P40.254: MULTITEMPORAL MONITORING OF THE FOREST COVER IN CÔTE D’IVOIRE FROM THE 1960S TO THE 2000S, USING LANDSAT SATELLITE IMAGES	1325
<i>Moussa Koné, Université Nangui Abrogoua; Lacina Coulibaly, Université de Moncton; Yao L. Kouadio, Danho F.R. Neuba, Djah F. Malan, Université Nangui Abrogoua</i>	
 MOP-P41: VEGETATION MONITORING II	
MOP-P41.255: SPATIAL SCALE EFFECT ON VEGETATION PHENOLOGICAL ANALYSIS USING REMOTE SENSING DATA	1329
<i>Yiting Wang, Donghui Xie, Ronghai Hu, Guangjian Yan, Beijing Normal University</i>	
MOP-P41.256: RESEARCH ON SCALE EFFECT OF VEGETATION NET PRIMARY PRODUCTIVITY	1333
<i>Chen Qiao, Rui Sun, Tianxiang Cui, Beijing Normal University</i>	
MOP-P41.257: RED-EDGE RATIO NORMALIZED VEGETATION INDEX FOR REMOTE ESTIMATION OF GREEN BIOMASS	1337
<i>Jisung Chang, Maxim Shoshany, Technion - Israel Institute of Technology</i>	
MOP-P41.259: ECOSYSTEM MAPPING IN MOUNTAINOUS AREAS BY FUSING MULTI-SOURCE DATA AND THE RELATED KNOWLEDGE	1344
<i>Guangbin Lei, Ainong Li, Jianbo Tan, Jinhu Bian, Wei Zhao, Institute of Mountain Hazards and Environment, Chinese Academy of Sciences</i>	
MOP-P41.260: MONITORING VEGETATION GREEN UP USING SATELLITE AND GROUND DATA IN INNER MONGOLIA STEPPE, CHINA	1348
<i>Jing Li, Tianjin Normal University; Xiaoqiu Chen, Peking University; Tiejun Cui, Hongyuan Huo, Tianjin Normal University</i>	
MOP-P41.261: USE OF FRACTAL DIMENSION RATIOS OF PLANT IMAGES AS AN ALLOMETRIC PREDICTOR OF PLANT BIOMASS	1352
<i>Chaitanya Karamchedu, Jesuit High School</i>	
MOP-P41.262: POLLOCK MODEL BASED MULTI-LEVEL MORPHOLOGICAL ACTIVE CONTOUR ALGORITHM FOR TREE DETECTION AND CROWN DELINEATION	1356
<i>Chao-Cheng Wu, Shao-An Tsai, Yu-Lun Wu, National Taipei University of Technology</i>	
 MOP-P42: VEGETATION MONITORING III	
MOP-P42.263: MULTI-KERNEL RETRIEVAL OF LAND SURFACE BIDIRECTIONAL REFLECTANCE DISTRIBUTION FUNCTIONS BASED ON L1-NORM OPTIMIZATION	1358
<i>Yiqing Guo, Xiuping Jia, David Paull, The University of New South Wales; Alex Held, The CSIRO Land and Water Flagship</i>	

MOP-P42.264: SEASONALITY AND BACKGROUND EFFECTS ON PADDY RICE ANISOTROPIC PROPERTIES FROM FIELD MEASUREMENTS	1362
<i>Tao Sun, Hongliang Fang, Weiwei Liu, Yongchang Ye, The Institute of Geographic Sciences and Natural Resources Research</i>	
MOP-P42.265: VEGETATION FRACTION INVERSION AND INFLUENCE ANALYSIS OF ANNUAL EPHEMERAL PLANTS ON SANDY LAND EVALUATION	1364
<i>Junjun Wu, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Zhihai Gao, Institute of Forest Resource Information Techniques, Chinese Academy of Forestry; Bo Zhong, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Zengyuan Li, Institute of Forest Resource Information Techniques, Chinese Academy of Forestry; Qinhuo Liu, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Xiangyuan Ding, Bin Sun, Institute of Forest Resource Information Techniques, Chinese Academy of Forestry</i>	
MOP-P42.266: INFLUENCES OF GROUND STRUCTURE ON REMOTELY SENSED LAND SURFACE TEMPERATURE	1368
<i>Zhixing Peng, Ji Zhou, University of Electronic Science and Technology of China; Shaomin Liu, Beijing Normal University; Mingsong Li, Linqing Zhu, University of Electronic Science and Technology of China</i>	
MOP-P42.268: SPATIO-TEMPORAL CHANGE OF VEGETATION ON TIBETAN PLATEAU BASED ON AVHRR-NDVI DATA	1374
<i>Wei Wang, Institute of Arid Meteorology, China Meteorological Administration; Qisheng Feng, Hui Yu, Tiangang Liang, Lanzhou University; Ni Guo, Institute of Arid Meteorology, China Meteorological Administration</i>	
MOP-P42.269: IMPROVEMENT OF BIOME-BGC MODEL BY INCORPORATION AND DATA ASSIMILATION	1378
<i>Min Yan, Xin Tian, Zengyuan Li, Erxue Chen, Research Institute of Forest Resource Information Techniques, Chinese Academy of Forestry</i>	
MOP-P43: VEHICLE AND AIRCRAFT DETECTION	
MOP-P43.270: APPLICATION OF GF-1 DATA IN AGRICULTURAL MONITORING IN CHINA	1382
<i>Zhongxin Chen, Qingbo Zhou, Jia Liu, Limin Wang, Fei Teng, IARRP, CAAS</i>	
MOP-P43.271: VEHICLE DETECTION FROM AERIAL COLOR IMAGERY AND AIRBORNE LIDAR DATA	1384
<i>Yansong Liu, Sildomar Monteiro, Eli Saber, Rochester Institute of Technology</i>	
MOP-P43.272: AIRPLANE DETECTION IN REMOTE SENSING IMAGES BASED ON OBJECT PROPOSAL	1388
<i>Qinhan Luo, Zhenwei Shi, School of Astronautics, Beihang University</i>	
MOP-P43.273: EFFICIENT RADON FRACTIONAL FOURIER TRANSFORM FOR EFFICIENT MOTION PARAMETERS ESTIMATION IN SAR-GMTI SYSTEM	1392
<i>Xuepan Zhang, Bo Liu, Qian Xuesen Laboratory of Space Technology; Zheng Lv, Beijing Institute of Spacecraft System Engineering; Kai Wang, Xi'an Information Technique Institute of Surveying and Mapping; Zongwu Dai, Space Star Technology Co., Ltd.; Lu Liu, Min Liu, Qian Xuesen Laboratory of Space Technology</i>	
MOP-P43.274: BERNOULLI FILTER FOR JOINT DETECTION AND TRACKING OF TARGET WITH LOW SIGNAL TO CLUTTER RATIO	1396
<i>Xinglin Shen, Zhiyong Song, Qiang Fu, National University of Defense Technology</i>	
TU1-L1: ADVANCES ON SPACEBORNE SAR IMAGING I	
TU1-L1.3: THE TERRASAR-X GROUND SEGMENT IN SERVICE FOR NINE YEARS: CURRENT STATUS AND RECENT EXTENSIONS	1400
<i>Birgit Schättler, Falk Mrowka, Egbert Schwarz, Marie Lachaise, German Aerospace Center (DLR)</i>	

TU1-L1.4: GEOSTARE SYSTEM PERFORMANCE ASSESSMENT METHODOLOGY.....	1404
<i>Stephen Hobbs, Carlo Convenevoles, Cranfield University; Andrea Monti-Guarnieri, Politecnico di Milano; Geoff Wadge, University of Reading</i>	
TU1-L1.5: TRACK COMPENSATION AND CALIBRATION OF CONTINUOUS MONITORING GEOSAR MISSIONS	1408
<i>Antoni Broquetas, David Casado, Roger Martin, Marc Fernández, Universitat Politècnica de Catalunya; Andrea Monti-Guarnieri, Antonio Leanza, Politecnico di Milano</i>	
TU2-L1: ADVANCES ON SPACEBORNE SAR IMAGING II	
TU2-L1.1: DIGITAL BEAMFORMING TECHNIQUES FOR MULTI-CHANNEL SYNTHETIC APERTURE RADAR	1412
<i>Marwan Younis, Felipe Queiroz de Almeida, Federica Bordoni, Paco López-Dekker, Gerhard Krieger, German Aerospace Center (DLR)</i>	
TU2-L1.2: DEDICATED CALIBRATION CONCEPT FOR INTERFEROMETRIC SAR COMPANION MISSIONS	1416
<i>Marc Rodriguez-Cassola, Pau Prats-Iraola, Matteo Nannini, Paco López-Dekker, Alberto Moreira, German Aerospace Center (DLR); Bernardo Carnicero-Dominguez, European Space Agency - ESTEC</i>	
TU2-L1.3: MULTI-BASELINE SPACEBORNE SAR IMAGING.....	1420
<i>Alberto Moreira, Octavio Ponce, Matteo Nannini, Matteo Pardini, Pau Prats-Iraola, Andreas Reigber, Konstantinos Papathanassiou, Gerhard Krieger, German Aerospace Center (DLR)</i>	
TU2-L1.4: IMPROVED DBF ALGORITHM FOR MULTICHANNEL SAR WITH HIGHLY NONUNIFORM SAMPLING	1424
<i>Na Liu, Robert Wang, Shuo Zhao, Xiangyu Wang, Institute of Electronics, Chinese Academy of Sciences</i>	
TU2-L1.5: APPLICATIONS OF SAR TOMOGRAPHY ON PERSISTENT SCATTERERS DETECTION, BASED ON BEAM-FORMING FILTERING	1428
<i>Cosmin Danisor, University Politehnica of Bucharest; Gianfranco Fornaro, National Research Council of Italy; Mihai Datcu, German Aerospace Center (DLR)</i>	
TU3-L1: ADVANCED INTERFEROMETRIC PROCESSING AND MULTIDIMENSIONAL SAR IMAGING TECHNIQUES I	
TU3-L1.1: ADVANCED INTERFEROMETRIC AND 3-/4-/5-D TOMOGRAPHIC PROCESSING OF SAR DATA	1432
<i>Gianfranco Fornaro, CNR IREA; Fabrizio Lombardini, University of Pisa; Antonio Pauciuolo, Diego Reale, CNR IREA; Federico Viviani, University of Pisa</i>	
TU3-L1.3: ROBUST DETECTION OF SINGLE AND DOUBLE PERSISTENT SCATTERERS IN URBAN BUILT ENVIRONMENTS: THE TOMO-PSINSAR METHOD	1436
<i>Peifeng Ma, Hui Lin, The Chinese University of Hong Kong; Fulong Chen, Chinese Academy of Sciences</i>	
TU3-L1.4: POINT-TARGET FREE PHASE CALIBRATION OF INSAR DATA STACK	1440
<i>Stefano Tebaldini, Fabio Rocca, Politecnico di Milano; Mauro Mariotti d'Alessandro, CONAE; Laurent Ferro-Famil, Université de Rennes 1</i>	
TU3-L1.5: EXPERIMENTAL VALIDATION WITH TERRASAR-X/TANDEM-X OF ADVANCED INTERFEROMETRIC MODES FOR ACCURATE RETRIEVAL OF AZIMUTHAL DISPLACEMENTS	1444
<i>Nestor Yague-Martinez, Pau Prats-Iraola, Thomas Kraus, Steffen Wollstadt, Rolf Scheiber, German Aerospace Center (DLR)</i>	

TU4-L1: ADVANCED INTERFEROMETRIC PROCESSING AND MULTIDIMENSIONAL SAR IMAGING TECHNIQUES II

TU4-L1.1: IMPROVING THE REFERENCE NETWORK IN WIDE-AREA PERSISTENT SCATTERER INTERFEROMETRY FOR NON-URBAN AREAS 1448

Kanika Goel, Nico Adam, Robert Shau, Fernando Rodriguez-Gonzalez, German Aerospace Center (DLR)

TU4-L1.2: SAR TOMOGRAPHY AS AN ADD-ON TO PSI: GAIN IN DEFORMATION SAMPLING VIS-A-VIS QUALITY OF THE DETECTED SCATTERERS 1452

Muhammad Adnan Siddique, Earth Observation and Remote Sensing, ETH Zurich; Urs Wegmüller, Gamma Remote Sensing AG; Irena Hajnsek, Earth Observation and Remote Sensing, ETH Zurich / Microwaves and Radar Institute, German Aerospace Center - DLR; Othmar Frey, Earth Observation and Remote Sensing, ETH Zurich / Gamma Remote Sensing AG

TU4-L1.3: 4D QUICK DIFF-TOMO ANALYSES OF SHORT-TERM DECORRELATION OF DISTRIBUTED SCATTERERS 1456

Fabrizio Lombardini, Federico Viviani, Fabrizio Berizzi, University of Pisa

TU4-L1.4: 3D IMAGING FOR UNDERFOLIAGE TARGETS USING L-BAND MULTIBASELINE POLINSAR DATA AND SPARSE ESTIMATION METHODS 1460

Yue Huang, Jacques Levy-Vehel, INRIA; Laurent Ferro-Famil, University of Rennes 1; Andreas Reigber, German Aerospace Center (DLR)

TU4-L1.5: ROBUST MULTIBASELINE INSAR OPTIMIZATION..... 1464

Yuanyuan Wang, Technische Universität München; Xiao Xiang Zhu, German Aerospace Center (DLR) and Technical University of Munich (TUM)

TU1-L2: LIDAR FEATURE EXTRACTION AND ANALYSIS

TU1-L2.1: STREETLAMP EXTRACTION AND IDENTIFICATION FROM MOBILE LIDAR POINT CLOUD SCENES 1468

Xitong Zhang, Huiyun Liu, Yongqiang Li, Zhenzhen Wu, Jie Mao, Yangyang Liu, Henan Polytechnic University

TU1-L2.2: AUTOMATED SEGMENTATION OF LIDAR POINT CLOUDS FOR BUILDING ROOFTOP EXTRACTION 1472

Yi Sun, Xiamen University; Xizang Minzu University; Cheng Wang, Xiamen University; Jonathan Li, Xiamen University; University of Waterloo; Zongliang Zhang, Dawei Zai, Pengdi Huang, Chenglu Wen, Xiamen University

TU1-L2.3: LIDAR POINT CLASSIFICATION BASED ON JOINT SPARSE REPRESENTATION IN KERNEL SPACE 1476

Bingqian Xie, Yanfeng Gu, Qingwang Wang, Huan Liu, Harbin Institute of Technology

TU1-L2.4: AN APPROACH TO CONIFER SPECIES CLASSIFICATION BASED ON CROWN STRUCTURE MODELING IN HIGH DENSITY AIRBORNE LIDAR DATA 1480

Aravind Harikumar, Francesca Bovolo, Fondazione Bruno Kessler; Lorenzo Bruzzone, University of Trento

TU1-L2.5: LIDAR INFORMATION EXTRACTION BY ATTRIBUTE FILTERS WITH PARTIAL RECONSTRUCTION 1484

Wenzhi Liao, Ghent University; Mauro Dalla Mura, Grenoble Institute of Technology; Xin Huang, Wuhan University; Jocelyn Chanussot, Grenoble Institute of Technology; Sidharta Gautama, Ghent University; Paul Scheunders, University of Antwerp; Wilfried Philips, Ghent University

TU2-L2: FEATURE EXTRACTION AND APPLICATION

TU2-L2.1: FEATURE EXTRACTION AND CLASSIFICATION OF OCEAN OIL SPILL BASED ON SAR IMAGE 1488

Peng Zhao, Xun Yang, Yan Chen, Ling Tong, Lei He, University of Electronic Science and Technology of China

TU2-L2.2: MACHINE-LEARNING BASED DETECTION OF CORRESPONDING INTEREST POINTS IN OPTICAL AND SAR IMAGES	1492
<i>Ronny Hänsch, Olaf Hellwich, Xiaohong Tu, Technische Universität Berlin</i>	
TU2-L2.3: HYPERSPECTRAL IMAGE SUPERVISED CLASSIFICATION VIA MULTI-VIEW NUCLEAR NORM BASED 2D PCA FEATURE EXTRACTION AND KERNEL ELM	1496
<i>Jue Jiang, Nanjing University of Science and Technology; Lili Huang, Guangxi University of Science and Technology; Heng Li, Liang Xiao, Nanjing University of Science and Technology</i>	
TU2-L2.4: EFFICIENT SEMI-SUPERVISED FEATURE SELECTION FOR VHR REMOTE SENSING IMAGES	1500
<i>Xi Chen, Lin Song, Wei Liu, Yuguan Hou, Ye Zhang, Harbin Institute of Technology; Guofan Shao, Purdue University</i>	
TU2-L2.5: FEATURE EXTRACTION AND TRACKING FOR LARGE-SCALE GEOSPATIAL DATA	1504
<i>Lina Yu, Feiyu Zhu, Hongfeng Yu, Jun Wang, University of Nebraska-Lincoln; Kwo-Sen Kuo, University of Maryland</i>	
 TU3-L2: LEARNING BASED IMAGE CLASSIFICATION	
TU3-L2.1: INTEGRATION OF 2D AND 3D FEATURES FROM UAV IMAGERY FOR INFORMAL SETTLEMENT CLASSIFICATION USING MULTIPLE KERNEL LEARNING	1508
<i>Caroline Gevaert, Claudio Persello, Richard Sliuzas, George Vosselman, University of Twente</i>	
TU3-L2.2: A COMPARATIVE STUDY ON MULTIPLE KERNEL LEARNING FOR REMOTE SENSING IMAGE CLASSIFICATION	1512
<i>Saeid Niazmardi, University of Tehran; Begüm Demir, Lorenzo Bruzzone, University of Trento; Abdolreza Safari, University of Tehran; Saeid Homayouni, University of Ottawa</i>	
TU3-L2.3: A DEEP LEARNING APPROACH TO THE CLASSIFICATION OF SUB-DECIMETRE RESOLUTION AERIAL IMAGES	1516
<i>John Ray Bergado, Claudio Persello, Caroline Gevaert, University of Twente</i>	
TU3-L2.4: ACTIVE LEARNING APPROACH FOR REMOTE SENSING IMAGERY CLASSIFICATION USING SPATIAL INFORMATION	1520
<i>Qian Shi, Sun Yat-sen University; Xin Huang, Jiayi Li, Liangpei Zhang, Wuhan University</i>	
TU3-L2.5: DECISION FUSION OF PIXEL-LEVEL AND SUPERPIXEL-LEVEL HYPERSPECTRAL IMAGE CLASSIFIERS	1524
<i>Ting Lu, Shutao Li, Leyuan Fang, Hunan University</i>	
 TU4-L2: SAR IMAGE CLASSIFICATION	
TU4-L2.1: FAST SEMI-SUPERVISED CLASSIFICATION BASED ON PARALLEL AUCTION GRAPH FOR POLARIMETRIC SAR DATA	1528
<i>Hongying Liu, Xing Xing, Key Laboratory of Intelligent Perception and Image Understanding of Ministry of Education of China, Xidian University; Shigang Wang, Zhixi Feng, Erlei Zhang, Xidian University; Shuyuan Yang, Biao Hou, Licheng Jiao, Key Laboratory of Intelligent Perception and Image Understanding of Ministry of Education of China, Xidian University</i>	
TU4-L2.2: MULTIPLE RANK REGRESSION BASE METHOD FOR THE CLASSIFICATION OF SAR IMAGES	1532
<i>Conghui Ma, Gongjian Wen, Xiaohong Huang, Xiaoliang Yang, Baiyuan Ding, National University of Defense Technology</i>	
TU4-L2.3: AN UNSUPERVISED HIDDEN MARKOV RANDOM FIELD BASED SEGMENTATION OF POLARIMETRIC SAR IMAGES	1536
<i>Biplab Banerjee, Shaunak De, Surendar Manickam, Avik Bhattacharya, Indian Institute of Technology, Bombay</i>	

TU4-L2.4: SUPERVISED OIL SPILL CLASSIFICATION BASED ON FULLY POLARIMETRIC SAR FEATURES	1540
<i>Yuanzhi Zhang, Nanjing University of Information Science and Technology; Yu Li, The Chinese University of Hong Kong; Yijun He, Nanjing University of Information Science and Technology; Tingchen Jiang, Huaihai Institute of Technology</i>	
TU4-L2.5: PROPOSAL OF WET SNOW MAPPING WITH FOCUS ON INCIDENT ANGLE INFLUENTIAL TO DEPOLARIZATION OF SURFACE SCATTERING	1544
<i>Naoto Usami, The University of Tokyo; Arnab Muhuri, Avik Bhattacharya, Indian Institute of Technology, Bombay; Akira Hirose, The University of Tokyo</i>	
TU1-L3: OBJECT DETECTION	
TU1-L3.1: OBJECT DETECTION CAPABILITY EVALUATION FOR SAR IMAGE	1548
<i>Zheyuan Wang, Yuanxiang Li, Shanghai Jiao Tong University; Fangjie Yu, Ocean University of China; Wenxian Yu, Shanghai Jiao Tong University; Zhuhui Jiang, Shanghai Jiao Tong University and Beijing Institute of Applied Meteorology; Yongke Ding, Shanghai Jiao Tong University</i>	
TU1-L3.2: OBJECT DETECTION IN PLEIADES IMAGES USING DEEP FEATURES	1552
<i>Mohamed Dahmane, Samuel Foucher, Mario Beaulieu, CRIM; François Riendeau, Yacine Bouroubi, Mathieu Benoit, Effigis</i>	
TU1-L3.3: SEMANTIC LABELING OF AERIAL IMAGES BY LEARNING CLASS-SPECIFIC OBJECT PROPOSALS	1556
<i>Michele Volpi, Devis Tuia, University of Zurich</i>	
TU1-L3.4: SALIENT OBJECT DETECTION IN HYPERSPECTRAL IMAGERY USING SPECTRAL GRADIENT CONTRAST	1560
<i>Hangqi Yan, Yanning Zhang, Wei Wei, Lei Zhang, Yong Li, Northwestern Polytechnical University</i>	
TU1-L3.5: OBJECT DETECTION OF POLARIZED HYPERSPECTAL IMAGES BASED ON FOURTH-ORDER TENSOR MATCHED FILTERING	1564
<i>Jian Tan, Junping Zhang, Xiaochen Lu, Harbin Institute of Technology</i>	
TU2-L3: DETECTION WITH HIGH RESOLUTION IMAGES	
TU2-L3.1: HIGH-RISE BUILDING DETECTION IN DENSE URBAN AREA BASED ON HIGH RESOLUTION SAR IMAGES	1568
<i>Kan Tang, The 802 Research Institute of Shanghai Aerospace Science and Technology Corporation; Bo Liu, Qian Xuesen Laboratory of Space Technology; Bo Zou, The 802 Research Institute of Shanghai Aerospace Science and Technology Corporation</i>	
TU2-L3.2: A VECTORIZATION METHOD OF BUILDING EDGE BASED ON HIGH RESOLUTION DSM DATA	1572
<i>Yajuan Yin, Hong Zhao, Xi'an Surveying and Mapping Technological Center; Fan Yang, Xi'an Surveying and Mapping Technological Center & University of Waterloo; Dashuai Shang, Xi'an Surveying and Mapping Technological Center; Jiange Liu, Northwestern Polytechnical University & University of Waterloo</i>	
TU2-L3.3: AIRCRAFT RECOGNITION IN HIGH RESOLUTION SAR IMAGES USING SALIENCY MAP AND SCATTERING STRUCTURE FEATURES	1575
<i>Fangzheng Dou, Wenhui Diao, Xian Sun, Siyu Wang, Kun Fu, Guangluan Xu, Chinese Academy of Sciences</i>	
TU2-L3.4: AUTOMATIC BUILDING RECONSTRUCTION FROM HIGH RESOLUTION INSAR DATA USING STOCHASTIC GEOMETRICAL MODEL	1579
<i>Kun Fu, Yue Zhang, Xian Sun, Key Laboratory of Spatial Information Processing and Application System Technology, Chinese Academy of Sciences; Wenhui Diao, Laboratory of Spatial Information Processing and Application System Technology, Chinese Academy of Sciences; Bin Wu, Hongqi Wang, Key Laboratory of Spatial Information Processing and Application System Technology, Chinese Academy of Sciences</i>	

TU3-L3: ROAD AND BUILDING DETECTION

TU3-L3.1: ROAD EXTRACTION AND INTERSECTION DETECTION BASED ON TENSOR VOTING 1587

Yingying Zhang, Junping Zhang, Tong Li, Ke Sun, Harbin Institute of Technology

TU3-L3.2: FULLY CONVOLUTIONAL NETWORKS FOR BUILDING AND ROAD EXTRACTION: PRELIMINARY RESULTS 1591

Zilong Zhong, Jonathan Li, University of Waterloo; Weihong Cui, Wuhan University; Han Jiang, University of Waterloo

TU3-L3.3: 3D ROAD SURFACE EXTRACTION FROM MOBILE LASER SCANNING POINT CLOUDS 1595

Dawei Zai, Xiamen University; Yulan Guo, National University of Defense Technology; Jonathan Li, Huan Luo, Yangbin Lin, Yi Sun, Pengdi Huang, Cheng Wang, Xiamen University

TU3-L3.4: ROAD NETWORK EXTRACTION VIA DEEP LEARNING AND LINE INTEGRAL CONVOLUTION 1599

Peikang Li, Yu Zang, Cheng Wang, Jonathan Li, Ming Cheng, Xiamen University; Lun Luo, China Transport Telecommunications & Information Center; Yao Yu, Xiamen University

TU3-L3.5: AUTOMATIC ROAD DETECTION FROM GRAY-LEVEL IMAGES IN WIDE AREA SURVEILLANCE 1603

Ogul Can, Yeti Ziya Gürbüz, A. Aydin Alatan, Middle East Technical University

TU4-L3: HYPERSPECTRAL IMAGE ANALYSIS AND OBJECT DETECTION

TU4-L3.1: SUPER-RESOLUTION RECONSTRUCTION OF HYPERSPECTRAL IMAGERY USING AN SPECTRAL UNMIXING BASED REPRESENTATIONAL MODEL 1607

Xiao Sun, Linlin Xu, Longshan Yang, Yujia Chen, Yuan Fang, Junhuan Peng, China University of Geosciences

TU4-L3.2: SENSITIVITY ANALYSIS FOR CHL-A RETRIEVAL OF WATER BODY USING HYPERSPECTRAL REMOTE SENSING DATA WITH DIFFERENT SPECTRAL INDICATORS 1611

Shudong Wang, Lifu Zhang, Jingguo Tian, Xiaoyuan Zhang, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences

TU4-L3.3: MINERAL TARGET DETECTION BASED ON MSCPE_BSE IN HYPERSPECTRAL IMAGE 1614

Yani Hou, Ying Zhang, Lilin Yao, Xiaofang Liu, University of Electronic Science and Technology of China; Fu Wang, Earth Observation System and Data Center, China National Space Administration

TU4-L3.4: HYPERSPECTRAL ANOMALY DETECTION USING BACKGROUND LEARNING AND STRUCTURED SPARSE REPRESENTATION 1618

Fei Li, Yanning Zhang, Lei Zhang, Xiuwei Zhang, Dongmei Jiang, Northwestern Polytechnical University

TU4-L3.5: HIERARCHICAL REINFORCEMENT LEARNING FOR SALIENCY DETECTION OF LOW-RESOLUTION AIRPORTS 1622

Danpei Zhao, Yuanyuan Ma, School of Astronautics, Beihang University; Jiajia Wang, Beijing Jinghang Research Institute of Computing and Communication; Zhiguo Jiang, School of Astronautics, Beihang University

TU1-L4: SMAP SOIL MOISTURE I

TU1-L4.1: COMBINED ACTIVE AND PASSIVE MICROWAVE REMOTE SENSING OF SOIL MOISTURE FOR VEGETATED SURFACES AT L-BAND 1626

Huanting Huang, Tien-Hao Liao, Leung Tsang, University of Michigan, Ann Arbor; Eni G. Njoku, Andreas Colliander, Jet Propulsion Laboratory, California Institute of Technology; Thomas Jackson, U.S. Department of Agriculture, Agricultural Research Service, Hydrology and Remote Sensing Laboratory; Simon Yueh, Jet Propulsion Laboratory, California Institute of Technology

TU1-L4.2: SPATIAL DOWNSCALING OF SMAP PASSIVE MICROWAVE RADIOMETER SOIL MOISTURE USING VEGETATION INDEX AND SURFACE TEMPERATURE	1630
<i>Venkat Lakshmi, Huixuan Li, University of South Carolina</i>	
TU1-L4.3: FIRST APPLICATION OF REGRESSION ANALYSIS TO RETRIEVE SOIL MOISTURE FROM SMAP BRIGHTNESS TEMPERATURE OBSERVATIONS CONSISTENT WITH SMOS	1633
<i>Amen Al-Yaari, Jean-Pierre Wigneron, INRA; Yann Kerr, Nemesio Rodriguez-Fernandez, Centre d'Études Spatiales de la Biosphère (CESBIO); Peggy O'Neill, NASA; Thomas Jackson, U.S. Department of Agriculture; Gabrielle De Lannoy, KU Leuven; Ahmad Al Bitar, Arnaud Mialon, Philippe Richaume, Centre d'Études Spatiales de la Biosphère (CESBIO); Simon Yueh, Jet Propulsion Laboratory</i>	
TU1-L4.4: A PRELIMINARY ASSESSMENT OF THE SMAP RADIOMETER SOIL MOISTURE PRODUCT USING THREE IN-SITU NETWORKS	1637
<i>Jiangyuan Zeng, Kun-Shan Chen, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Haiyun Bi, Institute of Geology, China Earthquake Administration; Quan Chen, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Yuan Liu, ICube, UdS, CNRS</i>	
TU1-L4.5: METHOD FOR UPSCALING IN-SITU SOIL MOISTURE MEASUREMENTS FOR CALIBRATION AND VALIDATION OF SMAP SOIL MOISTURE PRODUCTS	1641
<i>Jane Whitcomb, University of Southern California; Daniel Clewley, Plymouth Marine Laboratory; Ruzbeh Akbar, Agnelo Silva, University of Southern California; Aaron Berg, Justin Adams, University of Guelph; Mahta Moghaddam, University of Southern California</i>	
 TU2-L4: PASSIVE MICROWAVE SOIL MOISTURE I	
TU2-L4.1: SMOS AFTER SIX YEARS IN OPERATIONS: FIRST GLANCE AT CLIMATIC TRENDS AND ANOMALIES	1645
<i>Yann Kerr, Ali Mahmoodi, Ahmad Al Bitar, Arnaud Mialon, Simone Bircher, Beatriz Molero, Philippe Richaume, François Cabot, Nemesio Rodriguez-Fernandez, Centre d'Études Spatiales de la Biosphère (CESBIO); Marie Parrens, ECMWF; Amen Al-Yaari, Jean-Pierre Wigneron, INRA</i>	
TU2-L4.2: DEVELOPMENT AND VALIDATION OF THE GCOM-W AMSR2 SOIL MOISTURE PRODUCT	1647
<i>Rajat Bindlish, SSAI, USDA ARS HRSL; Thomas Jackson, Michael Cosh, U.S. Department of Agriculture ARS HRSL; Sushil Milak, SSAI, USDA ARS HRSL; Eni G. Njoku, Steven Chan, Mariko Burgin, NASA Jet Propulsion Laboratory; Todd Caldwell, The University of Texas; Aaron Berg, University of Guelph; Heather McNairn, Agriculture and Agri-Food Canada; Jeffrey Walker, Monash University; Yijian Zeng, Zhongbo Su, University of Twente; Marc Thibeault, Comisión Nacional de Actividades Espaciales; Jose Martinez-Fernandez, Universidad de Salamanca</i>	
TU2-L4.3: SOIL MOISTURE AND RAINFALL RETRIEVAL FROM AMSR2 DATA IN ITALY	1651
<i>Emanuele Santi, Simonetta Paloscia, Simone Pettinato, Institute of Applied Physics - National Research Council (IFAC - CNR); Luca Brocca, Luca Ciabatta, Christian Massari, Research Institute for Geo-Hydrological Protection - National Research Council (IRPI- CNR)</i>	
TU2-L4.4: EVALUATION OF THE FY-3B/MWRI SOIL MOISTURE PRODUCT ON THE CENTRAL TIBETAN PLATEAU	1655
<i>Yaokui Cui, Di Long, Yang Hong, Tsinghua University; Zhongying Han, China Agricultural University; Chao Zeng, Xueyan Hou, Tsinghua University</i>	
TU2-L4.5: SMOS SOIL MOISTURE DOWNSCALING BASED ON BACK PROPAGATION NEURAL NETWORK AND MODIS LST AND EVI	1659
<i>Hongtao Jiang, Huanfeng Shen, Wuhan University</i>	

TU3-L4: PASSIVE MICROWAVE SATELLITE PRODUCTS

TU3-L4.1: ASSESSMENT OF QP MODEL BASED TWO CHANNEL ALGORITHM WITH JAXA, 1663 LPRM SOIL MOISTURE PRODUCTS OVER GENHE AREA IN CHINA

Huizhen Cui, Lingmei Jiang, Beijing Normal University; Jinyang Du, The University of Montana; Gongxue Wang, Zheng Lu, Beijing Normal University

TU3-L4.2: ANALYSIS OF L-BAND BRIGHTNESS TEMPERATURES RESPONSE TO 1667 FREEZE/THAW IN TWO PRAIRIE ENVIRONMENTS FROM SURFACE-BASED RADIOMETER MEASUREMENTS

Alexandre Roy, Alexandre Roy; Peter Toose, Chris Derksen, Environment Canada; Alain Royer; Alex Mavrovic, Université de Sherbrooke; Aaron Berg, University of Guelph; Lauren Arnold, Environment Canada; Matthew Williamson, Tracy Rowlandson, Juha Lemmetyinen, Alexandre Langlois, University of Guelph; Erica Tetlock, Environment Canada; Oliver Sonnentag, Université de Montréal

TU3-L4.3: DEVELOPMENT OF PASSIVE MICROWAVE RETRIEVAL ALGORITHM FOR 1671 ESTIMATION OF SURFACE SOIL TEMPERATURE FROM AMSR-E DATA

Menglei Han, Hui Lu, Tsinghua University; Kun Yang, Institute of Tibetan Plateau Research, Chinese Academy of Sciences

TU3-L4.4: IMPROVING SMOS SOIL MOISTURE ALGORITHM PERFORMANCE IN 1675 FORESTED AREAS WITH MULTISENSOR SAR DATA

Jaakko Seppänen, Jaan Praks, Oleg Antropov, Aalto University

TU3-L4.5: EVALUATION OF ERRORS INDUCED BY SOIL DIELECTRIC MODELS FOR 1679 SOIL MOISTURE RETRIEVAL AT L-BAND

Peng Guo, SDAU; Jiancheng Shi, Institute of Remote Sensing and Digital Earth, Chinese Academ; Bo Gao, Beijing Key Laboratory of Water Resource Security, Capital Normal University; Hong Wan, SDAU

TU4-L4: RADAR SOIL MOISTURE I

TU4-L4.1: EFFECT OF SOIL ROUGHNESS ON BACKSCATTERED P-BAND RADAR SIGNAL 1683 OVER BARE SOIL

Mehrez Zribi, CNRS/CESBIO; Mouna Sahnoun, ENIS/Sfax University; Nicolas Baghdadi, UMR TETIS/IRSTEA; Ahmed Ben Hamida, ENIS/Sfax University

TU4-L4.2: POLARIMETRIC DECOMPOSITION OF C-BAND SAR DATA FOR SOIL MOISTURE 1687 RETRIEVAL OVER AGRICULTURAL FIELDS

Hongquan Wang, Ramata Magagi, Kalifa Goïta, University of Sherbrooke

TU4-L4.3: TIME SERIES INVESTIGATION OF SOIL MOISTURE ESTIMATION USING 1691 COMPACT POLARIMETRY AT L-BAND

Ponnuram Gramini Ganesan, Indian Institute of Technology, Bombay; Thomas Jagdhuber; Irena Hajnsek, German Aerospace Center (DLR); Rao Y.S., Indian Institute of Technology, Bombay

TU4-L4.4: EMPIRICAL MODEL FOR SURFACE SOIL MOISTURE ESTIMATION OVER 1695 WHEAT FIELDS USING C-BAND POLARIMETRIC SAR

Vincent Beaugard, Kalifa Goïta, Ramata Magagi, Université de Sherbrooke

TU4-L4.5: SOIL MOISTURE RETRIEVAL IN WELL COVERED FARMLAND BY RADARSAT-2 1699 SAR DATA

Jibo Yue, Henan Polytechnic University; Guijun Yang, Beijing Research Center for Information Technology in Agriculture; Xiudong Qi, Yanjie Wang, Henan Polytechnic University

TU1-L5: REMOTE SENSING OF VEGETATION TRAITS AND FUNCTION I

TU1-L5.1: EXPLORING THE FEASIBILITY OF GLOBAL MAPPING OF THE LEAF 1703 CARBOXYLATION RATE

Jing Chen, Holly Croft, Ting Zheng, University of Toronto

TU1-L5.3: REMOTE SENSING OF SOLAR INDUCED CHLOROPHYLL FLUORESCENCE FROM SATELLITES, AIRPLANES AND GROUND-BASED STATIONS	1707
<i>Christian Frankenberg, Darren Drewry, Sven Geier, Manish Verma, Peter Lawson, Jet Propulsion Laboratory, California Institute of Technology; Jochen Stutz, Katja Grossmann, The University of California, Los Angeles</i>	
TU1-L5.4: CAN WE RETRIEVE VEGETATION PHOTOSYNTHETIC CAPACITY PARAMTER FROM SOLAR-INDUCED FLUORESCENCE?	1711
<i>Yongguang Zhang, Nanjing University; Luis Guanter, GFZ German Research Centre for Geosciences; Joseph Berry, Carnegie Institution for Science; Christiaan van der Tol, The University of Twente; Joanna Joiner, NASA Goddard Space Flight Center</i>	
TU1-L5.5: RECENT ADVANCES IN GLOBAL MONITORING OF TERRESTRIAL SUN-INDUCED CHLOROPHYLL FLUORESCENCE	1714
<i>Luis Guanter, Philipp Koehler, Sophia Walther, GFZ Potsdam; Yongguang Zhang, Nanjing University</i>	
 TU2-L5: REMOTE SENSING OF VEGETATION TRAITS AND FUNCTION II	
TU2-L5.1: MULTI-ANGLE NARROW-BAND REMOTE SENSING OF GROSS PRIMARY PRODUCTION	1717
<i>Forrest G. Hall, GSFC/UMBC; Thomas Hilker, Oregon State University</i>	
TU2-L5.2: REMOTE SENSING OF CROP LIGHT USE EFFICIENCY USING PHOTOCHEMICAL REFLECTANCE INDEX	1719
<i>Chaoyang Wu, Zhengjia Liu, Shiguang Xu, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
TU2-L5.3: TRACING PHOTOSYNTHETIC ELECTRON TRANSPORT RATE BASED ON HYPERSPECTRAL REFLECTANCE	1723
<i>Quan Wang, Rei Sonobe, Shizuoka University</i>	
TU2-L5.4: ACCURACY ASSESSMENT ON RECONSTRUCTION ALGORITHMS OF SOLAR-INDUCED FLUORESCENCE SPECTRUM	1727
<i>Rong Li, Feng Zhao, Beihang University</i>	
TU2-L5.5: CLIMATE AND LEAF PHENOLOGY CONTROLS ON TROPICAL FOREST PHOTOSYNTHESIS	1731
<i>Alfredo Huete, Natalia Restrepo-Coupe, University of Technology Sydney; Jin Wu, Scott Saleska, University of Arizona</i>	
 TU3-L5: RADAR FORESTRY	
TU3-L5.1: THE POLARIZED DIFFERENTIAL EXTINCTION COEFFICIENT WITH FREQUENCY DETERMINED BY MORPHOLOGICAL CHARACTERISTICS OF FOREST VEGETATION	1734
<i>Chufeng Hu, Nanjing Li, Weijun Chen, Northwestern Polytechnical University</i>	
TU3-L5.2: AN ABOVE CANOPY RADAR MONITORING SYSTEM AT THE HARVARD FOREST	1738
<i>Paul Siqueira, Xingjian Chen, University of Massachusetts</i>	
TU3-L5.3: EXPLORING THE CANADIAN BOREAL FOREST USING AIRSAR, LANDSAT5, AND VIRTUAL LIDAR	1741
<i>Michael Benson, Leland Pierce, Kamal Sarabandi, University of Michigan</i>	
TU3-L5.4: THE EFFECTS OF TEMPORAL DECORRELATION AND TOPOGRAPHIC SLOPE ON FOREST HEIGHT RETRIEVAL USING AIRBORNE REPEAT-PASS L-BAND POLARIMETRIC SAR INTERFEROMETRY	1745
<i>Michael Denbina, Marc Simard, Jet Propulsion Laboratory</i>	

TU3-L5.5: MONITORING OF POST-FIRE FOREST RECOVERY UNDER DIFFERENT RESTORATION TREATMENTS BASED ON TIME-SERIES ALOS/PALSAR DATA	1749
<i>Wei Chen, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Kazuyuki Moriya, Tetsuro Sakai, Kyoto University; Chunxiang Cao, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
 TU4-L5: FOREST MONITORING BY LIDAR AND MULTISPECTRAL TECHNIQUES	
TU4-L5.1: EFFECT OF SIZE AND NUMBER OF CALIBRATION PLOTS ON THE ESTIMATION OF STEM DIAMETER DISTRIBUTIONS USING AIRBORNE LASER SCANNING	1753
<i>Chen Shang, Queen's University; Trevor Jones, Ministry of Natural Resources and Forestry; Paul Treitz, Queen's University</i>	
TU4-L5.2: TREE HEIGHT ESTIMATES IN BOREAL FOREST USING GAUSSIAN PROCESS REGRESSION	1757
<i>Teemu Mutanen, Laura Sirro, Yrjö Rauste, VTT</i>	
TU4-L5.3: EXTRACTION OF THE VERTICAL DISTRIBUTION OF BIOCHEMICAL PARAMETERS USING HYPERSPECTRAL LIDAR	1761
<i>Shuai Gao, Zheng Niu, Gang Sun, Wang Li, Hailang Qiao, Yuchu Qin, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
TU4-L5.4: LARGE-AREA VIRTUAL FORESTS FROM TERRESTRIAL LASER SCANNING DATA	1765
<i>Kim Calders, National Physical Laboratory & University College London; Andrew Burt, University College London; Niall Origo, National Physical Laboratory & University College London; Mathias Disney, University College London & NERC National Centre for Earth Observation; Joanne Nightingale, National Physical Laboratory; Pasi Raunonen, Tampere University of Technology; Philip Lewis, University College London & NERC National Centre for Earth Observation</i>	
TU4-L5.5: WALKING WITH GREEN SCENERY: EXPLORING STREET-LEVEL GREENERY IN TERMS OF VISUAL PERCEPTION	1768
<i>Jiahui Zhang, Qingyan Meng, Ying Zhang, Yunxiao Sun, Linlin Zhang, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
 TU1-L6: REMOTE SENSORS AND SENSING OF URBAN AREAS I	
TU1-L6.1: REMOTE SENSORS FOR AND SENSING OF URBAN AREAS: CURRENT STATE AND NEXT DECADE	1772
<i>Qihao Weng, Indiana State University</i>	
TU1-L6.3: EARTH OBSERVATION-BASED SERVICE PLATFORMS - A NEW INSTRUMENT TO PROVIDE GEO-INFORMATION FOR URBAN AND REGIONAL PLANNING	1774
<i>Thomas Esch, Hubert Asamer, German Aerospace Center (DLR); Martin Boettcher, Brockmann Consult GmbH; Fabrice Brito, Terradue; Andreas Hirner, Mattia Marconcini, German Aerospace Center (DLR); Emmanuel Mathot, Terradue; Hans Permana, Brockmann Consult GmbH; Annkatrin Metz, German Aerospace Center (DLR); Tomas Soukup, GISAT; Filip Stanek, Stepan Kuchar, IT4Innovation; Julian Zeidler, German Aerospace Center (DLR)</i>	
TU1-L6.4: REGIONAL URBAN EXTENT EXTRACTION USING MULTI-SENSOR DATA AND DECISION RULES	1778
<i>Xiya Zhang, Institute of Urban Meteorology, China Meteorological Administration, Beijing; Peijun Li, Institute of Remote Sensing and GIS, Peking University; Haibo Hu, Institute of Urban Meteorology, China Meteorological Administration, Beijing</i>	
TU1-L6.5: DEVELOPMENT OF 2016 NATIONAL IMPERVIOUSNESS PRODUCT	1782
<i>George Xian, United States Geological Survey</i>	
 TU2-L6: REMOTE SENSORS AND SENSING OF URBAN AREAS II	
TU2-L6.1: AN AUTOMATED METHOD FOR TIME-SERIES HUMAN SETTLEMENT MAPPING USING LANDSAT DATA AND EXISTING LAND COVER MAPS	1784
<i>Hiroyuki Miyazaki, University of Tokyo; Masahiko Nagai, Asian Institute of Technology; Ryosuke Shibasaki, University of Tokyo</i>	

TU2-L6.2: OBSERVING URBAN BUILT-UP CHANGE IN SHANGHAI WITH SAR IMAGERY	1788
<i>Michael Jendryke, Timo Balz, Mingsheng Liao, Wuhan University</i>	
TU2-L6.3: TEMPORALLY EXTRAPOLATING OBJECT-BASED THRESHOLD FOR UPDATING URBAN EXTENTS FROM NIGHTTIME LIGHT DATA	1792
<i>Yanhua Xie, Qihao Weng, Indiana State University</i>	
TU2-L6.4: LARGE URBAN ZONE CLASSIFICATION ON SPOT-5 IMAGERY WITH CONVOLUTIONAL NEURAL NETWORKS	1796
<i>Vladimir A. Krylov, Michaela de Martino, Gabriele Moser, Sebastiano B. Serpico, University of Genoa</i>	
TU2-L6.5: HIERARCHICAL HYBRID DECISION TREE MULTISCALE FUSION FOR URBAN IMAGE CLASSIFICATION	1800
<i>Gianni Cristian Iannelli, Paolo Gamba, University of Pavia</i>	
 TU3-L6: GEOGRAPHIC INFORMATION SCIENCE	
TU3-L6.1: SPATIAL DISTRIBUTION OF RODENT PESTS IN DESERT FOREST BASED ON UAV REMOTE SENSING	1804
<i>Amin Wen, Jianghai Zheng, Xinjiang University; Meng Chen, Master Station of Prevention and Quarantine of Forestry Plant Diseases and Insect Pests in Xinjiang; Chen Mu, Prairie Station of Animal Husbandry Department in Xinjiang; Tao Ma, Xinjiang University</i>	
TU3-L6.2: STATISTICAL ASSESSMENT OF GROUNDWATER RESOURCES AND LONG TERM TREND USING GEOSPATIAL TECHNIQUES	1808
<i>Rajat Agarwal, P.K. Garg, Indian Institute of Technology, Roorkee</i>	
TU3-L6.3: DCAP: A DEEP CONVOLUTION ARCHITECTURE FOR PREDICTION OF URBAN GROWTH	1812
<i>Saptarshi Pal, Indian Institute of Technology, Kharagpur; Srija Chowdhury, Indian Institute of Engineering Science and Technology, Shibpur; Soumya K Ghosh, Indian Institute of Technology, Kharagpur</i>	
TU3-L6.4: A NOVEL APPROACH FOR DETECTING INTERSECTIONS FROM GPS TRACES	1816
<i>Xingzhe Xie, Wenzhi Liao, Ghent University; Hamid Aghajan, Stanford University; Peter Veelaert, Wilfried Philips, Ghent University</i>	
TU3-L6.5: AN APPROACH FOR FLOOD INUNDATED DURATION EXTRACTION BASED ON LEVEL SET METHOD USING REMOTE SENSING DATA	1820
<i>Lianchong Zhang, Wenyang Yu, Guoqing Li, Hongyue Zhang, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
 TU4-L6: IEEE GRSS DATA FUSION CONTEST	
TU4-L6.2: SPATIOTEMPORAL SCENE INTERPRETATION OF SPACE VIDEOS VIA DEEP NEURAL NETWORK AND TRACKLET ANALYSIS	1823
<i>Lichao Mou, Xiao Xiang Zhu, German Aerospace Center (DLR) and Technical University of Munich (TUM)</i>	
TU4-L6.3: SIMULTANEOUS REGISTRATION, SEGMENTATION AND CHANGE DETECTION FROM MULTISENSOR, MULTITEMPORAL SATELLITE IMAGE PAIRS	1827
<i>Maria Vakalopoulou, Christos Platias, Maria Papadomanolaki, National Technical University of Athens; Nikos Paragios, Ecole Centrale de Paris; Konstantinos Karantzas, National Technical University of Athens</i>	
TU4-L6.4: SENSOR-AGNOSTIC PHOTOGRAMMETRIC IMAGE REGISTRATION WITH APPLICATIONS TO POPULATION MODELING	1831
<i>Dave Kelbe, Devin White, Andrew Hardin, Jessica Moehl, Melanie Phillips, Oak Ridge National Laboratory</i>	

TU4-L6.5: BUILDING EXTRACTION FROM MULTI-SOURCE REMOTE SENSING IMAGES VIA DEEP DECONVOLUTION NEURAL NETWORKS	1835
<i>Zuming Huang, Guangliang Cheng, Hongzhen Wang, Haichang Li, Limin Shi, Chunhong Pan, Institute of Automation, Chinese Academy of Sciences</i>	
TU1-L7: STUDENT PAPER CONTEST FINALISTS I	
TU1-L7.1: TEXTURE RETRIEVAL FROM VERY HIGH RESOLUTION REMOTE SENSING IMAGES USING LOCAL EXTREMA-BASED DESCRIPTORS	1839
<i>Minh-Tan Pham, Grégoire Mercier, Télécom Bretagne; Olivier Regniers, I-SEA; Lionel Bombrun, University of Bordeaux; Julien Michel, CNES</i>	
TU1-L7.2: SEMI-SUPERVISED MULTI-METRIC ACTIVE LEARNING FOR CLASSIFICATION OF HYPERSPECTRAL IMAGES	1843
<i>Zhou Zhang, Melba Crawford, Purdue University</i>	
TU1-L7.3: FAST HYPERSPECTRAL IMAGE DENOISING BASED ON LOW RANK AND SPARSE REPRESENTATIONS	1847
<i>Lina Zhuang, Instituto Superior Técnico; Jose Bioucas-Dias, Instituto de Telecomunicações, Instituto Superior Técnico, Universidade de Lisboa</i>	
TU1-L7.4: BRAD: BACKGROUND REGRESSION BASED HYPERSPECTRAL ANOMALY DETECTION, A K-NN SCORE ESTIMATION ASPECT	1851
<i>Rui Zhao, Bo Du, Liangpei Zhang, Wuhan University</i>	
TU1-L7.5: ANOMALY DETECTION IN HYPERSPECTRAL IMAGES THROUGH SPECTRAL UNMIXING AND LOW RANK DECOMPOSITION	1855
<i>Ying Qu, Rui Guo, Wei Wang, Hairong Qi, The University of Tennessee, Knoxville; Bulent Ayhan, Chimam Kwan, Signal Processing, Inc.; Steven Vance, Jet Propulsion Laboratory</i>	
TU2-L7: STUDENT PAPER CONTEST FINALISTS II	
TU2-L7.1: A LS-SVM-BASED CLASSIFIER WITH FRUIT FLY OPTIMIZATION ALGORITHM FOR POLARIMETRIC SAR IMAGES	1859
<i>Shiyu Luo, University of Electronic Science and Technology of China; Kamal Sarabandi, University of Michigan, Ann Arbor; Ling Tong, University of Electronic Science and Technology of China; Leland Pierce, University of Michigan, Ann Arbor</i>	
TU2-L7.2: UNSUPERVISED CHANGE DETECTION MODEL BASED ON HYBRID CONDITIONAL RANDOM FIELD FOR HIGH SPATIAL RESOLUTION REMOTE SENSING IMAGERY	1863
<i>Pengyuan Lv, Yanfei Zhong, Ji Zhao, Liangpei Zhang, Wuhan University</i>	
TU2-L7.3: INVERSE MODELLING OF GNSS MULTIPATH FOR SEA LEVEL MEASUREMENTS - INITIAL RESULTS	1867
<i>Joakim Strandberg, Thomas Hobiger, Rüdiger Haas, Chalmers University of Technology</i>	
TU2-L7.4: A NUMERICAL STUDY OF MICROWAVE EMISSION FROM OCEAN FOAM LAYER	1870
<i>Rui Jiang, Wuhan University; Peng Xu, Kun-Shan Chen, Chinese Academy of Sciences; Saibun Tjuatja, The University of Texas at Arlington; Xiong-Bin Wu, Wuhan University</i>	
TU2-L7.5: INTER-ELEMENT PHASE SELF-CALIBRATION FOR GIMS (GEOSTATIONARY INTERFEROMETRIC MICROWAVE SOUNDER)	1874
<i>Donghao Han, Hao Liu, Ji Wu, Cheng Zhang, Key Laboratory of Microwave Remote Sensing, National Space Science Center, Chinese Academy of Sciences</i>	

TU3-L7: PHYSICAL MODELS IN MICROWAVE REMOTE SENSING I

TU3-L7.1: MICROWAVE MODELING OF VEGETATION: A HISTORICAL PROSPECTIVE 1878

Roger Lang, George Washington University

TU3-L7.3: MULTIPLE SCATTERING EFFECTS IN VEGETATED SURFACES AND ROUGH SURFACE BOUNDARY CONDITION AT C-BAND FOR REMOTE SENSING OF SOIL MOISTURE 1881

Tien-Hao Liao, Mohammadreza Sanamzadeh, Tai Qiao, Leung Tsang, University of Michigan

TU3-L7.4: JOINT-PHYSICS EMISSION-SCATTERING MODEL FOR IMPROVED ACTIVE-PASSIVE SOIL MOISTURE ESTIMATION 1885

Ruzbeh Akbar, Mahta Moghaddam, University of Southern California

TU3-L7.5: MODELING AND CHARACTERISTICS OF BISTAIC SCATTERING FROM RICE CANOPY 1888

Yu Liu, Kun-Shan Chen, State Key Laboratory of Remote Sensing Sciences, Institute of Remote Sensing and Digital Earth, CAS; Yuan Liu, ICube, UdS, CNRS; Zhao-Liang Li, Key Laboratory of Agri-informatics, Ministry of Agriculture/Institute of Agricultural Resources and Regional Planning; Peng Xu, Jiang-Yuan Zeng, Ming Jin, State Key Laboratory of Remote Sensing Sciences, Institute of Remote Sensing and Digital Earth, CAS

TU4-L7: PHYSICAL MODELS IN MICROWAVE REMOTE SENSING II

TU4-L7.1: ELECTROMAGNETIC SCATTERING FROM A 3D RANDOM VOLUME USING SSWAP-SD METHOD FOR RADAR REMOTE SENSING OF SNOW 1892

Mostafa Zaky, Kamal Sarabandi, University of Michigan

TU4-L7.2: THREE DIMENSIONAL MODELING OF GNSS OCEAN REFLECTION SIGNAL 1895

Yongqiang QI, Bo ZHANG, Dongkai YANG, Yunlong Zhu, Bowen Li, Bo Peng, Beihang University

TU4-L7.3: FORWARD AND INVERSE MODELS FOR SEA ICE PHYSICAL PARAMETER RETRIEVAL 1899

Yu Jen Lee, Kee Choon Yeong, Hong Tat Ewe, Universiti Tunku Abdul Rahman

TU4-L7.4: MODELING POLARIMETRIC SEA SURFACE SPECULAR SCATTERING FOR GNSS-R APPLICATIONS 1903

Jeonghwan Park, Joel Johnson, The Ohio State University; Jeffrey Ouellette, Naval Research Laboratory

TU4-L7.5: POLARIMETRIC SIMULATIONS OF BISTATIC SCATTERING FROM SEA SURFACES WITH 5M/S WIND SPEED AT L BAND 1905

Jingsong Yang, Second Institute of Oceanography; Yang Du, Zhejiang University; Jiancheng Shi, Institute of Remote Sensing Applications, Chinese Academy of Science; Dejun Li, Zhejiang University

TU1-L8: CALIBRATION, VALIDATION AND RELATED TOPICS IN SUPPORT OF SPACEBORNE IMAGING SPECTROSCOPY MISSIONS I

TU1-L8.1: REPORT ON INTERNATIONAL SPACEBORNE IMAGING SPECTROSCOPY TECHNICAL COMMITTEE CALIBRATION AND VALIDATION WORKSHOP, NATIONAL ENVIRONMENT RESEARCH COUNCIL FIELD SPECTROSCOPY FACILITY, UNIVERSITY OF EDINBURGH 1909

Cindy Ong, CSIRO; Andreas Müller, German Aerospace Center (DLR); Kurtis Thome, NASA; Martin Bachmann, German Aerospace Center (DLR); Jeffrey Czapla-Myers, University of Arizona; Stefanie Holzwarth, German Aerospace Center (DLR); Siri Jodha Khalsa, University of Colorado; Christopher MacLellan, University of Edinburgh; Timothy Malthus, CSIRO; Joanne Nightingale, NPL; Leland Pierce, University of Michigan; Hirokazu Yamamoto, AIST

TU1-L8.2: CALIBRATION/VALIDATION ERROR BUDGETS, UNCERTAINTIES, TRACEABILITY AND THEIR IMPORTANCE TO IMAGING SPECTROMETRY 1912

Kurtis Thome, NASA Goddard Space Flight Center

TU1-L8.4: UNCERTAINTY ESTIMATION FOR SPACEBORNE HYPERSPECTRAL DATA	1916
PRODUCTS AND THE RELEVANCE TO THE DESIS AND ENMAP MISSION	
<i>Martin Bachmann, Grégoire Kerr, German Aerospace Center (DLR)</i>	
TU1-L8.5: DEVELOPMENT OF ROBUST QUALITY ASSURANCE PROCEDURES FOR	1920
TERRESTRIAL ESSENTIAL CLIMATE VARIABLE DATA PRODUCTS DERIVED FROM EARTH OBSERVATION SATELLITES	
<i>Joanne Nightingale, Tracy Scanlon, Niall Origo, Kim Calders, Nigel Fox, National Physical Laboratory; Jan-Peter Muller, University College London</i>	
 TU2-L8: CALIBRATION, VALIDATION AND RELATED TOPICS IN SUPPORT OF SPACEBORNE IMAGING SPECTROSCOPY MISSIONS II	
TU2-L8.1: AN OVERVIEW OF ISS HISUI HYPERSPECTRAL IMAGER RADIOMETRIC	1924
CALIBRATION	
<i>Kenta Obata, Satoshi Tsuchida, Izumi Nagatani, Hirokazu Yamamoto, Toru Kouyama, Yoshiro Yamada, Yu Yamaguchi, Juntaro Ishii, National Institute of Advanced Industrial Science and Technology</i>	
TU2-L8.2: CROSS-SENSOR CALIBRATION AND VALIDATION BETWEEN DESIS AND HISUI	1928
HYPERSPECTRAL IMAGER ON THE INTERNATIONAL SPACE STATION (ISS)	
<i>Hirokazu Yamamoto, Kenta Obata, Satoshi Tsuchida, National Institute of Advanced Industrial Science and Technology; Grégoire Kerr, Martin Bachmann, German Aerospace Center (DLR)</i>	
TU2-L8.3: EVALUATING IMPACTS OF IMAGING SPECTROMETER CALIBRATION ON	1931
MINERAL IDENTIFICATION AND MAPPING USING AIRBORNE DATA COLLECTIONS IN ALASKA, USA, AND KHANDAHAR, AFGHANISTAN	
<i>Raymond Kokaly, U.S. Geological Survey</i>	
TU2-L8.4: AUTONOMOUS FIELD SPECTRORADIOMETERS	1935
<i>Christopher MacLellan, University of Edinburgh</i>	
TU2-L8.5: TRACEABLE RADIOMETRY UNDERPINNING TERRESTRIAL- AND HELIO-	1939
STUDIES (TRUTHS): ESTABLISHING A CLIMATE AND CALIBRATION OBSERVATORY IN SPACE.	
<i>Nigel Fox, Paul Green, Rainer Winkler, National Physical Laboratory; Dan Lobb, Jonathan Friend, Surrey Satellite Technology Ltd</i>	
 TU3-L8: THERMAL AND HYPERSPECTRAL SENSORS AND MAPPING	
TU3-L8.1: AN INVESTIGATION INTO THE USE OF THE THERMAL WAVELENGTHS OF	1943
THE ASTER SATELLITE BORNE SENSOR FOR DRY VEGETATION IDENTIFICATION.	
<i>Michael Caccetta, Thomas Cudahy, Cindy Ong, Ian Lau, CSIRO</i>	
TU3-L8.2: SYSIPHE, AN AIRBORNE HYPERSPECTRAL SYSTEM FROM VISIBLE TO	1947
THERMAL INFRARED	
<i>Laurent Rousset-Rouvière, ONERA; Isabelle Sisakoun, Délégation Générale de l'Armement; Torbjorn Skauli, Forsvarets forskningsinstitutt; Christophe Coudrain, Yann Ferrec, Sophie Fabre, Laurent Poutier, Yannick Boucher, ONERA; Trond Loke, Soren Blaaberg, NEO</i>	
TU3-L8.3: ANALYZING AVHRR THERMAL CALIBRATION USING SENSOR STABILITY FOR	1950
SST (3S) SYSTEM	
<i>Kai He, Alexander Ignatov, Yury Kihai, Changyong Cao, John Stroup, National Oceanic and Atmospheric Administration</i>	
TU3-L8.4: COMPARISON OF SUOMI-NPP VIIRS AND HIMARWARI-8 AHI MWIR	1954
OBSERVATIONS FOR HOT SPOT AND HEAT ISLAND STUDIES	
<i>Xi Shao, University of Maryland; Changyong Cao, NOAA/NESDIS/STAR; Bin Zhang, Yan Bai, University of Maryland; Xiangqian Wu, Fangfang Yu, NOAA/NESDIS/STAR</i>	

TU3-L8.5: A GENERIC APPROACH FOR INVERSION OF SURFACE REFLECTANCE OVER LAND: OVERVIEW, APPLICATION AND VALIDATION USING MODIS AND LANDSAT8 DATA	1958
<i>Eric Vermote, NASA Goddard Space Flight Center Code 619; Jean-Claude Roger, Chris Justice, Belen Franch, Martin Claverie, University of Maryland</i>	
TU4-L8: PASSIVE OPTICAL: VALIDATION AND CALIBRATION	
TU4-L8.1: EVALUATION OF VIIRS DAILY BRDF, ALBEDO, AND NBAR PRODUCT USING THE MODIS COLLECTION V006 PRODUCT AND IN SITU MEASUREMENTS	1962
<i>Yan Liu, Qingsong Sun, University of Massachusetts Boston; Zhuosen Wang, NASA Goddard Space Flight Center; Crystal Schaaf, Angela Erb, University of Massachusetts Boston</i>	
TU4-L8.2: ANALYSIS OF OMPS IN-FLIGHT CCD DARK CURRENT	1966
<i>Chunhui Pan, University of Maryland; Fuzhong Weng, Trevor Beck, NOAA/STAR; Ding Liang, Eve-marie Devaliere, Wanchun Chen, Shouguo Ding, ERT</i>	
TU4-L8.3: SURFACE REFLECTANCE AUTO RETRIEVAL MODEL BASED ON HYPERSPECTRAL REMOTELY SENSED IMAGES	1970
<i>Hang Yang, Lifu Zhang, Xun Jian, Tong Qingxi, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
TU4-L8.4: VALIDATION OF THE DIGITALGLOBE SURFACE REFLECTANCE PRODUCT	1973
<i>Fabio Pacifici, DigitalGlobe, Inc.</i>	
TU4-L8.5: S-NPP VIIRS CALIBRATION AND PERFORMANCE UPDATE	1976
<i>Xiaoxiong Xiong, NASA Goddard Space Flight Center; Changyong Cao, NOAA/NESDIS; Zhipeng Wang, Ning Lei, Vincent Chiang, SSAI; Slawomir Blonski, ERT; Jim Butler, NASA Goddard Space Flight Center</i>	
TU1-L9: REMOTE SENSING USING GNSS-LIKE SIGNALS AND OTHER SENSORS I	
TU1-L9.1: SNOW DEPTH VARIATIONS ESTIMATED FROM GPS L1C/A SIGNAL TO NOISE RATIO DATA	1980
<i>Shuanggen Jin, Xiaodong Qian, Shanghai Astronomical Observatory, Chinese Academy of Sciences</i>	
TU1-L9.3: SOIL MOISTURE AND VEGETATION IMPACT IN GNSS-R TECHDEMOSAT-1 OBSERVATIONS	1982
<i>Adriano Camps, Hyuk Park, Miriam Pablos, Universitat Politècnica de Catalunya – BarcelonaTech and IEEC/UPC; Giuseppe Foti, Christine Gommenginger, National Oceanography Centre Southampton; Pang-Wei Liu, Jasmeet Judge, University of Florida</i>	
TU1-L9.4: CAN WE MEASURE VEGETATION WATER CONTENT AND VEGETATION OPACITY AT L-BAND WITH A SINGLE GPS RECEIVER?	1985
<i>Alberto Alonso-Arroyo, Jorge Querol, Adriano Camps, Raúl Onrubia, Hyuk Park, Daniel Pascual, Universitat Politècnica de Catalunya – BarcelonaTech and IEEC/UPC</i>	
TU1-L9.5: INITIAL RESULTS FOR NEAR SURFACE SOIL FREEZE-THAW PROCESS DETECTION USING GPS-INTERFEROMETRIC REFLECTOMETRY	1989
<i>Xuerui Wu, Shanghai Astronomical Observatory, Chinese Academy of Sciences; Key Laboratory of Planetary Sciences, Shanghai Astronomical Observatory, Chinese Academy of Sciences; Liang Chang, College of Marine Sciences, Shanghai Ocean University, Shanghai 201306, China; Collaborative Innovation Center for Distant-water Fisheries; Shuanggen Jin, Shanghai Astronomical Observatory, Chinese Academy of Sciences; Yanfang Dong, Institute of Earthquake Science, China Earthquake Administration; Xiaodong Qian, Shanghai Astronomical Observatory, Chinese Academy of Sciences; Key Laboratory of Planetary Sciences, Shanghai Astronomical Observatory, Chinese Academy of Sciences</i>	

TU2-L9: REMOTE SENSING USING GNSS-LIKE SIGNALS AND OTHER SENSORS II

TU2-L9.1: FIRST DELAY DOPPLER MAPS OBTAINED WITH THE MICROWAVE 1993 INTEFEROMETRIC REFLECTOMETER (MIR)

Daniel Pascual, Raül Onrubia, Jorge Querol, Alberto Alonso-Arroyo, Hyuk Park, Adriano Camps, Universitat Politècnica de Catalunya

TU2-L9.2: WATER DISCHARGE IN EAST AFRICA FROM GRACE, SATELLITE ALTIMETRY AND 1997 LANDSAT DATA

Shuanggen Jin, Shanghai Astronomical Observatory, Chinese Academy of Sciences; Ayman Hassan, Minia University

TU2-L9.3: SEA ICE DETECTION USING GNSS-R DATA FROM UK TDS-1..... 2001

Alberto Alonso-Arroyo, Universitat Politècnica de Catalunya; Valery Zavorotny, National Oceanic and Atmospheric Administration; Adriano Camps, Universitat Politècnica de Catalunya

TU2-L9.4: PRE-SEISMIC IONOSPHERIC ANOMALIES FROM GNSS OBSERVATIONS: 2005 STATISTICS ANALYSIS AND CHARACTERISTICS

Shuanggen Jin, Shanghai Astronomical Observatory, Chinese Academy of Sciences

TU2-L9.5: S-BAND OCEAN REFLECTOMETRY IN HIGH WINDS 2009

Han Zhang, James Garrison, Rozaine Wijekularatne, Purdue University; James Warnecke, NOAA Aircraft Operations Center

TU3-L9: APERTURE SYNTHESIS RADIOMETRY

TU3-L9.1: THE MIRAS “ALL-LICEF” CALIBRATION MODE 2013

Ignasi Corbella, Universitat Politècnica de Catalunya; Verónica González-Gambau, Institute of Marine Sciences, CSIC; Francesc Torres, Núria Duffo, Israel Durán, Universitat Politècnica de Catalunya; Manuel Martín-Neira, European Space Agency

TU3-L9.2: IMPACT OF ANTENNA TUNING ON SMOS CORRELATION LOSS..... 2017

Francesc Torres, Israel Durán, Ignasi Corbella, Núria Duffo, UPC; Josep Closa, Airbus; Roger Oliva, Manuel Martín-Neira, European Space Agency

TU3-L9.3: A 180 GHZ PROTOTYPE FOR A GEOSTATIONARY MICROWAVE 2021 IMAGER/SOUNDER- GEOSTAR-III

Todd Gaier, Pekka Kangaslahti, Bjorn Lambrigtsen, Isaac Ramos-Perez, Alan Tanner, Jet Propulsion Laboratory; Darren McKague, Christopher Ruf, Michael Flynn, Zhengya Zhang, Roger Backhus, David Austerberry, University of Michigan

TU3-L9.4: ANTENNA ARRAY OPTIMAIZATION FOR MIRRORED APERTURE SYNTHESIS 2024 WITH AUTOCORRELATION

Haofeng Dou, Qingxia Li, Ke Chen, Gongwei Li, Guanghui Zhao, Chen Ye, Huazhong University of Science and Technology

TU3-L9.5: ESMAS: EXPERIMENT SYSTEM OF MIRRORED APERTURE SYNTHESIS 2028

Qingxia Li, Ke Chen, Wei Guo, Haofeng Dou, Menglin Hu, Congcong Huang, Mingkui Zhu, Huazhong University of Science and Technology

TU4-L9: RADIOMETER CROSS-CALIBRATION

TU4-L9.1: INTER-CALIBRATION OF SATELLITE PASSIVE MICROWAVE LAND 2032 OBSERVATIONS FROM MWRI AND AMSR-E OVER THE BARE SOIL AND GRASSLAND

Xiaoran Lv, Adu Gong, Xiaotian Yin, Jing Li, Jingmei Wang, Yanling Chen, Beijing Normal University

TU4-L9.2: THREE-WAY INTER-SATELLITE RADIOMETRIC CALIBRATION BETWEEN GMI, 2036 TMI AND WINDSAT

Ruiyao Chen, Hamideh Erahimi, W. Linwood Jones, University of Central Florida

TU4-L9.3: SMOS INSTRUMENT PERFORMANCE AND CALIBRATION AFTER 6 YEARS IN ORBIT	2040
<i>Manuel Martín-Neira, Roger Oliva, European Space Agency; Ignasi Corbella, Francesc Torres, Núria Duffo, Israel Durán, UPC; Juha Kainulainen, HarpTechnologies; Josep Closa, Alberto Zurita, ADS CASA; François Cabot, Ali Khazaal, Centre d'Études Spatiales de la Biosphère (CESBIO); Eric Anterrieu, IRAP; Jose Barbosa, Gonçalo Lopes, DEIMOS; Joe Tenerelli, OceanDataLab; Raúl Díez-García, Jorge Fauste, European Space Agency; Verónica González-Gambau, Antonio Turiel, SMOS-BEC; Steven Delwart, Raffaele Crapolichio, Martin Suess, European Space Agency</i>	
TU4-L9.4: INTER-COMPARISON OF SMAP, SMOS AND AQUARIUS L-BAND BRIGHTNESS TEMPERATURE OBSERVATIONS	2043
<i>Rajat Bindlish, SSAI, USDA ARS HRSL; Thomas Jackson, U.S. Department of Agriculture ARS HRSL; Jeffrey Piepmeier, NASA Goddard Space Flight Center; Simon Yueh, NASA Jet Propulsion Laboratory; Yann Kerr, Centre d'Études Spatiales de la Biosphère (CESBIO)</i>	
TU4-L9.5: L-BAND RADIOMETER CALIBRATION CONSISTENCY ASSESSMENT FOR THE SMOS, SMAP AND AQUARIUS INSTRUMENTS	2047
<i>Emmanuel Dinnat, NASA Goddard Space Flight Center and Chapman University; David Le Vine, NASA Goddard Space Flight Center</i>	
TU1-L10: COSMO-SKYMED MISSION: CURRENT AND FUTURE ACTIVITIES I	
TU1-L10.1: COSMO-SKYMED RESULTS AFTER 5 YEARS OF FULL CONSTELLATION EXPLOITATION	2050
<i>Maria Girolamo Daraio, Maria Libera Battagliere, Alessandro Coletta, Italian Space Agency</i>	
TU1-L10.3: THE ITALIAN ASSETS FOR THE CLOSEYE EU PROJECT: COSMO-SKYMED AND ATHENA-FIDUS SATELLITE SYSTEMS	2054
<i>Patrizia Sacco, Giorgia Parca, Giuseppe Codispoti, Italian Space Agency; Luca Bertocchi, Italian Navy; Enrico Russo, Alberto Tuozi, Carolina Matarazzi, Alessandro Coletta, Italian Space Agency</i>	
TU1-L10.4: HOW THE COSMO SKYMED MCO FIRST GENERATION IS GETTING READY TO JOIN TO THE SECOND GENERATION	2058
<i>Rosa Loizzo, Italian Space Agency; Luca Fasano, Italian Space Agency, University of Rome Tor Vergata; Mauro Cardone, Rita Carpentiero, Luigi De Angelis, Giuseppe Francesco De Luca, Italian Space Agency</i>	
TU1-L10.5: COSMO-SKYMED DI SECONDA GENERAZIONE SYSTEM ACCESS PORTFOLIO	2062
<i>Giovanni Valentini, Silvia Mari, Tiziana Scopa, Giuseppe Francesco De Luca, Mauro Cardone, ASI; Anna Croce, Oreste Trematerra, Danilo Vicari, Marco Cutigni, TAS-I; Marco Terlizzi, Stefano Pellegrini, Marina Mochi, Telespazio</i>	
TU2-L10: COSMO-SKYMED MISSION: CURRENT AND FUTURE ACTIVITIES II	
TU2-L10.1: RECENT RAPID DISASTER RESPONSE PRODUCTS DERIVED FROM COSMO-SKYMED SYNTHETIC APERTURE RADAR DATA	2066
<i>Sang-Ho Yun, Susan Owen, Frank Webb, Hook Hua, Pietro Milillo, Eric Fielding, NASA Jet Propulsion Laboratory; Mark Simons, California Institute of Technology; Piyush Agram, Cunren Liang, Angelyn Moore, NASA Jet Propulsion Laboratory; Patrizia Sacco, Italian Space Agency; Eric Gurrola, Gerald Manipon, Paul Rosen, Paul Lundgren, NASA Jet Propulsion Laboratory; Alessandro Coletta, Italian Space Agency</i>	
TU2-L10.2: SAR INTERFEROMETRY ANALYSIS OF VERY LARGE AREAS: RESULTS OVER THE ENTIRE ITALIAN TERRITORY	2070
<i>Mario Costantini, Federico Minati, Maria Grazia Ciminelli, e-GEOS - ASI/Telespazio; Alessandro Ferretti, Fabrizio Novali, Telerilevamento Europa; Salvatore Costabile, Ministero dell'Ambiente e della Tutela del Territorio e del Mare</i>	
TU2-L10.3: COSMO-SKYMED STRATEGIES AND ACTIONS TO SUCCESSFULLY INCREASE THE LIFE OF BOTH GROUND SEGMENT AND SPACE SEGMENT	2074
<i>Luca Fasano, Mauro Cardone, Rosa Loizzo, Maria Libera Battagliere, Giuseppe Francesco De Luca, Italian Space Agency</i>	

TU2-L10.4: COSMO-SKYMED: AN ITALIAN INFRASTRUCTURE FOR THE INTERNATIONAL EARTH OBSERVATION COMMUNITY	2078
<i>Francesco Caltagirone, Agenzia Spaziale Italiana; Marco Nardini, Italian Ministry of Defence; Claudia Anita Maria Fiorentino, Manfredi Porfilio, Agenzia Spaziale Italiana; Stefano Serva, Italian Ministry of Defence</i>	
TU2-L10.5: THE ACQUISITION MODES OF COSMO-SKYMED DI SECONDA GENERAZIONE: A NEW COMBINED APPROACH BASED ON SAR AND PLATFORM AGILITY	2082
<i>Manfredi Porfilio, Agenzia Spaziale Italiana; Stefano Serva, Italian Ministry of Defence; Claudia Anita Maria Fiorentino, Agenzia Spaziale Italiana; Diego Calabrese, Thales Alenia Space - Italia</i>	
 TU3-L10: BISTATIC AND DIGITAL BEAMFORMING SAR I	
TU3-L10.1: RANGE AMBIGUITY SUPPRESSION FOR MULTI-CHANNEL SAR SYSTEM NEAR SINGULAR POINTS	2086
<i>Lei Guo, Xiaomin Tan, Hongxing Dang, Xi'an Institute of Space Radio Technology</i>	
TU3-L10.2: PRINCIPAL COMPONENTS DYNAMIC BLOCK QUANTIZATION FOR MULTICHANNEL SAR	2090
<i>Pietro Guccione, Politecnico di Bari; Michele Scagliola, Davide Giudici, ARESYS S.r.l.</i>	
TU3-L10.3: SIMPLIFIED BISTATIC SAR IMAGING WITH A FIXED RECEIVER AND TERRASAR-X AS TRANSMITTER OF OPPORTUNITY - FIRST RESULTS	2094
<i>Andrei Anghel, Remus Cacoveanu, University Politehnica of Bucharest; Adrian-Septimiu Moldovan, TerraSigna; Anca-Andreea Popescu, University Politehnica of Bucharest; Mihai Datcu, University Politehnica of Bucharest/German Aerospace Center (DLR); Florin Serban, TerraSigna</i>	
TU3-L10.4: RESPONSE OF BISTATIC SCATTERING TO SOIL MOISTURE AND SURFACE ROUGHNESS AT L-BAND	2098
<i>Jiangyuan Zeng, Kun-Shan Chen, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Yuan Liu, ICube, UoS, CNRS; Haiyun Bi, Institute of Geology, China Earthquake Administration; Quan Chen, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
TU3-L10.5: RECONSTRUCTION OF AZIMUTH SIGNAL FOR MULTICHANNEL HRWS SAR IMAGING BASED ON PERIODIC EXTENSION	2102
<i>Linjian Zhang, Shanghai Jiao Tong University; Nan Zhang, China Academy of Space Technology; Yesheng Gao, Kaizhi Wang, Xingzhao Liu, Shanghai Jiao Tong University</i>	
 TU4-L10: FUTURE DIGITAL BEAMFORMING SAR MISSIONS	
TU4-L10.1: AN UPDATE ON THE NASA-ISRO DUAL-FREQUENCY DBF SAR (NISAR) MISSION	2106
<i>Paul Rosen, Scott Hensley, Scott Shaffer, Wendy Edelstein, Yunjin Kim, Jet Propulsion Laboratory; Raj Kumar, Tapan Misra, Rakesh Bhan, Ramanna Satish, Raju Sagi, Indian Space Research Organisation</i>	
TU4-L10.2: DEVELOPMENT OF NEXT GENERATION DIGITAL BEAMFORMING SYNTHETIC APERTURE RADAR ARCHITECTURES	2109
<i>Rafael Rincon, Temilola Fatoyinbo, Batuhan Osmanoglu, Seung-Kuk Lee, K. Jon Ranson, Guoqing Sun, Tobias Bollian, NASA Goddard Space Flight Center</i>	
TU4-L10.3: MULTI-CHANNEL ULTRA-WIDEBAND RADAR SOUNDER AND IMAGER	2112
<i>Rick Hale, University of Kansas; Heinrich Miller, Alfred Wegener Institute; Sivaprasad Gogineni, Jie-Bang Yan, Fernando Rodriguez-Morales, Carl Leuschen, John Paden, Jilu Li, University of Kansas; Tobias Binder, Daniel Steinhage, Martin Gehrman, Alfred Wegener Institute; David Braaten, University of Kansas</i>	

TU4-L10.4: TANDEM-L: MAIN RESULTS OF THE PHASE A FEASIBILITY STUDY	2116
<i>Gerhard Krieger, Alberto Moreira, Manfred Zink, Irena Hajsek, Sigurd Huber, Michelangelo Villano, Konstantinos Papathanassiou, Marwan Younis, Paco López-Dekker, Matteo Pardini, Daniel Schulze, Markus Bachmann, Daniela Borla Tridon, Jens Reimann, Benjamin Bräutigam, Ulrich Steinbrecher, Carolina Tienda, Maria Sanjuan Ferrer, Mriantonietta Zonno, Michael Eineder, Francesco De Zan, Alessandro Parizzi, Thomas Fritz, Erhard Diedrich, Edith Maurer, German Aerospace Center (DLR); Ralf Muenzenmayer, Bernhard Grafmueller, Rainhard Wolters, Airbus DS GmbH; Frank te Hennepe, Robert Ernst, Charlotte Bewick, OHB System AG</i>	
TU4-L10.5: VERIFICATION OF SCAN-ON-RECEIVE BEAMFORMING FOR X-BAND HRWS	2120
APPLICATIONS	
<i>Grzegorz Adamiuk, Thomas Fuegen, Christian Fischer, Bernhard Grafmueller, Friedhelm Rostan, Christoph Heer, Airbus Defence and Space, Friedrichshafen, Germany</i>	
TU1-L11: CLOUDS AND PRECIPITATION: TRMM/GPM	
TU1-L11.1: THE MIRS GPM PRECIPITATION RETRIEVAL	2123
<i>Shuyan Liu, CIRA/CSU at NOAA/NESDIS/STAR; Christopher Grassotti, ESSIC/UMD at NOAA/NESIDS/STAR; Quanhua Liu, NOAA/NESDIS/STAR</i>	
TU1-L11.2: UNCERTAINTIES ASSOCIATED WITH THE IMERG MULTI-SATELLITE	2127
PRECIPITATION PRODUCT	
<i>Sana Khan, Viviana Maggioni, Leonardo Porcacchia, George Mason University</i>	
TU1-L11.3: ENHANCEMENT OF DUAL-FREQUENCY CLASSIFICATION MODULE FOR GPM	2131
DPR	
<i>Minda Le, V. Chandrasekar, Colorado State University</i>	
TU1-L11.4: EVALUATION OF GLOBAL SATELLITE MAPPING OF PRECIPITATION ANALYSIS	2135
PRODUCT DURING TORRENTIAL RAINFALL EVENT OF 22 JULY 2010 IN JINGHE BASIN	
<i>Jiaqi Chen, Jianan Lin, Bin Yong, Bo Chen, Hohai University</i>	
TU1-L11.5: PERFORMANCE OF THE FALLING SNOW RETRIEVAL ALGORITHMS FOR THE	2139
GLOBAL PRECIPITATION MEASUREMENT (GPM) MISSION	
<i>Gail Skofronick-Jackson, Stephen (Joe) Munchak, Sarah Ringerud, NASA Goddard Space Flight Center</i>	
TU2-L11: CLOUDS AND PRECIPITATION II	
TU2-L11.1: DEPLOYMENT AND PERFORMANCE OF THE NASA D3R DURING THE GPM	2142
OLYMPEX FIELD CAMPAIGN	
<i>V. Chandrasekar, Robert M. Beauchamp, Haonan Chen, Colorado State University; Manuel Vega, Mathew Schwaller, NASA Goddard Space Flight Center; Delbert Willie, Colorado State University; Aaron Dabrowski, NASA Goddard Space Flight Center; Mohit Kumar, Colorado State University; Walter Petersen, David Wolff, NASA Wallops Flight Facility</i>	
TU2-L11.2: MONSOON CLOUD OBSERVATIONS USING A LOW POWER VERTICAL	2146
LOOKING KA BAND CLOUD RADAR	
<i>Arvind Agarwal, J.S Pillai, K. Aurobindo, J.D. Abhyankar; Giridhar Isola, Poornima Srivastava, Abhishek Kodilkar, SAMEER</i>	
TU2-L11.3: REAL-TIME TORNADO DETECTION AND WIND RETRIEVAL WITH	2150
HIGH-RESOLUTION X-BAND DOPPLER RADAR NETWORK	
<i>Haonan Chen, V. Chandrasekar, Colorado State University</i>	
TU2-L11.4: CENTI- AND MILLIMETER-WAVE ATMOSPHERIC TRANSMITTANCE	2154
ESTIMATION AND ANALYSIS OVER CHINA	
<i>Lijuan Shi, Yubao Qiu, Jiancheng Shi, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Juha Lemmetyinen, Finnish Meteorological Institute</i>	

TU2-L11.5: REGIONAL POLARIMETRIC QUANTITATIVE PRECIPITATION ESTIMATION OVER SOUTH CAROLINA	2158
<i>Delbert Willie, Haonan Chen, V. Chandrasekar, Colorado State University; Robert Cifelli, NOAA Earth System Research Laboratory</i>	
 TU3-L11: CLOUDS AND PRECIPITATION III	
TU3-L11.1: RETRIEVAL OF PRECIPITATION EXTINCTION USING GROUND-BASED SUN-TRACKING MILLIMETER-WAVE RADIOMETRY	2162
<i>Frank S. Marzano, Luca Milani, Sapienza University of Rome; Vinia Mattioli, EUMETSAT; Kevin M. Magde, George A. Brost, Air Force Research Laboratory</i>	
TU3-L11.3: GPS DERIVED PWV FOR RAINFALL MONITORING	2170
<i>Shilpa Manandhar, Yee Hui Lee, Soumyabrata Dev, NTU</i>	
TU3-L11.4: THE EFFECT OF CLOUD OPTICAL THICKNESS, GROUND SURFACE ALBEDO AND ABOVE-CLOUD ABSORBING DUST LAYER ON THE CLOUDBOW STRUCTURE	2174
<i>Huazhe Shang, Liangfu Chen, Husi Letu, Shenshen Li, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Songlin Jia, National Meteorological Information Center; Yang Wang, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
TU3-L11.5: SNOWSTORM CLIMATOLOGY DERIVED FROM NASA MERRA REANALYSIS AS AN EXAMPLE FOR EVENT-BASED VIRTUAL COLLECTIONS	2177
<i>Kwo-Sen Kuo, University of Maryland; Kush Shrestha, Amy Lin, University of Alabama - Huntsville; Michael Rilee, Rilee Systems Technologies LLC; Rahul Ramachandran, NASA Marshall Space Flight Center</i>	
 TU4-L11: NUMERICAL WEATHER PREDICTION AND DATA ASSIMILATION	
TU4-L11.1: PERFORMANCE ANALYSIS OF GPS RADIO OCCULTATION ASSIMILATION FOR TROPICAL CYCLONE MONITORING	2181
<i>Parwapath Phunthirawuth, Falin Wu, Pakornpop Boonyuen, Beihang University</i>	
TU4-L11.2: IMPACT OF GPS RO AND RADIANCE DATA ASSIMILATION ON NUMERICAL WEATHER PREDICTION	2185
<i>Pakornpop Boonyuen, Falin Wu, Parwapath Phunthirawuth, Yan Zhao, Beihang University</i>	
TU4-L11.3: PERFORMANCE EVALUATION OF RADIATIVE TRANSFER MODELS OF SATELLITE ATMOSPHERIC MICROWAVE SOUNDING FOR DATA ASSIMILATION	2189
<i>Gongwei Li, Ke Chen, Huazhong University of Science and Technology; Albin J. Gasiewski, Kun Zhang, University of Colorado Boulder; Qingxia Li, Li Zhang, Ye He, Huazhong University of Science and Technology; Anjie Cao, Shanghai Institute of Satellite Engineering</i>	
TU4-L11.4: IMPLEMENTATION AND EVALUATION OF OPTIMAL SPECTRAL SAMPLING METHOD IN CRTM	2193
<i>Tong Zhu, Colorado State University; Jean-Luc Moncet, Atmospheric and Environmental Research; Sid-Ahmed Boukabara, Quanhua Liu, National Oceanic and Atmospheric Administration / National Environmental Satellite, Data, and Information Service; Paul Van Delst, I.M. Systems Group, Inc.</i>	
TU4-L11.5: COMPARISON OF NEUTROSPHERIC TEMPERATURE AND PRESSURE BETWEEN MSISE-90 MODEL AND ECMWF REANALYSIS DATA	2197
<i>Danyang Zhao, Yueqiang Sun, Weihua Bai, Xiangguang Meng, Congliang Liu, Junming Xia, Qifei Du, Xianyi Wang, Dongwei Wang, Yuerong Cai, Chunjun Wu, Di Wu, Wei Li, Cheng Liu, National Space Science Center, Chinese Academy of Sciences</i>	
 TU1-L12: SAR REMOTE SENSING FOR OCEAN APPLICATIONS I	
TU1-L12.1: SAR OCEANOGRAPHY APPLIED TO SOUTHEAST ASIAN WATERS	2201
<i>Werner Alpers, University of Hamburg</i>	

TU1-L12.3: FETCH-LIMITED SURFACE WAVE GROWTH INSIDE TROPICAL CYCLONES AND HURRICANE WIND SPEED RETRIEVAL	2205
<i>Paul Hwang, U.S. Naval Research Laboratory; Xiaofeng Li, GST, NOAA/NESDIS; Biao Zhang, Nanjing University of Information Science and Technology; Edward Walsh, NOAA Earth System Research Laboratory</i>	
TU1-L12.4: DETECTION OF WIND FIELDS FROM PALSAR-2	2209
<i>Osamu Isoguchi, Remote Sensing Technology Center of Japan; Masanobu Shimada, Tokyo Denki University</i>	
TU1-L12.5: COASTAL WIND FIELDS ALONG THE KOREAN COAST FROM SAR DATA AND AIR-SEA INTERACTION	2212
<i>Kyung-Ae Park, Tae-Sung Kim, Seoul National University</i>	
 TU2-L12: SAR REMOTE SENSING FOR OCEAN APPLICATIONS II	
TU2-L12.1: MECHANISMS FOR RAIN EFFECTS ON SYNTHETIC APERTURE RADAR	2216
<i>William Perrie, Bedford Institute of Oceanography; Guosheng Zhang, Bedford Institute of Oceanography, and School of Marine Sciences, Nanjing Univ. Information Science & Technology; Biao Zhang, School of Marine Sciences, Nanjing Univ. Information Science & Technology; Xiaofeng Li, GST, National Oceanic & Atmospheric Administration/NESDIS</i>	
TU2-L12.2: SEA STATE EVENTS IN THE MARGINAL ICE ZONE WITH TERRASAR-X SATELLITE IMAGES	2220
<i>Susanne Lehner, German Aerospace Center (DLR); Johannes Gemmrich, University of Victoria</i>	
TU2-L12.3: NEW GENERATION POLARIMETRIC SARS FOR SEA OIL SLICK OBSERVATION: FULL-POLARIMETRIC VS COMPACT-POLARIMETRIC ARCHITECTURES	2223
<i>Andrea Buono, Ferdinando Nunziata, Maurizio Migliaccio, Università degli Studi di Napoli Parthenope</i>	
TU2-L12.4: AN ASSESSMENT OF THE INDONESIAN COASTAL ENVIRONMENT BASED ON SAR IMAGERY	2227
<i>Martin Gade, Bernhard Mayer, Thomas Pohlmann, Universität Hamburg; Mutiara Putri, Institute Technology of Bandung; Agus Setiawan, Agency for Marine and Fisheries Research and Development</i>	
TU2-L12.5: SAR OBSERVATION AND WRF MODEL SIMULATION OF LAND BREEZE IN HAINAN ISLAND, CHINA	2231
<i>Xiaofeng Yang, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Xiaofeng Li, GST at NOAA/NESDIS, USA; Weizhong Zheng, NOAA/NCEP/EMC/MSG; Ziwei Li, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
 TU3-L12: REMOTE SENSING OF HIGH WINDS	
TU3-L12.1: L-BAND ACTIVE-PASSIVE MICROWAVE REMOTE SENSING OF OCEAN SURFACE WIND DURING HURRICANES	2235
<i>Simon Yueh, Alexander Fore, Wenqing Tang, Akiko Hayashi, Bryan Stiles, Jet Propulsion Laboratory, California Institute of Technology</i>	
TU3-L12.2: NON-BRAGG SCATTERING CONTRIBUTIONS TO THE DUAL-POLARIZED SAR IMAGING OF HURRICANE EARL	2239
<i>Guosheng Zhang, Bedford Institute of Oceanography; Xiaofeng Li, GST, National Oceanic and Atmospheric Administration (NOAA)/NESDIS; Biao Zhang, School of Marine Sciences, Nanjing University of Information Science and Technology; William Perrie, Bedford Institute of Oceanography</i>	
TU3-L12.3: CROSS-POLARIZED C-BAND SEA-SURFACE NRCS OBSERVATIONS IN EXTREME WINDS	2243
<i>Joseph Sapp, Paul Chang, Zorana Jelenak, National Oceanic and Atmospheric Administration; Stephen Frasier; Tom Hartley, University of Massachusetts Amherst</i>	
TU3-L12.4: SURFACE STRESS IN TROPICAL CYCLONE OBSERVED BY SCATTEROMETER	2247
<i>W. Timothy Liu, Wenqing Tang, Xiaosu Xie, Jet Propulsion Laboratory</i>	

TU3-L12.5: AN AUTOMATIC METHOD FOR TROPICAL CYCLONE CENTER DETERMINATION FROM SAR	2250
<i>Qing Xu, Hohai University; Guosheng Zhang, Shanghai Ocean University; Xiaofeng Li, GST at NOAA/NESDIS; Yongcun Cheng, Old Dominion University</i>	
 TU4-L12: OCEAN SURFACE WINDS	
TU4-L12.1: COMBINED ACTIVE / PASSIVE RETRIEVALS OF OCEAN VECTOR WINDS AND SALINITIES FROM SMAP	2253
<i>Alexander Fore, Simon Yueh, Wenqing Tang, Bryan Stiles, Akiko Hayashi, Jet Propulsion Laboratory</i>	
TU4-L12.2: A DAMPED NEWTON VARIATIONAL INVERSION FOR SYNTHETIC APERTURE RADAR WIND RETRIEVAL	2257
<i>Zhuhui Jiang, Shanghai Jiao Tong University and Institute of Atmospheric Physics, Chinese Academy of Sciences; Yuanxiang Li, Shanghai Jiao Tong University; Weidong Xiang, University of Michigan, Dearborn; Fangjie Yu, College of Information Science and Engineering, Qingdao Collaborative Innovation Center of Marine Science and Technology, Ocean University of China; Wenxian Yu, Shanghai Jiao Tong University</i>	
TU4-L12.3: COMPARISON OF INVERSION MODELS OF WIND SPEED RETRIEVAL FROM C-BAND SENTINEL-1 AND X-BAND TERRASAR-X DATA	2261
<i>Tran Vu La, Ali Khenchaf, Fabrice Comblet, ENSTA Bretagne; Carole Nahum, French General Directorate for Armament (DGA)</i>	
TU4-L12.4: APPLICATION SENTINEL-1 SAR DATA FOR OCEAN RESEARCH AND OPERATION	2265
<i>Xiaofeng Li, Christopher Jackson, GST at NOAA/NESDIS; Frank Monaldo, Johns Hopkins University; Qing Xu, Hohai University; Shaowu Bao, Coastal Carolina University</i>	
TU4-L12.5: ON THE ASSIMILATION OF ASCAT WINDS	2269
<i>Wenming Lin, Institut de Ciències del Mar (ICM-CSIC); Giovanna De Chiara, European Centre for Medium-Range Weather Forecasts (ECMWF); Marcos Portabella, Institut de Ciències del Mar (ICM-CSIC); Ad Stoffelen, Jur Vogelzang, Anton Verhoef, Royal Netherlands Meteorological Institute (KNMI)</i>	
 TUP-P1: AERIAL IMAGES ANALYSIS AND APPLICATIONS	
TUP-P1.1: DETERMINING THE EFFECT OF SPATIAL RESOLUTION IN LAND USE CLASSIFICATION USING OPTICAL AERIAL IMAGERY	2272
<i>Han Jiang, Alex Smith, Zilong Zhong, Jonathan Li, University of Waterloo</i>	
TUP-P1.2: CANOPY VERTICAL PARAMETERS ESTIMATION USING UNMANNED AERIAL VEHICLE (UAV) IMAGERY	2276
<i>Kongwen Zhang, Justin Robinson, Selkirk College; Linhai Jing, Chinese Academy of Sciences</i>	
TUP-P1.3: THE AIRBORNE HYPERSPECTRAL IMAGE CLASSIFICATION BASED ON THE RANDOM FOREST ALGORITHM	2280
<i>Shumin Wang, Aixia Dou, Xiaoxiang Yuan, Xuehua Zhang, Institute of Earthquake Science</i>	
TUP-P1.4: TREE SPECIES CLASSIFICATION USING AIRBORNE HYPERSPECTRAL DATA IN SUB-TROPICAL MOUNTAINOUS FOREST	2284
<i>Wen Jia, Yong Pang, Chinese Academy of Forestry; Shili Meng, Beijing Normal University; Hongbo Ju, Zengyuan Li, Chinese Academy of Forestry</i>	
TUP-P1.5: HELICOPTER CLASSIFICATION USING TIME-DOMAIN APPROACH ON X-BAND SURVEILLANCE RADAR	2288
<i>Hanhua Zhang, Yongpeng Dai, Zhimin Zhou, National University of Defense Technology</i>	
TUP-P1.6: TRANSFERRING GROUND LEVEL IMAGE ANNOTATIONS TO AERIAL AND SATELLITE SCENES BY DISCRIMINATIVE SUBSPACE ALIGNMENT	2292
<i>Hao Sun, Zhipeng Deng, Shuai Liu, Shilin Zhou, National University of Defense Technology</i>	

TUP-P2: ANALYSIS OF IMAGE TIME SERIES

TUP-P2.7: THE IMPACTS OF SMOOTHING METHODS FOR TIME-SERIES REMOTE SENSING DATA ON CROP PHENOLOGY EXTRACTION 2296

Jianhong Liu, Northwest University; Pei Zhan, Beijing Normal University

TUP-P2.8: CLASSIFICATION OF MODIS TIME SERIES WITH DENSE BAG-OF-TEMPORAL-SIFT-WORDS: APPLICATION TO CROPLAND MAPPING IN THE BRAZILIAN AMAZON 2300

Adeline Bailly, COSTEL / IRISA; Damien Arvor, COSTEL; Laetitia Chapel, IRISA; Romain Tavenard, COSTEL / IRISA

TUP-P2.10: PATCH-BASED RECONSTRUCTION OF HIGH RESOLUTION SATELLITE IMAGE TIME SERIES WITH MISSING VALUES USING SPATIAL, SPECTRAL AND TEMPORAL SIMILARITIES 2308

Silvia Valero, Charlotte Pelletier, Marina Bertolino, Centre d'Études Spatiales de la BIOSphère (CESBIO)

TUP-P2.11: EXPLORING THE GREENING TRENDS IN GUANGZHOU IN RECENTLY 15 YEARS USING ALL AVAILABLE LANDSAT'S IMAGES 2312

Yingchun Fu, Yang Yu, South China Normal University

TUP-P2.12: EVOLUTION OF TEMPERATURE OF A CASE-II WATER AND AN INLAND LAKE AROUND THE WEIHAI AREA, SHANDONG PROVINCE BETWEEN 1994 AND 2014 2316

Feng Zihang, Shandong University; Nina Kristine Boesche, Helmholtz Center - German Research Centre for Geosciences; Chaonan Ji, Hermann Kaufmann, Shandong University

TUP-P3: ANALYSIS OF MULTITEMPORAL OPTICAL IMAGES

TUP-P3.13: RESEARCH OF OPTIMAL PARAMETERS FOR PARCEL-BASED CHANGE DETECTION 2320

Bin Wu, Aerospace DongFangHong Satellite Corporation Limited; Yuquan Liu, Twenty First Century Aerospace Technology Corporation Limited; Jun Zhu, Chunling Lu, Huan Yin, Aerospace DongFangHong Satellite Corporation Limited; Dongxu He, Anzhi Yue, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences

TUP-P3.14: MONITORING AND PREDICTING THE CHANGES OF VEGETATION COVERAGE IN SHIJIAZHUANG FROM 1995 TO 2015 2324

Ying-kun Du, Shandong Agricultural University; Qin Yan, National Administration of Surveying, Mapping and Geoinformation; Cheng-feng Luo, Chinese Academy of Surveying and Mapping

TUP-P3.15: MAPPING EARTHQUAKE INDUCED LIQUEFACTION SURFACE EFFECTS FROM THE 2011 TOHOKU EARTHQUAKE USING SATELLITE IMAGERY 2328

Jing Zhu, Laurie Baise, Tufts University; Magaly Koch, Boston University

TUP-P3.16: EXTRACT SEISMIC DEFORMATION FIELD USING CHINESE OPTICAL SATELLITES 2332

Xue Li, Xiaoli Liu, Institute of Seismology, China Earthquake Administration; Qing Wang, Nanjing University of Aeronautics and Astronautics; Yonghua Jiang, Wuhan University; Liang Li, The Third Academy of Engineering of Surveying and Mapping in Sichuan

TUP-P3.17: IMPROVED NEIGHBORHOOD SIMILAR PIXEL INTERPOLATOR FOR FILLING UN-SACN MULTI-TEMPORAL LANDSAT ETM+ DATA WITHOUT REFERENCE 2336

Guoming Gao, Tianzhu Liu, Yanfeng Gu, Harbin Institute of Technology

TUP-P4: ANALYSIS OF MULTITEMPORAL SAR IMAGES

TUP-P4.18: PARALLEL IMPLEMENTATION OF THE FLICM ALGORITHM FOR SAR IMAGE CHANGE DETECTION ON INTEL MIC 2340

Huming Zhu, Le Lu, Yucong Fan, Pei Li, Qingyu Zhang, Licheng Jiao, Xidian University

TUP-P4.19: DESIGN OF SAR IMAGE FEATURE DETECTOR FOR SMALL-SCALED COHERENT CHANGE DETECTION	2344
<i>Kee Woong Lee, Hyun-Chul Kim, Bumseung Kim, Woo-Kyung Lee, Korea Aerospace University</i>	
TUP-P4.20: SPACEBORNE VIDEO-SAR MOVING TARGET SURVEILLANCE SYSTEM	2348
<i>Bo Liu, Xuepan Zhang, Qian Xuesen Laboratory of Space Technology; Kan Tang, The 802 Research Institute of Shanghai Aerospace Science and Technology Corporation; Min Liu, Lu Liu, Qian Xuesen Laboratory of Space Technology</i>	
TUP-P5: ANALYSIS OF MULTI-VIEW DATA	
TUP-P5.22: ENHANCED DISPARITY MAPS FROM MULTI-VIEW SATELLITE IMAGES	2356
<i>Alaeldin Suliman, Yun Zhang, Raid Al-Tahir, University of New Brunswick</i>	
TUP-P5.23: PROBABILITY MODEL OF THE MULTIPATH DELAYS IN RADAR ECHOES OF SCATTERS ABOVE 3-D SURFACES	2360
<i>Chongwen Duan, State Key Laboratory of Astronautic Dynamics; Zhiguang Leng, Engineering University of Chinese People's Armed Police Force; Kaijian Zhu, State Key Laboratory of Astronautic Dynamics</i>	
TUP-P5.24: MULTI-SENSOR OPTICAL REMOTE SENSING IMAGE REGISTRATION BASED ON LINE-POINT INVARIANT	2364
<i>Xianmin Wang, Qizhi Xu, Beihang University</i>	
TUP-P5.25: AN IMPROVED DETECTION AND FEATURE RETRIEVAL METHOD OF ANISOTROPIC SCATTERING FOR MULTI-ASPECT POLSAR DATA PROCESSING BASED ON DRIA FRAMEWORK	2368
<i>Xue Fei-teng, University of Chinese Academy of Sciences; Li Yang, Beijing Institute of Electronic System Engineering; Lin Yun, Yin Qiang, Hong Wen, National Key Laboratory of Science and Technology on Microwave Imaging, Institute of Electronics, Chinese Academy of Sciences</i>	
TUP-P5.26: SEMI-SUPERVISED MULTIVIEW FEATURE SELECTION WITH LABEL LEARNING FOR VHR REMOTE SENSING IMAGES	2372
<i>Xi Chen, Wei Liu, Fulin Su, Harbin Institute of Technology; Guofan Shao, Purdue University</i>	
TUP-P5.27: SEMI-SUPERVISED CROSS-VIEW SCENE MODEL ADAPTATION FOR REMOTE SENSING IMAGE CLASSIFICATION	2376
<i>Zhipeng Deng, Hao Sun, Shilin Zhou, Kefeng Ji, National University of Defense Technology</i>	
TUP-P6: CHANGE DETECTION APPLICATIONS	
TUP-P6.28: OPTIMIZED FUZZY ALGORITHM BASED ON MODIFIED SIMILARITY MEASURE FOR MAPPING FLOOD IMPACTS	2380
<i>Chayma Chaabani, Riadh Abdelfattah, University of Carthage, Higher School of Communications of Tunis COSIM Lab</i>	
TUP-P6.29: AUTOMATIC INVALID LANDSAT IMAGE PIXEL SCREENING ON THE GOOGLE EARTH ENGINE PLATFORM	2384
<i>Qingling Zhang, Kai Chen, Jing Qian, Shenzhen Institute of Advanced Technology, CAS; Xi Chen, Xinjiang Institute of Ecology and Geography, Chinese Academy of Sciences</i>	
TUP-P6.30: MONITORING GROUND SUBSIDENCE IN COASTAL AREA WITH ADVANCED INSAR TECHNIQUES: SHANGYU DISTRICT CASE STUDY	2388
<i>Lin Bai, Liming Jiang, Qishi Sun, Hansheng Wang, State Key Laboratory of Geodesy and Earth's Dynamics, Institute of Geodesy and Geophysics, CAS</i>	
TUP-P6.33: AN IMPROVED FUZZY C-MEANS ALGORITHM AND BI-BAND MASK TECHNIQUE BASED CHANGE DETECTION METHOD IN LANDSAT8 OLI IMAGE	2399
<i>Xian Li, Shuhe Zhao, Dianmin Cong, Xiyang Zhuang, Nanjing University</i>	

**TUP-P6.34: AUTOMATIC CHANGE DETECTION BASED ON CONDITIONAL RANDOM FIELD 2403
IN HIGH RESOLUTION REMOTE SENSING IMAGES**

Guo Cao, Xuesong Li, Nanjing University of Science and Technology; Yanfeng Shang, The Third Research Institute of Ministry of Public Security

TUP-P7: CLASSIFICATION AND DATA MINING

**TUP-P7.35: SPATIAL REGULARIZATION OF PIXEL-BASED CLASSIFICATION MAPS BY A 2407
TWO-STEP MRF METHOD**

Leiguang Wang, Southwest Forestry University; Qinling Dai, Xin Huang, Wuhan University

**TUP-P7.36: HYPERSPECTRAL IMAGE CLASSIFICATION BASED ON KNN SPARSE2411
REPRESENTATION**

Weiwei Song, Shutao Li, Xudong Kang, Kunshan Huang, Hunan University

**TUP-P7.37: MINING THE SPATIAL DISTRIBUTION OF VISUAL WORDS FOR SCENE 2415
CLASSIFICATION**

Jingwen Hu, Menghan Li, Electronic Information School, Wuhan University; Gui-Song Xia, Liangpei Zhang, State Key Laboratory of LIESMARS, Wuhan University

TUP-P7.38: SATELLITE IMAGE TIME SERIES CLUSTERING VIA AFFINITY PROPAGATION 2419

Zheng Zhang, Ping Tang, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Thomas Corpetti, CNRS-UMR 6554 LETG-RENNES COSTEL Universit'e de Rennes II

TUP-P8: CLASSIFICATION OF HYPERSPECTRAL IMAGE III

**TUP-P8.39: SPECTRAL-SPATIAL CLASSIFICATION OF HYPERSPECTRAL IMAGES VIA 2423
MULTISCALE SUPERPIXELS BASED SPARSE REPRESENTATION**

Shuzhen Zhang, Shutao Li, Hunan University

**TUP-P8.40: MULTIPLE KERNEL LEARNING BASED ON IDEAL KERNEL OPTIMIZATION 2427
FOR HYPERSPECTRAL IMAGERY CLASSIFICATION**

Wei Gao, Yu Peng, Harbin Institute of Technology

**TUP-P8.41: ACTIVE SELECTION FOR HYPERSPECTRAL DATA CLASSIFICATION WITH 2431
SUBMODULAR METHOD**

Jiming Li, Zhejiang Police College

**TUP-P8.42: SQUARING WEIGHTED LOW-RANK SUBSPACE CLUSTERING FOR 2434
HYPERSPECTRAL IMAGE BAND SELECTION**

Han Zhai, Hongyan Zhang, Liangpei Zhang, Pingxiang Li, The State Key Laboratory of Information Engineering in Surveying, Mapping, and Remote Sensing, and Collaborative Innovation Center for Geospatial Technology, Wuhan University

**TUP-P8.43: PARALLEL COLLABORATIVE REPRESENTATION FOR HYPERSPECTRAL IMAGE 2438
CLASSIFICATION ON GPUS**

Lucheng Wu, Xiaoming Xie, Wei Li, Beijing University of Chemical Technology; Qian Du, Mississippi State University

**TUP-P8.44: CLASSIFICATION OF HYPERSPECTRAL IMAGE VIA SPATIAL-SPECTRAL 2442
MANIFOLD RECONSTRUCTION**

Yaqiong Yang, Hong Huang, Fulin Luo, Key Laboratory of Optoelectronic Technique System of the Ministry of Education, Chongqing University

TUP-P9: CLASSIFICATION OF HYPERSPECTRAL IMAGE IV

**TUP-P9.45: A WEIGHTED MULTI-TASK JOINT SPARSE REPRESENTATION METHOD FOR 2446
HYPERSPECTRAL IMAGE CLASSIFICATION**

Jinliang An, Yu Mo, Zhi Guo, Xiangrong Zhang, Xidian University

TUP-P9.46: A NOVEL UNSUPERVISED CLASSIFICATION APPROACH FOR HYPERSPECTRAL IMAGERY BASED ON SPECTRAL MIXTURE MODEL AND MARKOV RANDOM FIELD	2450
<i>Yuan Fang, Linlin Xu, Xiao Sun, Longshan Yang, Yujia Chen, Junhuan Peng, China University of Geosciences</i>	
TUP-P9.47: RANDOM SUBSPACE BASED SPARSE REPRESENTATION FOR HYPERSPECTRAL IMAGE CLASSIFICATION	2454
<i>Lin He, Yizhou Rao, South China University of Technology</i>	
TUP-P9.48: GABOR-BASED ACTIVE LEARNING FOR HYPERSPECTRAL IMAGE CLASSIFICATION	2457
<i>Jie Hu, Chenying Liu, Sun Yat-sen University; Lin He, South China University of Technology; Jun Li, Sun Yat-sen University</i>	
TUP-P9.49: A MODIFIED PTSVM CLASSIFICATION APPROACH FOR HYPERSPECTRAL IMAGE	2461
<i>Kun Shang, China Aero Geophysical Survey and Remote Sensing Center for Land and Resources; Xia Zhang, State Key Laboratory of Remote Sensing Sciences, Institute of Remote Sensing and Digital Earth, CAS</i>	
 TUP-P10: COASTAL ZONES I	
TUP-P10.50: LONG-TERM MONITORING OF SUSPENDED SEDIMENTS CONCENTRATION USING GOCI AND FIELD DATA IN HAN-RIVER ESTUARY, KOREA	2465
<i>Deuk-Jae Hwang, Jong-Kuk Choi, Jinah Eom, Joo-Hyung Ryu, Han-Jun Woo, Korean Institute of Ocean Science and Technology</i>	
TUP-P10.54: ADAPTIVE WAVE TRACING FOR COASTAL BATHYMETRY ESTIMATION	2480
<i>Céline Danilo, Farid Melgani, University of Trento</i>	
 TUP-P11: COASTAL ZONES II	
TUP-P11.55: THE EFFECT OF MATMO TYPHOON ON MIXED ZONE BETWEEN THE YELLOW SEA AND BOHAI SEA	2484
<i>Jie Guo, Key Laboratory of Coastal Zone Environmental Processes, CAS; Shandong Provincial Key Laboratory of Coastal Zone Environmental Processes; Yantai Institute of Coastal Zone Research, Chinese Academy of Sciences, Yantai, 264003, P. R. China; Yijun He, School of Marine Sciences, Nanjing University of Information Science & Technology; Ling Ji, Diansheng Ji, Chawei Hou, Yantai Marine Environmental Monitoring Central Station, SOA; Kai Guo, Yantai Institute of Coastal Zone Research, Chinese Academy of Sciences; Yankai Mou, Yantai Institute of Coastal Zone Research, Chinese Academy of Sciences. University of Chinese Academy of Science; Qingjie Li, Yantai Marine Environmental Monitoring Central Station, SOA; Shuang Guo, Henan University of Urban Construction.</i>	
TUP-P11.57: DETECTION AND DISPERSION OF OIL SPILLS FROM SATELLITE OPTICAL IMAGES IN A COASTAL BAY	2491
<i>Min-Sun Lee, Kyung-Ae Park, Seoul National University; Hyung-Rae Lee, Ocean R&S; Jae-Jin Park, Seoul National University; Chang-Keun Kang, Gwangju Institute of Science and Technology; Moonjin Lee, Korea Research Institute of Ships and Ocean engineering</i>	
TUP-P11.58: OBSERVATION OF TIDE FROM X-BAND MARINE RADAR IMAGE SEQUENCES	2495
<i>Zhongbiao Chen, Yijun He, Nanjing University of Information Science and Technology; Jiayi Pan, Chinese University of Hong Kong; Nanjing University of Information Science and Technology; Biao Zhang, Nanjing University of Information Science and Technology; Xiaoqing Chu, South China Sea Institute of Oceanology, Chinese Academy of Sciences</i>	
 TUP-P12: DATA FUSION APPLICATIONS: VEGETATION	
TUP-P12.59: ESTIMATING BOREAL FOREST CANOPY HEIGHT AND ABOVE GROUND BIOMASS USING MULTI-MODAL REMOTE SENSING; A DATABASE DRIVEN APPROACH	2498
<i>Michael Benson, Leland Pierce, Kamal Sarabandi, University of Michigan</i>	

TUP-P12.60: ESTIMATING THE THREE DIMENSIONAL STRUCTURE OF HETEROGENEOUS FORESTS USING MULTI-MODAL REMOTE SENSING AND SENSOR EXTRAPOLATION TECHNIQUES	2502
<i>Michael Benson, Leland Pierce, Kamal Sarabandi, University of Michigan</i>	
TUP-P12.61: RESEARCH ON YIELDS ESTIMATION AND YIELDS INCREASING POTENTIAL BY IRRIGATION OF SPRING MAIZE IN NORTHEAST CHINA	2506
<i>Shanning Bao, Chunxiang Cao, State Key Laboratory of Remote Sensing Science; Jianxi Huang, China Agricultural University; Xiliang Ni, Min Xu, State Key Laboratory of Remote Sensing Science</i>	
TUP-P12.62: FUSION OF SCIAMACHY AND GOME-2 SATELLITE SUN-INDUCED FLUORESCENCE DATA	2510
<i>Lian Song, Yongguang Zhang, Xin Qian, Nanjing University</i>	
TUP-P13: DATA FUSION TECHNIQUES: ACTIVE / PASSIVE SENSOR FUSION	
TUP-P13.64: CLASSIFICATION OF CLOUDY HYPERSPECTRAL IMAGE AND LIDAR DATA BASED ON FEATURE FUSION AND DECISION FUSION	2518
<i>Renbo Luo, Wenzhi Liao, Ghent University; Hongyan Zhang, Wuhan University; Youguo Pi, South China University of Technology; Wilfried Philips, Ghent University</i>	
TUP-P13.65: SEMANTIC SEGMENTATION OF HYPERSPECTRAL IMAGES WITH THE FUSION OF LIDAR DATA	2522
<i>Hakan Aytaylan, Senlha Esen Yüksel, Hacettepe University</i>	
TUP-P13.67: MULTI-SENSOR DATA FUSION FOR IDENTIFYING MALARIA ENVIRONMENTAL FEATURES	2529
<i>Zhichao Li, Thibault Catry, Nadine Dessay, Emmanuel Roux, Etienne Mahé, Frédérique Seyler, UMR 228 Espace-Dev, IRD/UM/UR/UG, Institut de Recherche pour le Développement</i>	
TUP-P14: DATA FUSION TECHNIQUES: DENOISING, COMPRESSION AND REGISTRATION	
TUP-P14.69: ARTIFACT-FREE IMAGE RECONSTRUCTION FOR SATELLITE IMAGERY	2537
<i>Masato Ishii, Takashi Shibata, Atsushi Sato, NEC Corporation</i>	
TUP-P14.70: FEATURE ENHANCEMENT FOR MULTICHANNEL SAR IMAGE: A NON-LOCAL VECTORIAL TOTAL VARIATION APPROACH	2541
<i>Xintong Tan, Qi Yu, Jubo Zhu, National University of Defense Technology</i>	
TUP-P14.72: MULTI-SOURCE REMOTE SENSING IMAGE REGISTRATION BASED ON SIFT AND OPTIMIZATION OF LOCAL SELF-SIMILARITY MUTUAL INFORMATION	2548
<i>Shuhan Chen, Xiaorun Li, Liaoying Zhao, Zhejiang University</i>	
TUP-P14.73: AN MPI-CUDA IMPLEMENTATION FOR THE COMPRESSION OF DEM	2552
<i>Fei Zeng, Fahong Liang, Xi'an Surveying and Mapping Technological Center; Fan Yang, University of Waterloo/Xi'an Surveying and Mapping Technological Center; Cheng Kou, Xi'an Surveying and Mapping Technological Center</i>	
TUP-P14.74: MONITORING OIL PALM PLANTATIONS IN MALAYSIA	2556
<i>Christine Pohl, University of Osnabrueck; Kasturi Devi Kanniah, Chong Khai Loong, Universiti Teknologi Malaysia</i>	
TUP-P14.75: APPLICATION OF DIGITAL ELEVATION MODEL FOR ESTIMATION OF AIRBORNE PLATFORM WITH DATA FUSION	2560
<i>Gowtham Kuppudurai, California State University, Fresno; Kyu-young Hwang, Hyeon-gyu Park, Agency for Defense Development; Youngwook Kim, California State University, Fresno</i>	

TUP-P15: DATA FUSION TECHNIQUES: OPTICAL SENSORS FUSION

TUP-P15.76: SPATIOTEMPORAL REFLECTANCE FUSION BASED ON LOCATION 2562
REGULARIZED SPARSE REPRESENTATION

Xun Liu, Chenwei Deng, Baojun Zhao, Beijing Institute of Technology

TUP-P15.77: REMOTE SENSING IMAGE RECONSTRUCTION BASED ON SHEARLET 2566
TRANSFORM AND TOTAL GENERALIZED VARIATION REGULARIZATION

Zhongmei Wang, University of Electronic Science and Technology of China; Xingfa Gu, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences

TUP-P15.78: EVALUATION OF SPATIO-TEMPORAL DATA FUSION METHODS FOR 2570
GENERATING NDVI TIME SERIES IN CROPLAND AREAS

Chunhua Liao, Jinfei Wang, Western University

TUP-P15.79: CONSTRUCTING A UNIFIED FRAMEWORK FOR MULTI-SOURCE REMOTELY 2574
SENSED DATA FUSION

Bin Chen, Beijing Normal University; Bo Huang, Chinese University of Hong Kong; Bing Xu, Tsinghua University

TUP-P15.80: AN EFFICIENT APPROACH FOR SPATIOTEMPORAL IMAGE FUSION WITH 2578
APPLICATION TO HSHT LAND COVER CHANGE SIMULATION

Mingtao Ding, Chang'an University; Hongyan Wang, Xi'an University of Finance and Economics; Lichun Sui, Chang'an University

TUP-P15.81: REGISTRATION FOR SAR AND OPTICAL IMAGES BASED ON STRAIGHT LINE 2582
FEATURES AND MUTUAL INFORMATION

Boli Xiong, Wenchao Li, Lingjun Zhao, Jun Lu, Xiaoqiang Zhang, Gangyao Kuang, National University of Defense Technology

TUP-P15.82: A GENETIC-OPTIMIZED MULTI-ANGLE NORMALIZED CROSS CORRELATION 2586
SIFT FOR AUTOMATIC REMOTE SENSING REGISTRATION

Yingying Li, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences / Liaoning Technical University; Qingjie Liu, Linhai Jing, Shuo Liu, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Fengxian Miao, State Grid AC Engineering Construction Company

TUP-P16: DATA FUSION TECHNIQUES: PANSHARPENING AND SUPERRESOLUTION

TUP-P16.83: LANDSAT AND MODIS DATA FUSION PRODUCTS BASED PHENOLOGY 2590
ANALYSIS OF DRYLAND IN SHAN DONG PROVINCE

Xiyang Zhuang, Shuhe Zhao, Nan Jing University; Xian Li, Dianmin Cong, NJU

TUP-P16.84: MULTI-SENSOR MARS IMAGE FUSION BASED ON IHS COMBINED ROBUST 2594
PCA

Jiang-Long Wu, Xiao-Lin Tian, Yun-Xiang Tian, Macau University of Science and Technology

TUP-P16.85: EXTENDED GIHS FUSION FOR PAN-SHARPENING BASED ON IMAGE MODEL 2598

Zeming Zhou, Yong Meng, Pinglv Yang, Biao Hu, Chaoqian Chen, PLA University of Science and Technology

TUP-P16.86: FRACTIONAL ORDER VARIATIONAL PAN-SHARPENING..... 2602

Pengfei Liu, Liang Xiao, Songze Tang, Nanjing University of Science and Technology; Le Sun, Sungkyunkwan University

TUP-P16.87: FUSION AND ASSESSMENT OF HIGH-RESOLUTION WORLDVIEW-3 2606
SATELLITE IMAGERY USING NNDIFFUSE AND BROVEY ALGOTIRHMS

Jinling Zhao, Linsheng Huang, Anhui Univeristy; Hao Yang, Beijing Research Center for Information Technology in Agriculture; Dongyan Zhang, Zhaoli Wu, Junjie Guo, Anhui Univeristy

TUP-P17: DEEP, SEMI-SUPERVISED, AND ENSEMBLE LEARNING FOR IMAGE CLASSIFICATION

TUP-P17.88: USING CNN-BASED HIGH-LEVEL FEATURES FOR REMOTE SENSING SCENE CLASSIFICATION 2610

Zhengzheng Fang, Wei Li, Jinyi Zou, Beijing University of Chemical Technology; Qian Du, Mississippi State University

TUP-P17.89: SEMI-SUPERVISED CONDITIONAL RANDOM FIELD FOR HYPERSPECTRAL REMOTE SENSING IMAGE CLASSIFICATION 2614

Junfeng Wu, Zhiguo Jiang, Haopeng Zhang, Bowen Cai, Qianmao Wei, Beihang University

TUP-P17.90: SEMI-SUPERVISED SPARSE RELEARNING REPRESENTATION CLASSIFICATION FOR HIGH-RESOLUTION REMOTE SENSING IMAGERY 2618

Jiayi Li, Xin Huang, Liangpei Zhang, Wuhan University

TUP-P17.91: A MODIFIED CLASS-SPECIFIC WEIGHTED SOFT VOTING FOR BAGGING ENSEMBLE 2622

Laxmi Eeti, Krishna Mohan Buddhiraju, Indian Institute of Technology, Bombay

TUP-P17.92: DISTRIBUTED BOOSTING FOR CLOUD DETECTION..... 2626

Mathieu Le Goff, IRT / IRIT; Jean-Yves Tournet, Herwig Wendt, IRIT / ENSEEIHT / TêSA; Mathias Ortner, IRT / Airbus Defence and Space; Marc Spigai, IRT / Thales Alenia Space

TUP-P18: ELECTROMAGNETIC THEORY III

TUP-P18.93: GAUSSIAN BEAM SUMMATION METHOD VS. GAUSSIAN BEAM LAUNCHING IN HIGH-FREQUENCY RCS OF COMPLEX RADAR TARGETS 2630

Papa Ousmane Leye, Ali Khenchaf, ENSTA Bretagne; Philippe Pouliguen, DGA

TUP-P18.94: THE ANALYSIS AND VERIFICATION ABOUT THE UPDATE RATE CONSTRAINT FOR THE INTERFEROMETRIC RADAR OF DISPLACEMENT MEASUREMENT 2634

Heng Dong, Jian Wang, Qian Song, National University of Defense Technology

TUP-P18.95: A 3-D ELECTROMAGNETIC-MODEL-BASED ALGORITHM FOR POSE ESTIMATION USING WIDEBAND RADAR 2638

Xiaoliang Yang, Gongjian Wen, Conghui Ma, Baiyuan Ding, Shaohua Qiu, National University of Defense Technology

TUP-P18.96: PASSIVE MILLIMETER-WAVE SCENE IMAGING SIMULATION BASED ON FAST RAY-TRACING 2642

Bo Qi, Liang Lang, Yayun Cheng, Siyuan Liu, Fei Hu, Xiaoqin He, Pengying Deng, Liangqi Gui, Huazhong University of Science and Technology

TUP-P18.97: ANGULAR GLINT SIMULATION BASED ON SCATTERING CENTER MODEL..... 2646

Qi-Feng Li, Kun-Yi Guo, Xin-Qing Sheng, Beijing Institute of Technology

TUP-P18.98: ELECTROMAGNETIC WAVE PROPAGATION IN WEAK MAGNETIC FIELD WATER ENVIRONMENT 2650

Hai-Yuan Qi, Li-Xin Guo, You-Rong Liang, Xidian University

TUP-P19: ELECTROMAGNETIC THEORY: RADAR AND OPTICAL

TUP-P19.99: TO RECONSTRUCT HOTSPOT EFFECT FOR MODIS BRDF ARCHETYPES USING A HOTSPOT-CORRECTED KERNEL-DRIVEN BRDF MODEL 2654

Ziti Jiao, Yadong Dong, Hu Zhang, Beijing Normal University

TUP-P19.100: A SIMPLE FUSION ALGORITHM OF POLAR-ORBITING AND GEOSTATIONARY SATELLITE DATA FOR THE ESTIMATION OF SURFACE SHORTWAVE FLUXES	2657
<i>Ling Chen, Beijing Forestry University; Guangjian Yan, Beijing Normal University; Huazhong Ren, Peking University; Tianxing Wang, Chinese Academy of Sciences</i>	
TUP-P19.101: IMPROVING HJ-1B IRS LAND SURFACE TEMPERATURE PRODUCT USING ASTER GLOBAL EMISSIVITY DATASET	2661
<i>Hua Li, Tian Hu, Xiangchen Meng, Yongming Du, Biao Cao, Qinhuo Liu, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
TUP-P19.102: A METHOD FOR EXTRACTING AMPLITUDE ATTRIBUTE OF SCATTERING CENTERS IN SAR	2665
<i>Yuexin Gao, Mengdao Xing, Xidian University</i>	
TUP-P19.103: NEW RESULTS ABOUT QUANTUM SCATTERING CHARACTERISTICS OF TYPICAL TARGETS	2669
<i>Kang Liu, Yanwen Jiang, Xiang Li, Yongqiang Cheng, Yuliang Qin, National University of Defense Technology</i>	
TUP-P19.104: SCATTERING CENTER MODELLING BASED ON COMPRESSED SENSING PRINCIPLE FROM UNDER-SAMPLING SCATTERING FIELD DATA	2672
<i>Qi-Feng Li, Kun-Yi Guo, Beijing Institute of Technology; Bo Tang, University of Science and Technology Beijing; Xin-Qing Sheng, Beijing Institute of Technology</i>	
 TUP-P20: ELECTROMAGNETIC THEORY: SEA, SOIL, AND PLANETS	
TUP-P20.105: EFFECTS OF CURRENT ON ELECTROMAGNETIC SCATTERING SIGNAL FROM ONE DIMENSIONAL SEA SURFACE	2676
<i>Xie Tao, Li Zhao, Yijun He, He Fang, Nanjing University of Information Science and Technology</i>	
TUP-P20.106: SIMPLIFICATION OF LINEAR SHORT-GRAVITY WAVES FOR MODELING SEA CLUTTER RETURNS DUE TO BRAGG SCATTERING AT X BAND	2680
<i>Hui Chen, Wen Ming Yu, Xiao Yang Zhou, Southeast University; Min Zhang, Xidian University; Tie Jun Cui, Southeast University</i>	
TUP-P20.107: DIELECTRIC MODEL IN THE FREQUENCY RANGE 0.05 TO 15 GHZ AT TEMPERATURES -30°C TO 25°C FOR THE SAMPLES OF ORGANIC SOILS AND LITTER COLLECTED IN ALASKA, YAMAL, AND SIBERIAN TAIGA	2684
<i>Valery Mironov, Igor Savin, Andrey Karavayevsky, Kirensky Institute of Physics SB RAS</i>	
TUP-P20.108: THE RESEARCH ON MODELING DIELECTRIC CONSTANT OF LUNAR REGOLITH FOR MICROWAVE BAND	2688
<i>Chi Liu, Ping Chen, Huazhong University of Science and Technology</i>	
TUP-P20.109: RADAR ECHOES SIMULATION AND SHARAD DATA VALIDATION FOR DETECTION OF WATER FLOWING ON MARS SURFACE	2692
<i>Chuan Liu, Ya-Qiu Jin, Fudan University</i>	
 TUP-P21: FEATURE EXTRACTION AND REDUCTION VI	
TUP-P21.112: AN ADVANCED HYPERSPECTRAL BAND SELECTION APPROACH BASED ON MUTUAL INFORMATION	2703
<i>Wenqiang Zhang, Xiaorun Li, Zhejiang University; Liaoying Zhao, Hangzhou Dianzi University</i>	
TUP-P21.113: EXTRACTION OF MICRO-DOPPLER SIGNAL BASED ON THE COMBINATION OF CLEAN AND L-STATISTICS METHOD	2707
<i>Yongpeng Dai, Hanhua Zhang, Xin Sun, Zhimin Zhou, National University of Defense Technology</i>	

TUP-P21.114: OPTIMIZED CLASS-SEPARABILITY IN HYPERSPECTRAL IMAGES.....2711
Sumera Sattar, Institute of Space Technology; Haris Ahmad Khan, Laboratoire Electronique, Informatique et Image (Le2i), Université de Bourgogne; Khurram Khurshid, Institute of Space Technology

TUP-P22: FEATURE EXTRACTION AND REDUCTION VII

TUP-P22.116: STUDY ON THE EXTRACTION OF IRON MINERALIZED ALTERATION 2718
INFORMATION IN VEGETATION COVERED AREAS BASED ON REMOTE SENSING ASTER DATA: A CASE STUDY OF FENGHUANGSHAN IRON DEPOSIT LOCATED IN LANLING COUNTY, SHANDONG PROVINCE, CHINA

Zhiling Zhao, Ping Wang, Shandong University of Science and Technology; Linhai Jing, Yunwei Tang, Haifeng Ding, Liming Wang, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences

TUP-P22.117: TARGET MULTI-ASPECT SCATTERING SENSITIVITY FEATURE EXTRACTION 2722
BASED ON CIRCULAR-SAR

Yue Zhao, University of Chinese Academy of Sciences; Yun Lin, Institute of Electronics, Chinese Academy of Sciences; Yanping Wang, China Academy of Safety Science and Technology; Wen Hong, Lingjuan Yu, Institute of Electronics, Chinese Academy of Sciences

TUP-P22.118: MICRO-DOPPLER SIGNATURES OF SEA SURFACE TARGETS AND 2726
APPLICATIONS TO RADAR DETECTION

Xiaolong Chen, Jian Guan, Zhijian Zhao, Hao Ding, Naval Aeronautical and Astronautical University

TUP-P22.120: A NOVEL METHOD OF CORNER DETECTOR FOR SAR IMAGES BASED ON 2734
BILATERAL FILTER

Bingbing Wu, Shilin Zhou, Kefeng Ji, National University of Defense Technology

TUP-P23: FEATURE EXTRACTION AND REDUCTION VIII

TUP-P23.121: THE TRADEOFF OF ACCURACY WITH DIFFERENT LANDMARKS WITH 2738
MANIFOLD LEARNING

Zezhong Zheng, Chengjun Pu, University of Electronic Science and Technology of China; Mingcang Zhu, Zhiqin Huang, Land and Resources Department of Sichuan Province; Yong He, Yicong Feng, Sichuan Institute of Geo-Environment Monitoring; Yufeng Lu, Zhenlu Yu, Shengli Wang, Shijie Yu, University of Electronic Science and Technology of China; Jiang Li, Old Dominion University

TUP-P23.122: A VHR SCENE CLASSIFICATION METHOD INTEGRATING SPARSE PCA AND 2742
SALIENCY COMPUTING

Souleyman Chaib, Yanfeng Gu, Hongxun Yao, Sicheng Zhao, Harbin Institute of Technology

TUP-P23.123: A THREE-DIMENSIONAL FILTERING METHOD FOR SPECTRAL-SPATIAL 2746
HYPERSPECTRAL IMAGE CLASSIFICATION

Lin He, Xianjun Chen, South China University of Technology

TUP-P23.125: TEXTURAL CLASSIFICATION BASED ON WAVELET, CURVELET AND 2753
CONTOURLET FEATURES

Rizwan Ahmed Ansari, Krishna Mohan Buddhiraju, Indian Institute of Technology, Bombay

TUP-P24: HYPERSPECTRAL IMAGERY BAND SELECTION DIMENSIONALITY REDUCTION

TUP-P24.126: THE MANIFOLD LEARNING FOR DIMENSIONALITY REDUCTION WITH 2757
HYPERSPECTRAL IMAGE

Zezhong Zheng, University of Electronic Science and Technology of China; Pengxu Chen, The University of Electronic Science and Technology of China; Mingcang Zhu, Zhiqin Huang, Land and Resources Dep. of Sichuan Province; Yong He, Sichuan Institute of Geo-Environment Monitoring; Yicong Feng, Land and Resources Dep. of Sichuan Province; Yufeng Lu, Zhenlu Yu, Shijie Yu, Shengli Wang, University of Electronic Science and Technology of China; Jiang Li, Old Dominion University

TUP-P24.127: SPARSE REPRESENTATION BASED LOSSY HYPERSPECTRAL DATA COMPRESSION	2761
<i>Hairong Wang, Turgay Celik, University of the Witwatersrand</i>	
TUP-P24.128: DISCRIMINATIVE WEIGHTED BAND SELECTION VIA ONE-CLASS SVM FOR HYPERSPECTRAL IMAGERY	2765
<i>Yu Tang, Enlong Fan, Cheng Yan, Xiao Bai, Beihang University; Jun Zhou, Griffith University</i>	
TUP-P24.129: HYPERSPECTRAL IMAGES BAND SELECTION USING MULTI-DICTIONARY BASED SPARSE REPRESENTATION	2769
<i>Fei Li, Huchuan Lu, Dalian University of Technology</i>	
TUP-P24.130: AN INFORMATION THEORETICAL APPROACH TO MULTIPLE-BAND SELECTION FOR HYPERSPECTRAL IMAGERY	2773
<i>Li-Chien Lee, University of Maryland, Baltimore County; Yen-Chieh Ouyang, National Chung Hsing University; Shih-Yu Chen, National Yunlin University of Science and Technology; Chein-I Chang, University of Maryland, Baltimore County</i>	
TUP-P24.131: EVALUATION OF BAND SELECTION METHODS TO IMPROVE DETECTION RATE OF PESTICIDE RESIDUE IN HYPERSPECTRAL DATA	2777
<i>Chao-Cheng Wu, Jin-Wei Yang, National Taipei University of Technology</i>	
 TUP-P25: IMAGE ANALYSIS AND CLASSIFICATION	
TUP-P25.132: STUDY OF LAND USE/COVER CLASSIFICATION BASED ON DECISION RULES AND MULTI-FEATURES	2779
<i>Huan Pei, Yanshan University; Shifeng Fang, Institute of Geographic Sciences and Natural Resources Research, CAS; Yong Wei, Xiaoyan Wang, Yanshan University</i>	
TUP-P25.133: SPECTRAL-SPATIAL CLASSIFICATION BASED ON SUBSPACE SUPPORT VECTOR MACHINE AND MARKOV RANDOM FIELD	2783
<i>Haoyang Yu, Lianru Gao, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Jun Li, Sun Yat-sen University; Bing Zhang, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
TUP-P25.134: SOFT SUPERVISED CLASSIFICATION: AN IMPROVED METHOD FOR CORAL REEF CLASSIFICATION USING MEDIUM RESOLUTION SATELLITE IMAGES	2787
<i>Amir Masoud Chegoonian, Mehdi Mokhtarzade, Mohammad Javad Valadan Zoej, Maryam Salehi, K.N. Toosi University of Technology</i>	
TUP-P25.135: PROOF OF HIDDEN NODE NUMBER AND EXPERIMENTS ON RBF NETWORK FOR WELL LOG DATA INVERSION	2791
<i>Kou-Yuan Huang, National Chiao Tung University; Liang-Chi Shen, University of Houston; Jiun-Der You, Li-Sheng Weng, National Chiao Tung University</i>	
 TUP-P26: IMAGE AND FEATURE MATCH	
TUP-P26.136: REGISTRATION OF REMOTE SENSING IMAGES WITH NON-RIGID DISTORTIONS	2795
<i>Jiayi Ma, Wuhan University; Jun Chen, China University of Geosciences; Yong Ma, Wuhan University</i>	
TUP-P26.137: USING DEEP NEURAL NETWORKS FOR SYNTHETIC APERTURE RADAR IMAGE REGISTRATION	2799
<i>Dou Quan, Shuang Wang, Mengdan Ning, Tao Xiong, Licheng Jiao, Xidian University</i>	
TUP-P26.138: AN IMAGE REGISTRATION METHOD BASED ON THE COMBINATION OF MULTIPLE IMAGE FEATURES	2803
<i>Geng-Ke Wang, Huaping Xu, Huan Zhang, Beihang University</i>	

TUP-P26.139: MATCHING PURIFIED BASED ON SINGULAR VALUE DECOMPOSITION.....	2807
<i>Yang Dong, Dazhao Fan, Song Ji, Information Engineering University</i>	
TUP-P26.140: IMPLEMENTATION OF ONBOARD JPEG XR COMPRESSION ON A LOW CLOCK2811	
FREQUENCY FPGA	
<i>Hao Chen, Xinyu Guo, Ye Zhang, Harbin Institute of Technology</i>	
 TUP-P27: LAND AND WATER APPLICATIONS	
TUP-P27.141: MONITORING DROUGHT WITH GRACE DATA ASSIMILATION.....	2815
<i>Bailing Li, ESSIC University of Maryland; Matthew Rodell, NASA Goddard Space Flight Center</i>	
TUP-P27.142: PASSIVE MICROWAVE REMOTE SENSING OF LAKE FREEZE-THAW OVER 2818	
HIGH MOUNTAIN ASIA	
<i>Yongjian Ruan, Chinese Academy of Sciences, Institute of remote sensing and digital earth, Digital Earth laboratory; Jiangxi University of Science and Technology; Yubao Qiu, Xiaohu Yu, Huadong Guo, Chinese Academy of Sciences, Institute of remote sensing and digital earth, Digital Earth laboratory; Bin Cheng, Finnish Meteorological Institute</i>	
TUP-P27.144: A STUDY OF VEGETATION PHENOLOGY IN THE ANALYSIS OF 2826	
URBANIZATION PROCESS BASED ON TIME-SERIES MODIS DATA	
<i>Jianbin Tao, Central China Normal University; Xiangbing Kong, Yellow River Institute of Hydraulic Research; Yu Wang, Ruiqing Chen, Central China Normal University</i>	
TUP-P27.145: DOWNSCALING MICROWAVE BRIGHTNESS TEMPERATURES FROM 2830	
FY3B/MWRI WITH A LINEAR UNMIXING METHOD	
<i>Xiaojing Liu, Lingmei Jiang, Gongxue Wang, Zheng Lu, Beijing Normal University</i>	
 TUP-P28: MULTITEMPORAL ANALYSIS APPLICATIONS	
TUP-P28.146: SURFACE WATER CHANGE DETECTION USING CHANGE VECTOR ANALYSIS 2834	
<i>Chang Huang, Xiaoyu Zan, Xuwen Yang, Shiqiang Zhang, Northwest University</i>	
TUP-P28.147: SAND DAM DYNAMIC MONITORING IN COASTAL AREAS BASED ON 2838	
TIME-SERIES REMOTE SENSING IMAGES	
<i>Heshan Lin, Ocean University of China; Jinyan Xu, Degang Jiang, Yikang Gao, State Oceanic Administration; Lianhuan Wei, Northeastern University; Jianhui Liu, State Oceanic Administration</i>	
TUP-P28.148: ASSESSING LAND DEGRADATION USING RUE AND PMR BASED ON REMOTE 2842	
SENSING IN NORTHEAST ASIA DRYLAND REGIONS	
<i>Wenping Kang, Sinkyu Kang, Kangwon National University</i>	
TUP-P28.149: SPATIO-TEMPORAL REGIONS' SIMILARITY FRAMEWORK FOR VHR 2845	
SATELLITE IMAGE TIME SERIES ANALYSIS	
<i>Safa Rejichi, Ferdaous Chaabane, Higher school of Communication of Tunis</i>	
TUP-P28.150: THERMAL ANOMALY DETECTION FOR 2013 LUSHAN EARTHQUAKE..... 2849	
<i>Yanmei Zhang, Institute of Earthquake Science, China Earthquake Administration; Haiying Huang, Hubei Station for Surveying and Mapping Product Quality Supervision and Inspection; Xiao Cheng, Beijing Normal University</i>	
 TUP-P29: MULTITEMPORAL ANALYSIS URBAN APPLICATIONS	
TUP-P29.151: OBJECT-ORIENTED INFORMATION EXTRACTION AND EVALUATION OF 2853	
SEISMIC DAMAGE OF BUILDINGS USING VERY HIGH SPATIAL RESOLUTION IMAGERY	
<i>Yan Zhao, China University of Geosciences; Jingfa Zhang, The Institute of Crustal Dynamics, Beijing, China; Leihua Yao, China University of Geosciences</i>	

TUP-P29.152: AUTOMATIC BUILDING CHANGE DETECTION THROUGH ADAPTIVE LOCAL TEXTURAL FEATURES AND SEQUENTIAL BACKGROUND REMOVAL	2857
<i>Paheeding Sidike, Daniel Prince, Almabrok Essa, Vijayan Asari, University of Dayton</i>	
TUP-P29.153: URBANIZATION OF WEIHAI AREA IN SHANDONG PROVINCE ANALYZED BY ARCHIVED LANDSAT DATA	2861
<i>Chaonan Ji, Shandong University; Nina Kristine Boesche, Helmholtz Centre - Research Center for Geosciences; Hermann Kaufmann, Shandong University</i>	
TUP-P29.154: THERMAL INFRARED VARIATION ASSOCIATED WITH STRONG EARTHQUAKES IN XINJIANG USING SATELLITE DATA	2865
<i>Feng Jing, Hui Wang, Shunying Hong, Yanfang Dong, Institute of Earthquake Science, China Earthquake Administration</i>	
TUP-P29.155: EXAMINING URBAN EXPANSION USING MULTI-TEMPORAL LANDSAT IMAGERY: A CASE STUDY OF MONTREAL CENSUS METROPOLITAN AREA	2869
<i>He Zhao, Lingfei Ma, Lanying Wang, Jonathan Li, University of Waterloo</i>	
TUP-P29.156: CHANGE DETECTION FOR HIGH-RESOLUTION REMOTE SENSING IMAGERY USING OBJECT-ORIENTED CHANGE VECTOR ANALYSIS METHOD	2873
<i>Liang Li, Engineering Research Center of Geographic National Condition & Resource Environmental Carrying Capacity Monitoring in Sichuan; Xue Li, Key Laboratory of Earthquake Geodesy, Institute of Seismology, CEA; Yun Zhang, Lei Wang, Guowei Ying, The Third Academy of Engineering of Surveying and Mapping in Sichuan</i>	
 TUP-P30: MULTITEMPORAL INSAR ANALYSIS	
TUP-P30.157: MAPPING OVERALL TAIYUAN GRABEN BASIN DEFORMATION WITH SBAS-INSAR TECHNIQUE	2877
<i>Yuanyuan Liu, Chaoying Zhao, Qin Zhang, Chengsheng Yang, Jing Zhang, Chang'an University</i>	
TUP-P30.158: LANDSLIDE DETECTION AND MONITORING WITH INSAR TECHNIQUE OVER UPPER REACHES OF JINSHA RIVER, CHINA	2881
<i>Chaoying Zhao, Ya Kang, Qin Zhang, Wu Zhu, Chang'an University; Bin Li, Chinese Academy of Geological Sciences</i>	
TUP-P30.159: MODIFIED STATISTICALLY HOMOGENEOUS PIXEL SELECTION FOR COHERENCE ESTIMATION WITH MULTI-TEMPORAL INSAR IMAGES	2885
<i>Yingjie Wang, Yunkai Deng, Robert Wang, Wenbo Fei, Institute of Electronics, Chinese Academy of Sciences; Huina Song, University of Chinese Academy of Sciences; Jili Wang, Institute of Electronics, Chinese Academy of Sciences</i>	
TUP-P30.160: LARGE COVERAGE SURFACE DEFORMATION MONITORING WITH MULTIPLE INSAR TECHNIQUES AND MULTIPLE SENSOR SAR DATASETS: A CASE STUDY IN LINFEN-YUNCHENG BASIN, CHINA	2889
<i>Chuanjin Liu, Chaoying Zhao, Qin Zhang, Chengsheng Yang, Feifei Qu, Chang'an University; Lingyun Ji, China Earthquake Administration, Second Crust Monitoring and Application Center</i>	
TUP-P30.161: RESEARCH ON CR-BASED OFFSET TECHNIQUE FOR MINING DEFORMATION MONITORING	2893
<i>Yufen Niu, Chaoying Zhao, Qin Zhang, Wu Zhu, Chengsheng Yang, Chang'an University; Zhong Lu, Southern Methodist University</i>	
 TUP-P31: NOISE REDUCTION TECHNIQUES	
TUP-P31.162: WAVELET-BASED 1/F-NOISE ELIMINATION IN MILLIMETER-WAVE RADIOMETER	2897
<i>Manman Huang, Liangqi Gui, Mingming Liu, Yayun Cheng, Liang Lang, Fei Hu, Huazhong University of Science and Technology</i>	
TUP-P31.163: A SCHEME OF FEATURE ANALYSIS IN SAR IMAGING BASED ON COMPRESSED SENSING	2901
<i>Wentao Lv, Jintai Yang, Weiqiang Xu, Xiaomin Bao, Xiaocheng Yang, Long Wu, Zhejiang Sci-Tech University</i>	

TUP-P31.164: A DENOISING ALGORITHM FOR REMOTE SENSING IMAGES WITH IMPULSE NOISE	2905
<i>Eun Suk Chang, Chih-Cheng Hung, Kennesaw State University; Wenping Liu, Beijing Forestry University; Jihao Yin, Beihang University</i>	
TUP-P31.165: A NOVEL LOCAL DESPECKLING ALGORITHM FOR SAR IMAGE	2909
<i>Wentao Lv, Jintai Yang, Weiqiang Xu, Xiaomin Bao, Xiaocheng Yang, Long Wu, Zhejiang Sci-Tech University</i>	
TUP-P31.166: MULTI-WAY PROJECTIONS-BASED RECONSTRUCTION FOR HYPERSPECTRAL IMAGE DENOISING	2913
<i>Zhi He, Wei Zhou, Jun Li, Sun Yat-sen University; Lin Liu, Sun Yat-sen University & University of Cincinnati</i>	
TUP-P31.167: A DIMENSIONALITY REDUCTION APPROACH FOR THE VISUALIZATION OF THE CLUSTER SPACE: A TRUSTWORTHINESS EVALUATION	2917
<i>Andreea Griparis, Daniela Faur, Mihai Datcu, Politehnica University of Bucharest</i>	
 TUP-P32: OPTICAL SENSORS AND CALIBRATION I	
TUP-P32.168: OPTICAL DESIGN OF HIGH RESOLUTION AND SHARED APERTURE ELECTRO-OPTICAL/INFRARED SENSOR FOR UAV REMOTE SENSING APPLICATIONS	2921
<i>Alaaeldin Mahmoud, Xu Dong, Xu Lijun, Beihang University</i>	
TUP-P32.169: EVALUATION OF HIMAWARI-8 AHI GEOSPATIAL CALIBRATION ACCURACY USING SNPP VIIRS SNO DATA	2925
<i>Fangfang Yu, Earth Resource Technology Inc; Xiangqian Wu, National Oceanic and Atmospheric Administration; Xi Shao, Vladimir Kondratovich, Earth Resource Technology Inc</i>	
TUP-P32.170: VALIDATING SUOMI NPP VIIRS IMAGERY BAND REPROCESSING USING CLOUD CLIMATOLOGY OVER BEIJING METROPOLITAN AREA	2929
<i>Wenhui Wang, Earth Resource Technology Inc; Changyong Cao, NOAA/NESDIS/STAR</i>	
TUP-P32.171: INTERCALIBRATION OF IRAS/FY-3B INFRARED CHANNELS WITH IASI/METOP-A 1C DATA	2933
<i>Geng-Ming Jiang, Zhongyi Wang, Fudan University</i>	
TUP-P32.172: PROGRESS IN THE CALIBRATION/VALIDATION OF VIIRS ON SUOMI NPP AND J1	2937
<i>Changyong Cao, NOAA/NESDIS; Slawomir Blonski, University of Maryland; Wenhui Wang, Earth Resource Technology Inc</i>	
TUP-P32.173: METHODOLOGY AND ERROR BUDGET FOR EVALUATING THE MODIS-VIIRS LAND SURFACE REFLECTANCE FUNDAMENTAL CLIMATE DATA RECORD.	2941
<i>Jean-Claude Roger, University of Maryland; Eric Vermote, NASA Goddard Space Flight Center; Emilie Murphy, Maxime Pinchaud, University of Maryland; Brent Holben, NASA Goddard Space Flight Center</i>	
 TUP-P33: OPTICAL SENSORS AND CALIBRATION II	
TUP-P33.174: HIGH-SPEED SENSOR HEAD WITH WIDE FREQUENCY RANGE USING DEFORMED HELIX FERROELECTRIC LIQUID CRYSTAL	2944
<i>Qi Guo, Huijie Zhao, Beihang University; Vladimir Chigrinov, Hoi-Sing Kwok, Hong Kong University of Science and Technology; Zourab Brodzeli, University of New South Wales</i>	
TUP-P33.176: GROUP SPARSE REGULARIZATION BASED ITERATIVE INCREMENTAL IMAGE DEBLURRING	2951
<i>Zhongmei Wang, University of Electronic Science and Technology of China; Xiaomei Yang, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences</i>	

TUP-P33.177: ON-ORBIT GAIN LEVEL IDENTIFICATION AND NORMALIZATION OF FY-3A MERSI SHORTWAVE INFRARED BANDS BASED ON SPACE VIEW OBSERVATION	2955
<i>Ling Sun, National Satellite Meteorological Center, China Meteorological Administration</i>	
TUP-P33.178: A MULTI-SCALE OBSERVATION EXPERIMENT ON LAND SURFACE TEMPERATURE OVER HETEROGENEOUS SURFACES IN AN EXTREMELY ARID REGION AND FIRST RESULTS	2959
<i>Ji Zhou, Zhixing Peng, Mingsong Li, University of Electronic Science and Technology of China; Shaomin Liu, Beijing Normal University; Linqing Zhu, University of Electronic Science and Technology of China; Lisheng Song, Beijing Normal University</i>	
TUP-P34: PASSIVE MICROWAVE SOIL MOISTURE II	
TUP-P34.180: THE APPLICATION OF FY-3/MWRI SOIL MOISTURE PRODUCT IN THE SUMMER DROUGHT MONITORING OF MIDDLE CHINA	2967
<i>Ruijing Sun, Yeping Zhang, National Satellite Meteorological Center, China Meteorological Administration; Jinyang Du, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
TUP-P34.184: VALIDATION OF SMOS SOIL MOISTURE PRODUCTION IN THE HEIHE RIVER BASIN OF CHINA	2981
<i>Zheng Lu, Linna Chai, Tao Zhang, Huizhen Cui, Jian Wang, Wanjing Li, Beijing Normal University</i>	
TUP-P34.185: MEASURING AND VERIFYING OF SOIL MOISTURE IN DESERT STEPPE FROM DIFFERENT SPATIAL SCALING	2985
<i>Zhiguo Pang, Jingya Cai, June Fu, Wenlong Song, Yizhu Lu, China Institute of Water Resources and Hydropower Research</i>	
TUP-P35: PASSIVE MICROWAVE SOIL MOISTURE III	
TUP-P35.186: ASSESSMENT OF SOIL MOISTURE USING HJ-1B REMOTELY SENSED DATA AND SYNCHRONOUS EXPERIMENT DATA	2989
<i>Yuxia Li, Lei He, University of Electronic Science and Technology of China; Chunhua Li, Chengdu University of Technology; Tianren Luo, Li Tang, University of Electronic Science and Technology of China</i>	
TUP-P35.187: CONSTRAINING THE WATER IMBALANCE IN A LAND DATA ASSIMILATION SYSTEM THROUGH A RECURSIVE ASSIMILATION SCHEME	2993
<i>Hui Lu, Tsinghua University; Kun Yang, Institute of Tibetan Plateau Research, Chinese Academy of Sciences; Jiancheng Shi, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
TUP-P35.188: A NEW ALGORITHM FOR SOIL MOISTURE RETRIEVAL USING C- AND K-BAND RADIOMETER CHANNELS OF OCEAN SALINITY SATELLITE	2997
<i>Wei Zhang, National Disaster Reduction Center of China, Ministry of Civil Affairs; Quan Chen, Jiangyuan Zeng, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Wu Zhou, National Ocean Satellite Application Center; Ping Zhang, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
TUP-P35.189: APPLICATION OF HJ-1 CCD DATA TO ANALYZE THE GROWING-SEASON VARIATIONS OF SOIL RESPIRATION IN TWO IRRIGATED CROPLAND ECOSYSTEMS	3001
<i>Ni Huang, Zheng Niu, Li Wang, The State Key Laboratory of Remote Sensing Science, Institute of Remote Sensing and Digital Earth, CAS</i>	
TUP-P35.190: GEOSTATISTICAL SCALING OF LAND SURFACE PARAMETERS WITH SPATIAL HETEROGENEITIES IN THE VALIDATION OF REMOTE SENSING PRODUCTS	3003
<i>Yong Ge, Jianghao Wang, Institute of Geographic Sciences & Natural Resources Research; Xin Li, Cold and Arid Regions Environmental and Engineering Research Institute, Chinese Academy of Sciences; Shaoming Liu, Beijing Normal University; Yan Jin, Mengxiao Liu, Institute of Geographic Sciences & Natural Resources Research</i>	
TUP-P35.191: MOISTURE RETRIEVAL BASED ON AN OPTIMIZED LEAST SQUARES SUPPORT VECTOR MACHINE MODEL	3005
<i>Xinying Shi, Youfei Zhang, Haogang Wang, Zhejiang University; Jiancheng Shi, Chinese Academy of Sciences</i>	

TUP-P36: PASSIVE OPTICAL APPLICATIONS & SENSORS

**TUP-P36.192: OCCLUSION DETECTION FOR URBAN AERIAL TRUE ORTHOIMAGE 3009
GENERATION**

Guoqing Zhou, Yuefeng Wang, Guilin University of Technology

**TUP-P36.193: FALSE TOPOGRAPHIC PERCEPTION PHENOMENA CORRECTION BY 3013
TOPOGRAPHIC NORMALIZATION MODEL**

Wanqiu Zhang, Cairong Yue, Hua Yuan, Southwest Forestry University

**TUP-P36.194: A PRELIMINARY STUDY OF AGGREGATING VIIRS I3 TO GENERATE M10 FOR 3017
ADDING A FUTURE WATER VAPOR BAND**

Bin Zhang, University of Maryland; Changyong Cao, NOAA/NEDIS/STAR

**TUP-P36.195: VIIRS DAY/NIGHT BAND OBSERVATIONS OF AURORAL ACTIVITY DURING A 3021
2015 SEVERE GEOMAGNETIC STORM**

Xi Shao, University of Maryland; Changyong Cao, NOAA/NESDIS/STAR; Tung-Chang Liu, Bin Zhang, University of Maryland; Shing F. Fung, NASA; A. Surja Sharma, University of Maryland

**TUP-P36.196: MONITORING OF SUOMI-NPP OMPS CALIBRATION PARAMETERS AND 3025
UNDERSTANDING THEIR IMPACTS ON EARTH VIEW RADIANCE**

Ding Liang, ERT; Fuzhong Weng, NOAA; Chunhui Pan, University of Maryland; Ninghai Sun, ERT

TUP-P37: RADAR SOIL MOISTURE II

**TUP-P37.198: ESTIMATING SOIL MOISTURE IN THE AGRICULTURAL AREAS USING 3031
RADARSAT-2 QUAD-POLARIZATION SAR DATA**

Jianwei Ma, Shifeng Huang, Jiren Li, Xiaotao Li, China Institute of Water Resources and Hydropower Research; Xiaoning Song, University of Chinese Academy of Sciences; Pei Leng, Chinese Academy of Agricultural Sciences; Yayong Sun, Tianjie Lei, China Institute of Water Resources and Hydropower Research

**TUP-P37.199: MAPPING OF SURFACE SOIL PARAMETERS (ROUGHNESS, MOISTURE AND 3035
TEXTURE) USING ONE RADAR X-BAND SAR CONFIGURATION OVER BARE AGRICULTURAL
SEMI-ARID REGION**

Azza Gorrab, Mehrez Zribi, Centre d'Études Spatiales de la BIOSphère (CNRS/UPS/IRD/CNES); Nicolas Baghdadi, Irstea, Institut national de recherche en sciences et technologies pour l'environnement et l'agriculture; Zohra Lili Chabaane, University of Carthage/INAT

**TUP-P37.200: MONITORING PERMAFROST SOIL MOISTURE WITH MULTI-TEMPORAL 3039
TERRASAR-X DATA IN NORTHERN TIBET**

Chao Wang, Hong Zhang, Institute of Remote Sensing and Digital Earth, Chinese Academ; Qingbai Wu, Cold and Arid Regions Environmental and Engineering Research Institute, Chinese Academy of Sciences; Zhengjia Zhang, Lei Xie, Institute of Remote Sensing and Digital Earth, Chinese Academ

**TUP-P37.201: POTENTIAL USE OF RADARSAT-2 POLARIMETRIC PARAMETERS FOR 3043
ESTIMATING SOIL MOISTURE IN PRAIRIE AREAS**

Xiaojing Bai, Binbin He, Dasong Xu, University of Electronic Science and Technology of China

**TUP-P37.202: MONITORING SOIL MOISTURE OVER WHEAT AND SOYBEAN FIELDS 3047
DURING GROWING SEASON USING SYNTHETIC APERTURE RADAR**

Minfeng Xing, University of Electronic Science and Technology of China; Jinfei Wang, University of Western Ontario; Jiali Shang, Agriculture and Agri-Food Canada; Binbin He, University of Electronic Science and Technology of China; Bo Shan, A&L Canada Laboratories Inc; Xiaodong Huang, University of Western Ontario; Jiang Qian, University of Electronic Science and Technology of China

TUP-P38: REMOTE SENSING IMAGES CLASSIFICATION

TUP-P38.203: A HEURISTIC APPROACH TO LEARNING NEW GRAPH STRUCTURES FOR REMOTE SENSING IMAGES 3051

Brian Salmon, University of Tasmania; Waldo Kleyhans, Council for Scientific and Industrial Research; Jan Olivier, University of Tasmania; Colin Peter Schwegmann, Council for Scientific and Industrial Research

TUP-P38.204: TRI TRAINING FOR REMOTE SENSING CLASSIFICATION BASED ON MULTI-SCALE HOMOGENEITY 3055

Jishuai Zhu, Kun Tan, China University of Mining and Technology; Qian Du, Mississippi State University

TUP-P38.205: BI-LAYER DICTIONARY LEARNING FOR REMOTE SENSING IMAGE CLASSIFICATION 3059

Michael Ying Yang, ITC-University of Twente; Saif Al-Shaikhli, Tao Jiang, Leibniz University Hanover; Yanpeng Cao, Zhejiang University; Bodo Rosenhahn, Leibniz University Hanover

TUP-P38.206: IMPROVED GAUSSIAN MIXTURE MODEL WITH EXPECTATION-MAXIMIZATION FOR CLUSTERING OF REMOTE SENSING IMAGERY 3063

Victor-Emil Neagoe, Vlad Chirila-Berbentea, Politehnica University of Bucharest

TUP-P38.207: JOINT COLLABORATIVE REPRESENTATION FOR POLARIMETRIC SAR IMAGE CLASSIFICATION 3066

Jie Geng, Dalian University of Technology; Jianchao Fan, National Marine Environmental Monitoring Center; Hongyu Wang, Anyan Fu, Yuanyuan Hu, Dalian University of Technology

TUP-P38.208: TWO-LEVEL ACTIVE LEARNING METHOD FOR DEBRIS DETECTION USING VHR SATELLITE IMAGERY AND LOCAL AERIAL SURVEYS 3070

Zhihua Xu, Beijing Normal University; Persello Claudio, Mengmeng Li, University of Twente; Lixin Wu, China University of Mining and Technology; Pengtianhao Wu, Beijing Normal University

TUP-P39: SMAP SOIL MOISTURE II

TUP-P39.209: A MULTI-OBJECTIVE OPTIMIZATION APPROACH TO COMBINED RADAR-RADIOMETER SOIL MOISTURE ESTIMATION 3074

Ruzbeh Akbar, University of Southern California; Steven Chan, Narendra Das, Seung-Bum Kim, NASA Jet Propulsion Laboratory; Dara Entekhabi, Massachusetts Institute of Technology; Mahta Moghaddam, University of Southern California

TUP-P39.210: PHYSICALLY-BASED RETRIEVAL OF SMAP ACTIVE-PASSIVE MEASUREMENTS COVARIATION AND VEGETATION STRUCTURE PARAMETERS 3078

Thomas Jagdhuber, German Aerospace Center (DLR); Dara Entekhabi, Massachusetts Institute of Technology; Alexandra G. Konings, Stanford University; Kaighin A. McColl, Seyed Hamed Alemohammad, Massachusetts Institute of Technology; Narendra Das, Jet Propulsion Laboratory; Carsten Montzka, Research Centre Jülich; Maria Piles, Institut de Ciències del Mar (ICM-CSIC)

TUP-P39.211: ASSESSMENT OF THE SMAP L3/AP SOIL MOISTURE PRODUCT USING INTERNATIONAL GROUND OBSERVATION NETWORK 3082

Hongquan Wang, Ramata Magagi, Kalifa Goita, University of Sherbrooke

TUP-P39.212: VALIDATION OF SMAP SOIL MOISTURE ANALYSIS PRODUCT USING IN-SITU MEASUREMENTS OVER THE LITTLE WASHITA WATERSHED 3086

Haiyun Bi, Institute of Geology, China Earthquake Administration; Jianguyuan Zeng, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Wenjun Zheng, Xiwei Fan, Institute of Geology, China Earthquake Administration

TUP-P39.213: INVERSION MODEL FOR THE SEMI-FLOODED AREA BASED ON RADAR BACKSCATTER MEASUREMENTS 3090

Zhihang Xue, State Grid Sichuan Electric Power Company; Yan Chen, Lingjun Zeng, Lei He, Shiyu Luo, Ling Tong, University of Electronic Science and Technology of China

TUP-P39.214: RADAR-BASED RAINFALL EROSIVITY AND HILLSLOPE EROSION	3094
MODELLING IN A BURNT NATIONAL PARK AFTER STORM EVENTS	
<i>Xihua Yang, Office of Environment and Heritage, NSW; Qinggaozi Zhu, University of Technology Sydney; Bofu Yu, Griffith University; Liying Sun, Chinese Academy of Sciences</i>	
TUP-P39.215: SATELLITE SOIL MOISTURE ASSIMILATION: PRELIMINARY ASSESSMENT OF	3098
THE SENTINEL 1 POTENTIALITIES	
<i>Luca Cenci, Luca Pulvirenti, Giorgio Boni, CIMA Research Foundation; Marco Chini, Patrick Matgen, Luxembourg Institute of Science and Technology; Simone Gabellani, Lorenzo Campo, Francesco Silvestro, CIMA Research Foundation; Cosimo Versace, Acrotec s.r.l.; Paolo Campanella, Fadeout Software s.r.l.; Laura Candela, Italian Space Agency</i>	
 TUP-P40: SOIL PROPERTIES I	
TUP-P40.216: AN EXPERIMENTAL INVESTIGATION ON THE RELATIONSHIP OF NET	3102
RADIATION AND SOIL HEAT FLUX ON BARE LAND	
<i>Sujuan Mi, Hongbo Su, Renhua Zhang, Jing Tian, Shaohui Chen, Key Laboratory of Water Cycle and Related Land Surface Processes; Lijun Yang, Hong Liang, Weimin Wang, Shenzhen Environmental Monitoring Center</i>	
TUP-P40.217: SPECTRAL REFLECTANCE FEATURES WITH VARIED SOIL PROPERTIES	3106
DURING DRYING PROCESS	
<i>Jia Tian, William Philpot, Cornell University</i>	
TUP-P40.218: ESTIMATING OF SOIL TEXTURE USING LANDSAT IMAGERY: A CASE STUDY	3110
OF THATTA TEHSIL, SINDH	
<i>Rao Zahid Khalil, Wajiha Khalid, Mehwish Akram, Institute of Space Technology</i>	
TUP-P40.219: ESTIMATING GROUNDWATER NUTRIENTS USING HYPERSPECTRAL	3114
SATELLITE IMAGERY IN THE FLEMISH MEUSE-VALLEY	
<i>Cornelis Stal, Philippe De Maeyer, Ghent University; An De Schrijver, Mieke Paelinck, Ghent University College; Rudi Goossens, Alain De Wulf, Ghent University</i>	
TUP-P40.220: UNCERTAINTIES ANALYSIS FOR NORMALIZED SOIL MOISTURE MODEL	3118
BASED ON THE COMBINATION OF OPTICAL AND THERMAL INFRARED DATA	
<i>Zhang Dianjun, Tianjin University; Zhou Guoqing, Guilin University of Technology; Yu Liu, State Key Laboratory of Remote Sensing Sciences, Institute of Remote Sensing and Digital Earth, CAS</i>	
 TUP-P41: SOIL PROPERTIES II	
TUP-P41.221: TEMPERATURE DEPENDENT MULTI-RELAXATION SPECTROSCOPIC	3122
DIELECTRIC MODEL FOR AN ARCTIC SILT CLAY LOAM SOIL THAWED AND FROZEN AT 0.1-15 GHZ	
<i>Valery Mironov, Kirensky Institute of Physics SB RAS; Ilya Molostov, Altai State University; Andrey Karavaysky, Kirensky Institute of Physics SB RAS</i>	
TUP-P41.222: SPATIO-TEMPORAL VARIATION OF SOIL MOISTURE AND DROUGHT	3126
MONITORING USING PASSIVE MICROWAVE REMOTE SENSING	
<i>Thiruvengadam P, University Of Madras; Y. S. Rao, Indian Institute of Technology, Bombay</i>	
TUP-P41.224: L-BAND SOIL MOISTURE MAPPING USING A SUAS FOR VALIDATION AND	3134
CALIBRATION OF SMAP	
<i>Eryan Dai, Albin J. Gasiewski, University of Colorado Boulder; Maciej Stachura, Jack Elston, Black Swift Technologies LLC</i>	
TUP-P41.225: INTERCOMPARISON OF SOIL MOISTURE RETRIEVED FROM GNSS-R AND	3137
PASSIVE L-BAND RADIOMETRY AT THE VALENCIA ANCHOR STATION	
<i>Cong Yin, Nanjing University of Information Science and Technology; Ernesto Lopez-Baeza, University of Valencia; Manuel Martín-Neira, European Space Agency; Roberto Fernández Morán, Niobe Peinado-Galán, Enrique Navarro, University of Valencia; Alejandro Egado, Antonio Mollfulleda, Starlab; Weiqiang Li, Beihang University; Yunchang Cao, China Meteorological Administration; Bin Zhu, Nanjing University of Information Science and Technology; Dongkai Yang, Beihang University</i>	

TUP-P41.226: MAPPING SOIL TYPOLOGIES USING GEOMORPHOLOGIC FEATURES	3140
EXTRACTED FROM DEM AND SAR DATA: A ENVIRONMENTAL FACTOR AFFECTING MALARIA TRANSMISSION IN THE AMAZON	
<i>Zhichao Li, Thibault Catry, Nadine Dessay, Emmanuel Roux, Frédérique Seyler, UMR 228 Espace-Dev, IRD/UM/UR/UG, Institut de Recherche pour le Développement</i>	
TUP-P41.227: APPLICABILITY RESEARCH OF OPTICAL REMOTE SENSING DERIVED	3144
INDICES IN SOIL MOISTURE DOWNSCALING BASED ON SIB2 SIMULATION	
<i>Zebin Zhao, Rui Jin, Jian Kang, Cold and Arid Regions Environmental and Engineering Research Institute, Chinese Academy of Sciences</i>	
TUP-P42: SPECTRAL ANALYSIS AND FEATURE EXTRACTION	
TUP-P42.228: A COGNITIVE FEATURE EXTRACTING METHOD FOR SPACE TARGET	3148
<i>Yijun Chen, Qun Zhang, Hua Jiang, Ying Luo, Yong-an Chen, Air Force Engineering University</i>	
TUP-P42.229: A GEOMETRIC PARAMETER EXTRACTION METHOD OF SHIP TARGET BASED	3152
ON AN IMPROVED SNAKE MODEL	
<i>Xiaoqiang Zhang, Boli Xiong, Gangyao Kuang, National University of Defense Technology; Wei Xu, Engineering College</i>	
TUP-P42.230: TEXTURE FEATURE EXTRACTION OF MOUNTAIN ECONOMIC FOREST	3156
USING HIGH SPATIAL RESOLUTION REMOTE SENSING IMAGES	
<i>Panpan Yang, Zhiting Hou, Xiaolong Liu, Zhengtao Shi, Yunnan Normal University</i>	
TUP-P42.231: MANIFOLD LEARNING BASED SUPERVISED HYPERSPECTRAL DATA	3160
CLASSIFICATION METHOD USING CLASS ENCODING	
<i>Miao Zhang, Wei Guo, Yiming Cui, Harbin Institute of Technology; Fei Shen, Shanghai Institute of Spaceflight Control Technology; Yi Shen, Harbin Institute of Technology</i>	
TUP-P42.232: FEATURE EXTRACTION FRAMEWORK IN CLASS SPACE FOR	3164
HYPERSPECTRAL IMAGE CLASSIFICATION	
<i>Ji Zhao, Yanfei Zhong, Rongrong Gao, Liangpei Zhang, Hong Shu, Wuhan University</i>	
TUP-P42.233: DETERMINATION OF OPTIMAL HYPERSPECTRAL VARIABLES TO MONITOR	3168
WHEAT BIOMASS	
<i>Chen Zhou, Min Jia, Xue Ma, Tao Cheng, Yan Zhu, Yongchao Tian, Weixing Cao, Xia Yao, Nanjing Agricultural University</i>	
TUP-P43: VEGETATION AND TREE REMOTE SENSING	
TUP-P43.234: ANALYSIS OF THE POTENTIALITY OF MULTI-TEMPORAL COSMO-SKYMED®	3170
DATA FOR CLASSIFYING SUMMER CROPS	
<i>Rocchina Guarini, Italian Space Agency; Lorenzo Bruzzone, Massimo Santoni, University of Trento; Francesco Vuolo, University of Natural Resources and Life Sciences; Luigi Dini, Italian Space Agency</i>	
TUP-P43.235: WINTER WHEAT EXTRACTION USING CURVILINEAR INTEGRAL OF GF-1	3174
NDVI TIME SERIES	
<i>Yanjun Yang, Nanjing University; Yulin Zhan, Chinese Academy of Sciences; Qingjiu Tian, Lei Wang, Peiyan Wang, Wenmin Zhang, Nanjing University</i>	
TUP-P43.236: THE VEGETATION CLASSIFICATION METHOD IN CHINA BASED ON	3178
GEOGRAPHICAL DIVISION	
<i>Xiaobo Luo, Yingying Hao, Chongqing University of Posts and Telecommunications; Bo Zhong, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
TUP-P43.237: IMPROVING INDIVIDUAL TREE DELINEATION USING	3182
MULRIPE-WAVELENGTH LIDAR DATA	
<i>Baoxin Hu, York University</i>	

TUP-P43.238: DEVELOPMENT OF ACCURACY ASSESSMENT TOOL OF INDIVIDUAL TREE CROWN DELINEATION	3186
<i>Zhen Zhen, Yinghui Zhao, Yuanshuo Hao, Northeast Forestry University; Qingbin Wei, Environmental Monitoring Center Station of Heilongjiang Province</i>	
TUP-P43.239: SEISMIC VELOCITY PICKING BY HOPFIELD NEURAL NETWORK	3190
<i>Kou-Yuan Huang, Jia-Rong Yang, National Chiao Tung University</i>	
 WE1-L1: SAR INTERFEROMETRY I	
WE1-L1.1: DECORRELATING TARGETS: MODELS AND MEASURES	3194
<i>Davide D’Aria, ARESYS S.r.l.; Antonio Leanza, Andrea Monti-Guarnieri, Politecnico di Milano; Andrea Recchia, ARESYS S.r.l.</i>	
WE1-L1.2: ROBUST AND EFFICIENT INSAR DEFORMATION TIME SERIES PROCESSING	3198
<i>Howard Zebker, Yujie Zheng, Stanford University</i>	
WE1-L1.3: PROPOSAL OF SINGULAR-POINT-REMOVING FILTERS WITH STRONG NONLINEARITY IN SPECTRAL DOMAIN	3201
<i>Kazuhide Ichikawa, Akira Hirose, The University of Tokyo</i>	
WE1-L1.4: SAR GROUND CONTROL POINT IDENTIFICATION WITH THE AID OF HIGH RESOLUTION OPTICAL DATA	3205
<i>Sina Montazeri, German Aerospace Center (DLR); Xiao Xiang Zhu, German Aerospace Center (DLR) and Technical University of Munich (TUM); Ulrich Bals, German Aerospace Center (DLR); Christoph Gisinger, Yuanyuan Wang, Technische Universität München; Michael Eineder, Richard Bamler, German Aerospace Center (DLR) and Technical University of Munich (TUM)</i>	
WE1-L1.5: AN AUTOMATED INSAR PROCESSING SYSTEM: POTENTIALS AND CHALLENGES	3209
<i>Wanpeng Feng, Khalid Omari, Sergey V. Samsonov, Canada Center for Mapping and Earth Observations, Natural Resources Canada, Ottawa Canada</i>	
 WE2-L1: SAR INTERFEROMETRY II	
WE2-L1.1: EXTRACTION OF SEA SURFACE VELOCITY AND ELEVATION THROUGH A HYBRID AT/XT-INSAR AIRBORNE SYSTEM	3211
<i>Stefano Perna, University; Carmen Esposito, IREA-CNR; Giuseppe Jackson, University; Gianfranco Fornaro, Antonio Natale, Antonio Pauciullo, Riccardo Lanari, IREA-CNR</i>	
WE2-L1.2: AN ANALYSIS OF ERROR IN SURFACE CURRENT MAPPING BY AN ALONG-TRACK INTERFEROMETRIC FMCW SAR	3215
<i>Huazeng Deng, Gordon Farquharson, Jim Thomson, University of Washington; Saeed Moghimi, Tuba Ozkan-Haller, Oregon State University</i>	
WE2-L1.3: ASSESSMENT OF NEAR-NADIR CORRELATION CHARACTERISTICS OVER WATER BODIES USING INTERFEROMETRIC SAR: IMPLICATIONS FOR THE SWOT MISSION	3219
<i>Delwyn Moller, Remote Sensing Solutions; Gordon Farquharson, Applied Physics Laboratory, University of Washington; Daniel Esteban-Fernandez, Jet Propulsion Laboratory, California Institute of Technology</i>	
WE2-L1.4: PHASE UNWRAPPING STRATEGY AND ASSESSMENT FOR THE HIGH RESOLUTION DEMS OF THE TANDEM-X MISSION	3223
<i>Marie Lachaise, Thomas Fritz, German Aerospace Center (DLR)</i>	
WE2-L1.5: VALIDATION OF THE NEW SRTM DIGITAL ELEVATION MODEL (NASADEM) WITH ICESAT/GLAS OVER THE UNITED STATES	3227
<i>Marc Simard, Maxim Neumann, Sean Buckley, Jet Propulsion Laboratory, California Institute of Technology</i>	

WE3-L1: SAR IMAGING TECHNIQUES I

WE3-L1.1: ASPECTS AND CHALLENGES OF COSAR IMAGE FORMATION 3230
Marc Rodriguez-Cassola, Paco López-Dekker, Pau Prats-Iraola, Francesco De Zan, Gerhard Krieger, Alberto Moreira, German Aerospace Center (DLR)

WE3-L1.2: GRIDLESS SPARSE RECOVERY METHODS FOR DLSLA 3-D SAR CROSS-TRACK RECONSTRUCTION 3234
Qian Bao, Wen Hong, Yun Lin, Jianfeng Wang, Bingchen Zhang, Institute of Electronics, Chinese Academy of Sciences; Yanping Wang, China Academy of Safety Science and Technology; Weixian Tan, Inner Mongolia University of Technology

WE3-L1.3: RESOLUTION ENHANCED SAR TOMOGRAPHY: A NONPARAMETRIC ITERATIVE ADAPTIVE APPROACH 3238
Gustavo Daniel Martín del Campo Becerra, Cinvestav del IPN; Andreas Reigber, German Aerospace Center (DLR); Yuriy V. Shkvarko, Cinvestav del IPN

WE3-L1.4: A NOVEL ALGORITHM TO ESTIMATE MOVING TARGET VELOCITY FOR A SPACEBORNE HRWS SAR/GMTI SYSTEM 3242
Taoli Yang, Yong Wang, University of Electronic Science and Technology of China

WE3-L1.5: SAR ABSOLUTE RANGING – VALIDATION AND APPLICATION OF SAR GEODESY PROCESSOR USING ECMWF REANALYSIS AND OPERATIONAL DATA 3246
Xiaoying Cong, Technische Universität München; Ulrich Balss, Steffen Suchandt, Michael Eineder, Hartmut Runge, German Aerospace Center (DLR)

WE4-L1: SAR IMAGING TECHNIQUES II

WE4-L1.1: EVALUATION OF RISAT-1 COMPACT POLARIZATION DATA FOR CALIBRATION 3250
Rao S Yalamanchili, Indian Institute of Technology, Bombay; Peter Meadows, BAE Systems Applied Intelligence; Vineet Kumar, Indian Institute of Technology, Bombay

WE4-L1.2: ISAR MANEUVERING TARGETS IMAGING AND MOTION ESTIMATION FROM PARAMETRIC SPARSE BAYESIAN LEARNING 3254
Gang Xu, Lei Yang, Lifan Zhao, Guoan Bi, School of Electrical and Electronic Engineering, Nanyang Technological University

WE4-L1.3: EXACT REVERSE BACKPROJECTION FOR SAR RAW DATA GENERATION OF NATURAL SCENES 3258
Dexin Li, National University of Defense Technology; Marc Rodriguez-Cassola, Pau Prats-Iraola, Paco López-Dekker, German Aerospace Center (DLR); Manqing Wu, National University of Defense Technology; Juergen Detlefsen, Technische Universität München; Alberto Moreira, German Aerospace Center (DLR)

WE4-L1.4: INTRA-PULSE VELOCITY COMPENSATION FOR HRWS-SAR WITH HIGH SQUINT LOOKING 3262
Guanghu Jin, Zhen Dong, Feng He, Xiaoxiang Zhu, Zhihua He, National University of Defense Technology; Guozhong Chen, Di Zhao, Shanghai Institute of Satellite Engineering

WE4-L1.5: TEXTURE PARAMETER ESTIMATION IN MONOPOLARIZED SAR IMAGERY, FOR THE SINGLE LOOK CASE, USING EXTREME VALUE THEORY 3266
Débora Chan, Universidad Tecnológica Nacional; Julia Cassetti, Universidad Nacional de General Sarmiento; Alejandro C. Frery, Universidade Federal de Alagoas

WE1-L2: CLASSIFICATION OF HYPERSPECTRAL IMAGE I

WE1-L2.1: GRAPH-BASED DEEP CONVOLUTIONAL NETWORKS FOR HYPERSPECTRAL IMAGE CLASSIFICATION 3270
Jiayan Cao, Zhao Chen, Bin Wang, Fudan University

WE1-L2.2: IDEAL REGULARIZED KERNEL FOR HYPERSPECTRAL IMAGE CLASSIFICATION.....	3274
<i>Jiangtao Peng, Hubei University; Yicong Zhou, University of Macau</i>	
WE1-L2.3: A GAUSSIAN APPROACH TO SUBSPACE BASED CLASSIFICATION OF HYPERSPECTRAL IMAGES	3278
<i>Mahdi Khodadadzadeh, Lorenzo Bruzzone, University of Trento; Jun Li, School of Geography and Planning, Sun Yat-Sen University; Antonio Plaza, Hyperspectral Computing Laboratory, University of Extremadura, Caceres, Spain</i>	
WE1-L2.4: HYPERSPECTRAL IMAGE CLASSIFICATION WITH SMALL TRAINING SET BY DEEP NETWORK AND RELATIVE DISTANCE PRIOR	3282
<i>Xiaorui Ma, Hongyu Wang, Jie Geng, Jie Wang, Dalian University of Technology</i>	
WE1-L2.5: HYPERSPECTRAL IMAGE CLASSIFICATION BASED ON DEEP STACKING NETWORK	3286
<i>Mingyi He, Xiaohui Li, Yifan Zhang, Jing Zhang, Weigang Wang, Northwestern Polytechnical University</i>	
WE2-L2: PSEUDO PIXEL BASED IMAGE CLASSIFICATION	
WE2-L2.1: GETTING PIXELS AND REGIONS TO AGREE WITH CONDITIONAL RANDOM FIELDS	3290
<i>Devis Tuia, Michele Volpi, University of Zurich; Gabriele Moser, Università di Genova</i>	
WE2-L2.2: CONVEX FORMULATION FOR HYPERSPECTRAL IMAGE CLASSIFICATION WITH SUPERPIXELS	3294
<i>Yi Liu, University of Extremadura; Filipe Condessa, Carnegie Mellon University; Jose Bioucas-Dias, Instituto Superior Técnico Universidade de Lisboa; Jun Li, Sun Yat-sen University; Antonio Plaza, University of Extremadura</i>	
WE2-L2.3: SUBPIXEL MAPPING OF HYPERSPECTRAL IMAGES BASED ON COLLABORATIVE REPRESENTATION	3298
<i>Xiaoqin Xue, Yifan Zhang, Tuo Zhao, Mingyi He, Northwestern Polytechnical University</i>	
WE2-L2.4: SUPERPIXEL-LEVEL SPARSE REPRESENTATION-BASED CLASSIFICATION FOR HYPERSPECTRAL IMAGERY	3302
<i>Sen Jia, Bin Deng, College of Computer Science and Software Engineering, Shenzhen University; Xiuping Jia, University of New South Wales</i>	
WE2-L2.5: MULTI-OBJECT SPATIAL RELATIONSHIP MODEL FOR HIGH SPATIAL RESOLUTION SCENE CLASSIFICATION	3306
<i>Siqi Wu, Wuhan University; Bei Zhao, Chinese University of Hong Kong; Yanfei Zhong, Liangpei Zhang, Wuhan University</i>	
WE3-L2: CLASSIFICATION OF HYPERSPECTRAL IMAGE II	
WE3-L2.1: DEEP CONVOLUTIONAL NETWORKS WITH SUPERPIXEL SEGMENTATION FOR HYPERSPECTRAL IMAGE CLASSIFICATION	3310
<i>Jiayan Cao, Zhao Chen, Bin Wang, Fudan University</i>	
WE3-L2.2: HOW TO FULLY EXPLORE THE LOW-RANK PROPERTY FOR DATA RECOVERY OF HYPERSPECTRAL IMAGES	3314
<i>Shaohui Mei, Qianqian Bi, Jingyu Ji, Northwestern Polytechnical University; Junhui Hou, Nanyang Technological University; Qian Du, Mississippi State University</i>	
WE3-L2.3: REPRESENTATION-BASED HYPERSPECTRAL IMAGE CLASSIFICATION WITH IMBALANCED DATA	3318
<i>Jiaojiao Li, Xidian University; Qian Du, Mississippi University; Wei Li, Beijing University of Chemical Technology; Yunsong Li, Xidian University</i>	
WE3-L2.4: CONTEXTUAL DEEP CNN BASED HYPERSPECTRAL CLASSIFICATION.....	3322
<i>Hyungtae Lee, Heesung Kwon, U.S. Army Research Laboratory</i>	

WE3-L2.5: A MULTI-MANIFOLD CLUSTERING ALGORITHM FOR HYPERSPECTRAL REMOTE SENSING IMAGERY	3326
<i>Aidin Hassanzadeh, Tuomo Kauranne, Arto Kaarna, Lappeenranta University of Technology</i>	
 WE4-L2: HIGH RESOLUTION IMAGE CLASSIFICATION	
WE4-L2.1: QUAD-TREE BASED COMPRESSED HISTOGRAM ATTRIBUTE PROFILES FOR CLASSIFICATION OF VERY HIGH RESOLUTION IMAGES	3330
<i>Romano Battiti, Begüm Demir, Lorenzo Bruzzone, University of Trento</i>	
WE4-L2.2: URBAN LAND USE EXTRACTION FROM VERY HIGH RESOLUTION REMOTE SENSING IMAGES BY BAYESIAN NETWORK	3334
<i>Mengmeng Li, Alfred Stein, Wietske Bijker, University of Twente</i>	
WE4-L2.3: AN ASSESSMENT OF IMAGE FEATURES AND RANDOM FOREST FOR LAND COVER MAPPING OVER LARGE AREAS USING HIGH RESOLUTION SATELLITE IMAGE TIME SERIES	3338
<i>Charlotte Pelletier, Silvia Valero, Jordi Inglada, Gérard Dedieu, Centre d'Études Spatiales de la BIOSphère (CESBIO); Nicolas Champion, Institut National de l'Information Géographique et Forestière (IGN Espace)</i>	
WE4-L2.4: HIGH DIMENSIONAL KULLBACK-LEIBLER DIVERGENCE FOR GRASSLAND MANAGEMENT PRACTICES CLASSIFICATION FROM HIGH RESOLUTION SATELLITE IMAGE TIME SERIES	3342
<i>Maily Lopes, Mathieu Fauvel, INRA, University of Toulouse; Stéphane Girard, INRIA, University of Grenoble; David Sheeren, INRA, University of Toulouse</i>	
WE4-L2.5: SOLVING STRUCTURED SEGMENTATION OF AERIAL IMAGES AS PUZZLES	3346
<i>Diego Marcos, Michele Volpi, Devis Tuia, University of Zurich</i>	
 WE1-L3: CHANGE DETECTION IN SAR IMAGES	
WE1-L3.1: UNSUPERVISED CHANGE DETECTION ON SYNTHETIC APERTURE RADAR IMAGES WITH GENERALIZED GAMMA DISTRIBUTION	3350
<i>Fabrizio Crismer, Gabriele Moser, Vladimir A. Krylov, Sebastiano B. Serpico, University of Genoa</i>	
WE1-L3.2: SAR IMAGE CHANGE DETECTION BASED ON SPARK-FLICM ALGORITHM	3354
<i>Huming Zhu, Yuqi Guo, Mingwei Niu, Linyan Qiu, Licheng Jiao, Maoguo Gong, Xidian University</i>	
WE1-L3.3: MORPHOLOGICAL INTERPOLATION FOR TEMPORAL CHANGES	3358
<i>Aditya Challa, Sravan Danda, B. S. Daya Sagar, Indian Statistical Institute</i>	
WE1-L3.4: A DECOMPOSITION MODEL FOR SCATTERERS CHANGE DETECTION IN MULTI-TEMPORAL SERIES OF SAR IMAGES	3362
<i>Sylvain Lobry, Télécom ParisTech; Loïc Denis, Université de Saint-Etienne; Florence Tupin, Télécom ParisTech</i>	
 WE2-L3: CHANGE DETECTION IN OPTICAL IMAGES	
WE2-L3.1: UNMIXING WITH SLIC SUPERPIXELS FOR HYPERSPECTRAL CHANGE DETECTION	3370
<i>Alp Ertürk, Sarp Ertürk, Kocaeli University; Antonio Plaza, University of Extremadura</i>	
WE2-L3.2: UNSUPERVISED CHANGE DETECTION ANALYSIS TO MULTI-CHANNEL SCENARIO BASED ON MORPHOLOGICAL CONTEXTUAL ANALYSIS	3374
<i>Nicola Falco, Gabriele Cavallaro, University of Iceland; Prashanth Marpu, Masdar Institute of Science and Technology; Jón Atli Benediktsson, University of Iceland</i>	

WE2-L3.3: A GENERALIZED STATISTICAL MODEL FOR BINARY CHANGE DETECTION IN MULTISPECTRAL IMAGES	3378
<i>Massimo Zanetti, Lorenzo Bruzzone, University of Trento</i>	
WE2-L3.4: HYPERSPECTRAL ENDMEMBER EXTRACTION AND UNMIXING BY A NOVEL SPATIAL-SPECTRAL PREPROCESSING MODULE	3382
<i>Fatemeh Kowkabi, Islamic Azad University, Marvdasht Branch; Hassan Ghassemian, Tarbiat Modares University; Ahmad Keshavarz, Persian Gulf University</i>	
WE2-L3.5: A NEW MULTISPECTRAL PIXEL CHANGE DETECTION APPROACH USING PULSE-COUPLED NEURAL NETWORKS FOR CHANGE VECTOR ANALYSIS	3386
<i>Victor-Emil Neagoe, Adrian-Dumitru Ciotec, Serban-Vasile Carata, Politehnica University of Bucharest</i>	
 WE3-L3: ANALYSIS OF IMAGE TIME SERIES: SAR SENSORS	
WE3-L3.1: FUNCTIONAL MODEL SELECTION FOR INSAR TIME SERIES	3390
<i>Ling Chang, Ramon Hanssen, Delft University of Technology</i>	
WE3-L3.2: COHERENT CHANGE DETECTION USING TEMPORAL DECORRELATION MODEL FOR VOLCANIC ASH DETECTION	3394
<i>Jungkyo Jung, Duk-Jin Kim, Seoul National University; Marco Lavallo, Sang-Ho Yun, Jet Propulsion Laboratory</i>	
WE3-L3.3: OMNIBUS TEST FOR CHANGE DETECTION IN A TIME SEQUENCE OF POLARIMETRIC SAR DATA	3398
<i>Allan A. Nielsen, Knut Conradsen, Henning Skriver, Technical University of Denmark</i>	
WE3-L3.4: ASSESSMENT OF SEASONAL VARIATIONS OF RADAR BACKSCATTERING COEFFICIENT USING SENTINEL-1 DATA	3402
<i>Pietro Guccione, Angela Lombardi, Rossella Giordano, Politecnico di Bari</i>	
WE3-L3.5: AUTOMATIC GENERATION OF FREQUENTLY UPDATED LAND COVER PRODUCTS AT NATIONAL LEVEL USING COSMO-SKYMED SAR IMAGERY	3406
<i>Francesco Carbone, GEO-K s.r.l.; Alessandro Coletta, Agenzia Spaziale Italiana; Giuseppe Francesco De Luca, Italian Space Agency; Fabio Del Frate, University of Rome Tor Vergata; Luca Fasano, Agenzia Spaziale Italiana; Giovanni Schiavon, University of Rome Tor Vergata</i>	
 WE4-L3: ANALYSIS OF IMAGE TIME SERIES: OPTICAL SENSORS I	
WE4-L3.1: CONTINUOUS ANOMALY DETECTION IN SATELLITE IMAGE TIME SERIES BASED ON Z-SCORES OF SEASON-TREND MODEL RESIDUALS	3410
<i>Zeng-Guang Zhou, Ping Tang, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
WE4-L3.2: IMPROVING TIME SERIES ANOMALY DETECTION BASED ON EXPONENTIALLY WEIGHTED MOVING AVERAGE (EWMA) OF SEASON-TREND MODEL RESIDUALS	3414
<i>Zeng-Guang Zhou, Ping Tang, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
WE4-L3.3: LAND COVER BLENDING: A NEW FRAMEWORK TO GENERATE HIGH SPATIAL AND TEMPORAL RESOLUTION LAND COVER MAPS FROM REMOTELY SENSED IMAGES	3418
<i>Xiaodong Li, Feng Ling, Yun Du, Institute of Geodesy and Geophysics, Chinese Academy of Sciences</i>	
WE4-L3.4: AN OPTIMIZATION OF PARAMETER SETTINGS IN HANTS FOR GLOBAL NDVI TIME SERIES RECONSTRUCTION	3422
<i>Jie Zhou, Li Jia, Mattijn van Hoek, State Key Laboratory of Remote Sensing Science, Institute of Remote Sensing and Digital Earth, CAS; Massimo Menenti, Delft University of Technology; Jing Lu, Guangcheng Hu, State Key Laboratory of Remote Sensing Science, Institute of Remote Sensing and Digital Earth, CAS</i>	

WE4-L3.5: A TIME-SERIES MODEL FOR CHARACTERIZING CONTINUOUS LAND COVER CHANGE 3426

Xiao-Peng Song, University of Maryland

WE1-L4: WATER CYCLE OBSERVATION MISSION (WCOM): DEVELOPMENT AND PROGRESS I

WE1-L4.1: THE WATER CYCLE OBSERVATION MISSION (WCOM): OVERVIEW 3430

Jiancheng Shi, State Key Laboratory of Remote Sensing Science, Institute of Remote Sensing and Digital Earth, CAS; Xiaolong Dong, CAS Key Laboratory of Microwave Remote Sensing, National Space Science Center, Chinese Academy of Sciences; Tianjie Zhao, State Key Laboratory of Remote Sensing Science, Institute of Remote Sensing and Digital Earth, CAS; Yang Du, Zhejiang University; Hao Liu, Zhenzhan Wang, Di Zhu, CAS Key Laboratory of Microwave Remote Sensing, National Space Science Center, Chinese Academy of Sciences; Dabin Ji, Chuan Xiong, State Key Laboratory of Remote Sensing Science, Institute of Remote Sensing and Digital Earth, CAS; Lingmei Jiang, School of Geography, Beijing Normal University

WE1-L4.3: PRELIMINARY DESIGN OF WATER CYCLE OBSERVATION MISSION (WCOM) 3434

Xiaolong Dong, National Space Science Center, Chinese Academy of Sciences; Jiancheng Shi, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Shengwei Zhang, Hao Liu, Zhenzhan Wang, Di Zhu, National Space Science Center, Chinese Academy of Sciences; Lihua Zuo, DFH Satellite Co, Ltd; Changya Chen, Shanghai Satellite Engineering Institute; Wen Chen, Shanghai Engineering Center for Microsatellites, CAS

WE1-L4.4: GLOBAL MAPPING OF LAND SURFACE SOIL MOISTURE FROM THE WATER CYCLE OBSERVATION MISSION (WCOM) 3438

Jiancheng Shi, Panpan Yao, Tianjie Zhao, State Key Laboratory of Remote Sensing Science, Institute of Remote Sensing and Digital Earth, CAS

WE1-L4.5: GLOBAL MAPPING OF LANDSCAPE FREEZE/THAW STATE FROM THE WATER CYCLE OBSERVATION MISSION (WCOM) 3442

Tianjie Zhao, Jiancheng Shi, Tianxing Wang, Dabin Ji, Chuan Xiong, Tongxi Hu, State Key Laboratory of Remote Sensing Science

WE2-L4: WATER CYCLE OBSERVATION MISSION (WCOM): DEVELOPMENT AND PROGRESS II

WE2-L4.1: IMI (INTERFEROMETRIC MICROWAVE IMAGER): A L/S/C TRI-FREQUENCY RADIOMETER FOR WATER CYCLE OBSERVATION MISSION(WCOM) 3445

Hao Liu, Lijie Niu, Lin Wu, Cheng Zhang, Xiangkun Zhang, Xiaobin Yin, Ji Wu, CAS Key Laboratory of Microwave Remote Sensing, National Space Science Center, Chinese Academy of Sciences

WE2-L4.2: RETRIEVAL OF SEA SURFACE SALINITY UNDER THE WCOM MISSION 3448

Yang Du, Zhejiang University; Jiancheng Shi, Institute of Remote Sensing Applications, Chinese Academy of Science; Xiaobin Yin, National Space Science Center, Chinese Academy of Sciences; Yongsheng Xu, Institute of Oceanography

WE2-L4.3: DUAL FREQUENCY POLARIZED SCATTEROMETER FOR GLOBAL SNOW OBSERVATION 3451

Di Zhu, Xiaolong Dong, Risheng Yun, Xingou Xu, Liling Liu, Gang Wang, National Space Science Center, Chinese Academy of Sciences

WE2-L4.4: ESTIMATING SNOW WATER EQUIVALENT WITH BACKSCATTERING AT X AND KU BANDS 3454

Yurong Cui, Chuan Xiong, Jiancheng Shi, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Lingmei Jiang, State Key Laboratory of Remote Sensing Science, Beijing Normal University; Bin Peng, Dabin Ji, Tianjie Zhao, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences

WE2-L4.5: POLARIMETRIC MICROWAVE IMAGER (PMI) FOR GLOBAL WATER CYCLE OBSERVATION MISSION (WCOM) 3458

Zhenzhan Wang, Bin Li, Jingyi Liu, Hao Lu, Xin Zhao, Yu Zhang, Shengwei Zhang, Xiaobin Yin, Yun Li, Xiaolong Dong, Xinbiao Wang, NSSC

WE3-L4: VALIDATION OF REMOTE SENSING PRODUCTS: METHODS, SPECIFICATIONS, AND NETWORKING EXISTING NETWORKS I

WE3-L4.1: SATELLITE-BASED SOIL MOISTURE VALIDATION AND FIELD EXPERIMENTS; 3462 SKYLAB TO SMAP

Thomas Jackson, United States Department of Agriculture; Jean-Pierre Wigneron, Institut National de la Recherche Agronomique; Yann Kerr, Centre d'Études Spatiales de la Biosphère (CESBIO); Michael Cosh, United States Department of Agriculture; Andreas Colliander, Jet Propulsion Laboratory; Jeffrey Walker, Monash University; Rajat Bindlish, United States Department of Agriculture

WE3-L4.3: SOIL MOISTURE AND TEMPERATURE MEASURING NETWORKS IN THE 3466 TIBETAN PLATEAU AND THEIR APPLICATIONS IN VALIDATION OF MICROWAVE PRODUCTS

Kun Yang, Jun Qin, Yingying Chen, Menglei Han, Long Zhao, Institute of Tibetan Plateau Research

WE3-L4.4: TOWARDS VALIDATION OF SMAP: SMAPEX-4 & -5 3469

Nan Ye, Jeffrey Walker, Xiaoling Wu, Monash University; Thomas Jackson, United States Department of Agriculture; Luigi Renzullo, CSIRO Land and Water; Olivier Merlin, Center for the Study of the Biosphere from Space; Christoph Rüdiger, Monash University; Dara Entekhabi, Massachusetts Institute of Technology; Richard de Jeu, Transmissivity B.V., Space Technology Center; Edward Kim, NASA Goddard Space Flight Center

WE4-L4: VALIDATION OF REMOTE SENSING PRODUCTS: METHODS, SPECIFICATIONS, AND NETWORKING EXISTING NETWORKS II

WE4-L4.1: NOAA SOIL MOISTURE OPERATIONAL PRODUCT SYSTEM (SMOPS) AND ITS 3477 VALIDATIONS

Jicheng Liu, University of Maryland; Xiwu Zhan, NOAA/NESDIS; Christopher Hain, Jifu Yin, Li Fang, Zhengpeng Li, University of Maryland; Limin Zhao, NOAA/NESDIS

WE4-L4.2: QUALITY ASSESSMENT OF EXISTING ANTARCTIC REMOTE SENSING 3481 PRODUCTS

Rongxing Li, Yixiang Tian, Tiantian Feng, Huan Xie, Yang Xu, Haifeng Xiao, Hexia Weng, Da Lv, Xiaohua Tong, Center for Spatial Information Science and Sustainable Development Applications, College of Survey and Geo-Informatics, Tongji University

WE4-L4.3: A FRAMEWORK FOR VALIDATING REMOTELY SENSED EVAPOTRANSPIRATION..... 3485

Shaomin Liu, Ziwei Xu, Lisheng Song, Yuan Zhang, Zhongli Zhu, Beijing Normal University

WE4-L4.4: VALIDATION OF THE REMOTE SENSING PRODUCTS AT A WATERSHED SCALE 3489 IN CHINA

Mingguo Ma, Southwest University; Rui Jin, Cold and Arid Regions Environmental and Engineering Research Institute, Chinese Academy of Sciences; Yonghua Qu, Xihan Mu, Beijing Normal University; Wenping Yu, Southwest University; Liying Geng, Xufeng Wang, Cold and Arid Regions Environmental and Engineering Research Institute, Chinese Academy of Sciences; Xiaodan Wu, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences

WE4-L4.5: EVALUATION OF THE MODIS AND GLASS ALBEDO PRODUCTS OVER THE 3493 HEIHE RIVER BASIN, CHINA

Xiaodan Wu, Qing Xiao, Jianguang Wen, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Mingguo Ma, Southwest University; Dongqin You, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences

WE1-L5: VEGETATION MONITORING BY OPTICAL INSTRUMENTS I

WE1-L5.1: USE OF A DIGITAL CAMERA ONBOARD A UAV TO MONITOR SPRING 3496 PHENOLOGY AT INDIVIDUAL TREE LEVEL

Elias Berra, Rachel Gaulton, Stuart Barr, Newcastle University

WE1-L5.2: SELECTION OF ADDITIONAL TRAINING DATA FOR IMPROVING ACCURACY OF 3500 FOREST TYPE CLASSIFICATION USING HYPERSPECTRAL DATA

Taichi Takayama, Akira Iwasaki, University of Tokyo

WE1-L5.3: A METHOD FOR KERNEL-DRIVEN MODEL TO CORRECT THE BLENDED HEMISPHERICAL DIFFUSE IRRADIANCE IN MULTI-ANGLE MEASUREMENTS	3504
<i>Yadong Dong, Ziti Jiao, Dandan He, Yang Li, Xiaoning Zhang, Beijing Normal University</i>	
WE1-L5.4: TOWARDS DECOMPOSING THE EFFECTS OF FOLIAR NITROGEN CONTENT AND CANOPY STRUCTURE ON RICE CANOPY SPECTRAL VARIABILITY THROUGH MULTI-SCALE SPECTRAL ANALYSIS	3508
<i>Tao Cheng, Dong Li, Hengbiao Zheng, Xia Yao, Yongchao Tian, Yan Zhu, Weixing Cao, Nanjing Agricultural University</i>	
WE1-L5.5: BIO-PHYSIOLOGICAL SPECTRAL INDICES RETRIEVAL AND STATISTICAL ANALYSIS FOR RED PALM WEEVIL STRESS-ATTACK PREDICTION USING WORLDVIEW-3 DATA	3512
<i>Abderrazak Bannari, Abdulaziz Mohamed, Arabian Gulf University; Derek Peddle, Lethbridge University</i>	
 WE2-L5: VEGETATION MONITORING BY OPTICAL INSTRUMENTS II	
WE2-L5.1: DERIVATION OF RICE CLUMPING INDEX FROM TIME SERIES MISR AND MODIS DIRECTIONAL REFLECTANCE DATA	3516
<i>Shanshan Wei, Hongliang Fang, CAS</i>	
WE2-L5.2: ASSESSING THE FACTORS DETERMINING THE RELATIONSHIP BETWEEN SOLAR-INDUCED CHLOROPHYLL FLUORESCENCE AND GPP	3520
<i>Tianxiang Cui, Rui Sun, Chen Qiao, Beijing Normal University</i>	
WE2-L5.3: NEW OPERATIONAL REAL-TIME DAILY ROLLING WEEKLY GREEN VEGETATION FRACTION PRODUCT DERIVED FROM SUOMI NPP VIIRS REFLECTANCE DATA	3524
<i>Zhangyan Jiang, AER at NOAA/NESDIS/STAR; Marco Vargas, Ivan Csiszar, NOAA/NESDIS/STAR</i>	
WE2-L5.4: A METHOD FOR SPATIAL UPSCALING OF GROUND LAI MEASUREMENTS TO THE REMOTELY SENSED PRODUCT PIXEL GRID	3528
<i>Baodong Xu, Jing Li, Qinhua Liu, Yelu Zeng, State Key Laboratory of Remote Sensing Science, Institute of Remote Sensing and Digital Earth, CAS; Gaofei Yin, Institute of Mountain Hazards and Environment, Chinese Academy of Sciences; Weiliang Fan, Jing Zhao, State Key Laboratory of Remote Sensing Science, Institute of Remote Sensing and Digital Earth, CAS</i>	
WE2-L5.5: GLOBAL RAINFALL INTERCEPTION LOSS DERIVED FROM MULTI-SOURCE SATELLITE EARTH OBSERVATIONS	3532
<i>Chaolei Zheng, Li Jia, State Key Laboratory of Remote Sensing Science, Institute of Remote Sensing and Digital Earth, CAS</i>	
 WE3-L5: REMOTE SENSING FOR ECOLOGY I	
WE3-L5.1: LAND COVER MAPPING AND ABOVE GROUND BIOMASS ESTIMATION IN CHINA	3535
<i>Bingfang Wu, Yuan Zeng, Dan Zhao, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
WE3-L5.4: REMOTE SENSING OF SPATIAL DISTRIBUTION OF WETLANDS IN NORTHEAST CHINA, 1990-2013	3539
<i>Zongming Wang, Mingming Jia, Dehua Mao, Chunying Ren, Northeast Institute of Geography and Agroecology, Chinese Academy of Sciences</i>	
WE3-L5.5: DEVELOPING A CLASSIFICATION METHOD FOR PERIODICALLY UPDATING AGRICULTURAL MAPS IN KENYA	3543
<i>Roberto Luciani, Giovanni Laneve, Sapienza University of Rome; Munzer Jahjah, Agenzia Spaziale Italiana</i>	

WE4-L5: REMOTE SENSING FOR ECOLOGY II

WE4-L5.1: LONG-TERM DAILY FIELD-SCALE EVAPOTRANSPIRATION ESTIMATION USING 3547 MULTI-SATELLITE DATA FUSION IN AN INTENSIVELY DRAINED AGRICULTURAL AREA IN SOUTH DAKOTA, USA

Yun Yang, Martha Anderson, Feng Gao, William Kustas, U.S. Department of Agriculture - ARS; Christopher Hain, Tilden Meyers, Tim Wilson, NOAA; Liang Sun, Yang Yang, U.S. Department of Agriculture - ARS

WE4-L5.2: COUPLING SAR C-BAND AND OPTICAL DATA FOR SOIL MOISTURE AND LEAF 3551 AREA INDEX RETRIEVAL OVER IRRIGATED GRASSLANDS

Nicolas Baghdadi, Mohammad El Hajj, Mehrez Zribi, Irstea

WE4-L5.3: MONITORING FORAGE PRODUCTION IN RANGELAND USING REMOTE 3555 SENSING OBSERVATIONS

Yufang Jin, UC, Davis

WE4-L5.4: CHINA TYPICAL FOREST ABOVEGROUND BIOMASS ESTIMATION BY FUSION 3557 OF MULTI-PLATFORM DATA

Yong Pang, Zengyuan Li, Shili Meng, Hao Lu, Wen Jia, Qingwang Liu, Haikui Li, Yuancai Lei, Chinese Academy of Forestry

WE4-L5.5: FOREST BIODIVERSITY MAPPING USING AIRBORNE LIDAR AND 3561 HYPER SPECTRAL DATA

Yuan Zeng, Yujin Zhao, Dan Zhao, Bingfang Wu, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences

WE1-L6: DATA FUSION I

WE1-L6.1: GAME THEORY BASED DATA FUSION FOR PRECISION AGRICULTURE 3563 APPLICATIONS

Lori Bruce, Daniel Reynolds, Mississippi State University

WE1-L6.3: FUSION AND CLASSIFICATION OF AERIAL IMAGES FROM MAVS AND AIRPLANES 3567 FOR LOCAL INFORMATION ENRICHMENT

Xiangyu Zhuo, Shiyong Cui, Franz Kurz, Peter Reinartz, German Aerospace Center (DLR)

WE1-L6.4: OPTIMAL TRANSPORT FOR DATA FUSION IN REMOTE SENSING 3571

Nicolas Courty, Université Bretagne-Sud; Rémi Flamary, Université Nice Sophia Antipolis; Devis Tuia, Zurich University; Thomas Corpetti, CNRS

WE1-L6.5: FUSION OF HYPER SPECTRAL AND LIDAR DATA USING MORPHOLOGICAL 3575 COMPONENT ANALYSIS

Xiang Xu, Jun Li, Sun Yat-sen University; Antonio Plaza, University of Extremadura

WE2-L6: DATA FUSION II

WE2-L6.1: SPATIAL AND TEMPORAL INFORMATION FUSION FOR CROP CONDITION 3579 MONITORING

Feng Gao, Martha Anderson, U.S. Department of Agriculture - ARS; Donghui Xie, Beijing Normal University

WE2-L6.2: AN OVERVIEW TO REMOTELY SENSED DISPLACEMENT MEASUREMENTS 3583 FUSION: CURRENT STATUS AND CHALLENGES

Yajing Yan, Université Savoie Mont Blanc; Amaury Dehecq, University of Edinburgh; Emmanuel Trouvé, Gilles Mauris, Université Savoie Mont Blanc; Noel Gourmelen, University of Edinburgh; Flavien Vernier, Université Savoie Mont Blanc

WE2-L6.3: WHEN TO FUSE WHAT? RANDOM FOREST BASED FUSION OF LOW-, MID-, 3587 AND HIGH-LEVEL INFORMATION FOR LAND COVER CLASSIFICATION FROM OPTICAL AND SAR IMAGES

Ronny Hänsch, Olaf Hellwich, Technische Universität Berlin

WE2-L6.4: DEEP FUSION OF HYPERSPECTRAL AND LIDAR DATA FOR THEMATIC CLASSIFICATION	3591
<i>Yushi Chen, Chunyang Li, Harbin Institute of Technology; Pedram Ghamisi, German Aerospace Center (DLR); Chunyu Shi, Beijing Institute of Remote Sensing Information; Yanfeng Gu, Harbin Institute of Technology</i>	
WE2-L6.5: FUSION OF HIGH AND VERY HIGH DENSITY LIDAR DATA FOR 3D FOREST CHANGE DETECTION	3595
<i>Daniele Marinelli, Claudia Paris, Lorenzo Bruzzone, University of Trento</i>	
 WE3-L6: ADVANCING INTEROPERABILITY FOR GEOSCIENCE INFORMATION SYSTEMS I	
WE3-L6.1: A VOYAGE THROUGH DIMENSIONS: RECENT INNOVATIONS IN GEOSPATIAL COVERAGES	3599
<i>Peter Baumann, Jacobs University</i>	
WE3-L6.3: COUPLING OF EARTH SCIENCE MODELS AND EARTH OBSERVATIONS THROUGH OGC INTEROPERABILITY SPECIFICATIONS	3602
<i>Liping Di, Ziheng Sun, Eugene Yu, Jia Song, Daniel Tong, George Mason University; Haosheng Huang, Louisiana State University; Xiaoqing Wu, Iowa State University; Ben Domenico, University Corporation for Atmospheric Research (UCAR)</i>	
WE3-L6.4: SEMANTIC LOCATION-BASED SERVICES	3606
<i>Liangcun Jiang, Peng Yue, Xia Guo, Wuhan University</i>	
WE3-L6.5: THE OGC® DISCRETE GLOBAL GRID SYSTEM CORE STANDARD: A FRAMEWORK FOR RAPID GEOSPATIAL INTEGRATION	3610
<i>Matthew Purss, Geoscience Australia; Robert Gibb, Landcare Research New Zealand; Faramarz Samavati, University of Calgary; Perry Peterson, PYXIS; Jin Ben, Zhengzhou Institute of Surveying and Mapping</i>	
 WE4-L6: ADVANCING INTEROPERABILITY FOR GEOSCIENCE INFORMATION SYSTEMS II	
WE4-L6.1: EASY TO USE TIME-SERIES DATA ACCESS AND ANALYSIS TOOLS USING STANDARD-BASED GEOPROCESSING SERVICES	3614
<i>Jonas Eberle, Friedrich-Schiller-University Jena; Trevor Taylor, Open Geospatial Consortium; Christiane Schmillius, Friedrich-Schiller-University Jena</i>	
WE4-L6.2: SENSOR WEB ENABLEMENT (SWE) FOR CITIZEN SCIENCE	3618
<i>Ingo Simonis, Bart De Lathouwer, Trevor Taylor, The Open Geospatial Consortium</i>	
WE4-L6.3: EARTH OBSERVATION DATA ACCESS INTEROPERABILITY IMPLEMENTATION AMONG SPACE AGENCIES	3621
<i>Satoko Miura, Japan Aerospace Exploration Agency</i>	
WE4-L6.4: WEB SERVICE-BASED SMAP SOIL MOISTURE DATA VISUALIZATION, DISSEMINATION AND ANALITICS BASED ON VEGSCAPE FRAMEWORK	3624
<i>Zhengwei Yang, U.S. Department of Agriculture - National Agricultural Statistics Service; Lei Hu, Genong Yu, Ranjay Shrestha, Liping Di, George Mason University; Claire Boryan, Rick Mueller, U.S. Department of Agriculture - National Agricultural Statistics Service</i>	
WE4-L6.5: A WEBGIS APPLICATION: TUNA FISHING GROUND FORECASTING INFORMATION SERVICE SYSTEM FOR THE OPEN SOUTH CHINA SEA	3628
<i>Shijian Ji, Weifeng Zhou, Hongyun Xu, Xiaoxuan Wang, Key Laboratory of Fishery Resources Remote Sensing and Information Technology, East China Sea Fisheries Research Institute, Chinese Academy of Fishery Sciences</i>	

WE1-L7: MULTI-SCALE REMOTE SENSING MODELING OVER COMPLEX TERRAIN I

WE1-L7.1: DART: RADIATIVE TRANSFER MODELING FOR SIMULATING TERRAIN, AIRBORNE AND SATELLITE SPECTRORADIOMETER AND LIDAR ACQUISITIONS AND 3D RADIATIVE BUDGET OF NATURAL AND URBAN LANDSCAPES 3632

Jean-Philippe Gastellu-Etchegorry, Nicolas Lauret, Paul Sabatier University; Tiangang Yin, CENSAM; Lucas Landier, Ahmad Al Bitar, Josselin Aval, Jordan Guilleux, Christopher Jan, Eric Chavanon, Paul Sabatier University

WE1-L7.3: RAPID2: A 3D SIMULATOR SUPPORTING VIRTUAL REMOTE SENSING EXPERIMENTS 3636

Huaguo Huang, Beijing Forestry University

WE1-L7.4: DATA SIMULATION AND FUSION OF IMAGING SPECTROMETER AND LIDAR MULTI-SENSOR SYSTEM THROUGH DART MODEL 3640

Tiangang Yin, Centre d'Études Spatiales de la Biosphère (CESBIO); Jean-Baptiste Féret, IRSTEA, UMR-TETIS; Jean-Philippe Gastellu-Etchegorry, Nicolas Lauret, Centre d'Études Spatiales de la Biosphère (CESBIO)

WE1-L7.5: THE UNIFIED MODEL OF BRDF FOR THE VEGETATION CANOPY 3644

Xiru Xu, Wenjie Fan, Jvcai Li, Peng Zhao, Peking University

WE2-L7: MULTI-SCALE REMOTE SENSING MODELING OVER COMPLEX TERRAIN II

WE2-L7.1: A CANOPY RADIATIVE TRANSFER MODEL SUITABLE FOR HETEROGENEOUS AGRO-FORESTRY SCENES 3648

Yelu Zeng, Jing Li, Qinhuo Liu, State Key Laboratory of Remote Sensing Science, Jointly Sponsored by Institute of Remote Sensing and Digital Earth, CAS; Gaofei Yin, Institute of Mountain Hazards and Environment, Chinese Academy of Sciences; Baodong Xu, Weiliang Fan, Jing Zhao, State Key Laboratory of Remote Sensing Science, Jointly Sponsored by Institute of Remote Sensing and Digital Earth, CAS

WE2-L7.2: EVALUATION OF THREE LEAF AREA INDEX RETRIEVAL ALGORITHMS WITH GROUND BASED MEASUREMENTS 3652

Weiliang Fan, Qinhuo Liu, Jing Li, State Key Laboratory of Remote Sensing Science

WE2-L7.3: CALCULATION OF FAPAR OVER RAGGED TERRAINS: A CASE STUDY AT SAIHANBA 3656

Peng Zhao, Wenjie Fan, Yuan Liu, Xiru Xu, Peking University

WE2-L7.4: MODELING RADAR BACKSCATTERING OF COMPLEX TERRAIN AT THE LANDSCAPE SCALE FOR RETRIEVING FOREST STRUCTURE PARAMETERS 3660

Wenjian Ni, Chinese Academy of Sciences; Guoqing Sun, University of Maryland; Zhiyu Zhang, Chinese Academy of Sciences; Haoyang Yu, Beijing Normal University

WE2-L7.5: POLARIMETRIC SCATTERING FROM INHOMOGENEOUS DIELECTRIC CYLINDERS OF ARBITRARY FINITE LENGTH 3664

Chao Yang, Zhejiang University; Qinhuo Liu, Jiancheng Shi, Institute of Remote Sensing Applications, Chinese Academy of Science; Yang Du, Zhejiang University

WE3-L7: ELECTROMAGNETIC THEORY

WE3-L7.1: SCATTERING PHENOMENOLOGY OF ARCTIC LAKE ICE 3668

Jiangfeng Wu, University of Michigan; Don Atwood, Michigan Technological University: Research Institute; Kamal Sarabandi, University of Michigan

WE3-L7.2: A TIME-SERIES ACTIVE LAYER THICKNESS RETRIEVAL ALGORITHM USING P- AND L-BAND SAR OBSERVATIONS 3672

Richard H. Chen, Alireza Tabatabaenejad, Mahta Moghaddam, University of Southern California

WE3-L7.3: MODELLING MICROWAVE BACKSCATTERING FROM PARABOLIC RICE LEAF 3676

Long Liu, Yun Shao, Kun Li, Zhi Yang, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences

WE3-L7.4: SURFACE AND VOLUMETRIC SCATTERING BY ROUGH DIELECTRIC BOUNDARY AT TERAHERTZ FREQUENCIES	3680
<i>Jun Cheng Wei, Hui Chen, Tie Jun Cui, State Key Laboratory of Millimeter Waves, Southeast University</i>	
WE3-L7.5: ENHANCING MICROWAVE METAMATERIAL APERTURE RADAR IMAGING WITH ROTATION SYNTHESIS	3683
<i>Zhenhua Wu, Lei Zhang, Hongwei Liu, Xidian University</i>	
 WE4-L7: ROUGH SURFACE SCATTERING	
WE4-L7.1: ANGULAR FEATURES OF COHERENT BISCATTERING FROM RANDOMLY CORRUGATED SURFACES WITH IRREGULAR GROOVES	3687
<i>Peng Xu, Kun-Shan Chen, Rui Jiang, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
WE4-L7.2: EVALUATION OF THE BOUNDARY WAVE NUMBER FOR THE TWO-SCALE MODEL OF BACKSCATTER OF MICROWAVES IN KA- AND KU-BAND BY THE SEA SURFACE USING THE DUAL-FREQUENCY PRECIPITATION RADAR DATA	3691
<i>Mariya Panfilova, Vladimir Karaev, IAP RAS</i>	
WE4-L7.3: EFFICIENT ALGORITHM FOR CALCULATING BACKSCATTERING FROM TWO-DIMENSIONAL ROUGH SEA SURFACE UNDER LOW GRAZING ANGLE	3695
<i>Jing-Wei Hao, Wei Song, Xin-Qing Sheng, Center for Electromagnetic Simulation, School of Information and Electronics, Beijing Institute of Technology, Beijing 100081, China</i>	
WE4-L7.4: ACCURACIES OF THEORETICAL MODELS FOR ESTIMATING REFLECTION COEFFICIENTS OF ROUGH SEA SURFACES	3699
<i>Sinmyong Park, Yisok Oh, Hongik University</i>	
WE4-L7.5: ACCURACY STUDIES OF SCATTERING BY SOIL AND OCEAN SURFACES BASED ON NUMERICAL SIMULATIONS USING NYSTROM METHOD	3702
<i>Tai Qiao, Tien-Hao Liao, Leung Tsang, University of Michigan, Ann Arbor</i>	
 WE1-L8: LUNAR-BASED EARTH OBSERVATION I	
WE1-L8.1: MOON-BASED EARTH OBSERVATION FOR LARGE SCALE GEOSCIENCE PHENOMENA	3705
<i>Huadong Guo, Guang Liu, Yixing Ding, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Yongliao Zou, National Astronomical Observatories, Chinese Academy of Sciences; Shaopeng Huang, Xi'an Jiaotong University; Liming Jiang, Institute of Geodesy and Geophysics, Chinese Academy of Sciences; Gensuo Jia, Institute of Atmospheric Physics, Chinese Academy of Sciences; Mingyang Lv, Najing University; Yuanzhen Ren, Zhixing Ruan, Hanlin Ye, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
WE1-L8.3: MOON-BASED SYNTHETIC APERTURE RADAR: REVIEW AND CHALLENGES	3708
<i>Alfredo Renga, Antonio Moccia, University of Naples</i>	
WE1-L8.4: ATMOSPHERIC GRAVITY WAVES OBSERVATION FROM A LUNAR BASE	3712
<i>Martin Kaufmann, Rui Song, Forschungszentrum Jülich GmbH</i>	
WE1-L8.5: AN OVERVIEW OF THE SCIENTIFIC PAYLOADS IN CHINESE CHANG'E-3 LUNAR MISSION	3715
<i>Yingzhuo Jia, National Astronomical Observatories, Chinese Academy of Sciences / University of Chinese Academy of Sciences; Shuwu Dai, China Academic of Space Technology; Yongliao Zou, National Astronomical Observatories, Chinese Academy of Sciences; Xiuwei Chen, Institute of Electronics, Chinese Academy of Sciences</i>	

WE2-L8: LUNAR-BASED EARTH OBSERVATION II

WE2-L8.1: ATMOSPHERIC OBSERVATIONS FROM THE MOON: A LUNAR EARTH-OBSERVATORY 3719

Patrick Hamill, San Jose State University

WE2-L8.2: INITIAL RESULTS ON THE DEPTH-TO-DIAMETER RATIO OF SUB-KILOMETER CRATERS ON THE MOON 3723

Shujuan Sun, Zongyu Yue, Kaichang Di, State Key Laboratory of Remote Sensing Science, Institute of Remote Sensing and Digital Earth, CAS

WE2-L8.3: TOWARDS MOON-BASED MONITORING OF ENERGY BUDGET OF THE EARTH CLIMATE SYSTEM 3726

Shaopeng Huang, University of Michigan / Xi'an Jiaotong University; Jingjuan Liao, Jie Guang, Chinese Academy of Sciences; Jiangtao Wu, Shengshan Bi, Xiaoyin Tang, Jiujie Kuang, Xi'an Jiaotong University

WE2-L8.4: UNIFICATION OF SAR IMAGE FORMATION AND POST-PROCESSING FOR ENVIRONMENTAL REMOTE SENSING APPLICATION 3730

Jie Chen, Beihang University; Huadong Guo, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Wei Yang, Beihang University; Xinwu Li, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Pengbo Wang, Beihang University; Lu Zhang, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Kai Wang, Beihang University; Wenjin Wu, Huiying Liu, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences

WE2-L8.5: COVERAGE ANALYSIS ON GLOBAL CHANGE SENSITIVE REGIONS FROM MOON BASED OBSERVATION 3734

Hanlin Ye, Huadong Guo, Guang Liu, Yuanzhen Ren, Yixing Ding, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Mingyang Lv, Nanjing University

WE3-L8: STATUS AND DEVELOPMENT OF CHINA HIGH-RESOLUTION EARTH OBSERVATION SYSTEM AND APPLICATIONS I

WE3-L8.1: STATUS AND DEVELOPMENT OF CHINA HIGH-RESOLUTION EARTH OBSERVATION SYSTEM AND APPLICATION 3738

Xudong Tong, Wenbo Zhao, Jin Xing, Fu Wang, Earth Observation System & Data Center (EOSDC), China National Space Administration

WE3-L8.3: A METHOD INTEGRATING GF-1 MULTI-SPECTRAL AND MODIS MULTI-TEMPORAL NDVI DATA FOR FOREST LAND COVER CLASSIFICATION 3742

Zengyuan Li, Xiaohong Li, Erxue Chen, Shiming Li, Institute of Forest Resource Information Techniques, Chinese Academy of Forestry

WE3-L8.4: CAPACITY ANALYSIS OF GF-1 ON THE DISASTER MANAGEMENT 3746

Yida Fan, Wei Wu, Ming Liu, Sujun Li, Haixia He, Yang Shu, National Disaster Reduction Center of China, Ministry of Civil Affairs

WE3-L8.5: MARINE ENVIRONMENTAL MONITORING WITH GF-1 DATA 3750

Mingsen Lin, Bin Zou, Tao Zeng, Chao Liang, Lijian Shi, Maohua Guo, Qian Feng, National Satellite Ocean Application Service

WE4-L8: STATUS AND DEVELOPMENT OF CHINA HIGH-RESOLUTION EARTH OBSERVATION SYSTEM AND APPLICATIONS II

WE4-L8.1: THE OPERATIONAL APPLICATION OF CHINESE HIGH-RESOLUTION SATELLITE IN THE INVESTIGATION OF LAND AND RESOURCES 3754

Fuping Gan, Xinglin Mu, Chenchao Xiao, China Aero Geophysical Survey and Remote Sensing Center for Land and Resources

WE4-L8.2: VEHICLES DETECTION USING GF-2 IMAGERY BASED ON WATERSHED IMAGE SEGMENTATION	3758
<i>Guofeng Wang, China Highway Engineering Consulting Corporation; Yu Meng, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Hichem Sahli, Vrije Universiteit Brussel; Anzhi Yue, Jiansheng Chen, Jingbo Chen, Dongxu He, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Bin Wu, Aerospace DongFangHong Satellite Corporation Limited</i>	
WE4-L8.3: FOREST COVER CHANGE DETECTION METHOD USING BI-TEMPORAL GF-1 MULTI-SPECTRAL DATA	3762
<i>Rongxin Hao, College of Geomatics, Xi'an University of Science and Technology; Erxue Chen, Zengyuan Li, Institute of Forest Resource Information Techniques, Chinese Academy of Forestry</i>	
WE4-L8.4: A NEW PANSHARPEN METHOD BASED ON GUIDED IMAGE FILTERING: A CASE STUDY OVER GAOFEN-2 IMAGERY	3766
<i>Wenfei Zhao, College of Forestry, Southwest Forestry University; Qinling Dai, School of Printing and Packaging, Wuhan University; Yalan Zheng, Leiguang Wang, College of Forestry, Southwest Forestry University</i>	
WE4-L8.5: A COMPARATIVE ANALYSIS ON GF-2 REMOTE SENSING IMAGE FUSION EFFECTS	3770
<i>Jialan Chu, Jianchao Fan, Yanlong Chen, Fengshou Zhang, National Marine Environmental Monitoring Center</i>	
 WE1-L9: ADVANCES IN BATHYMETRIC AND OCEANOGRAPHIC LIDAR STUDIES I	
WE1-L9.1: AN INTERPRETATION OF UNDERWATER LIDAR WAVEFORMS BASED ON A MODIFIED WEIBULL PROBABILITY DISTRIBUTION FUNCTION	3774
<i>Martin Montes, University of Quebec at Rimouski; Anni Vuorenkoski, Fraser Dalgleish, Florida Atlantic University / HBOI</i>	
WE1-L9.3: AIRBORNE LIDAR ESTIMATES OF PHOTOSYNTHESIS PROFILES	3777
<i>James Churnside, National Oceanic and Atmospheric Administration</i>	
WE1-L9.4: DETECTION OF RED TIDE USING AQUA-TERRA MODIS SATELLITE DATA FOR ARANSAS BAY, TEXAS	3781
<i>Hongbo Su, Oladeji O. Olasimoju, Yan Yong, Florida Atlantic University; Lijun Yang, Hong Liang, Weimin Wang, Shenzhen Environmental Monitoring Center</i>	
WE1-L9.5: DEVELOPMENT AND VALIDATION OF THE CALIPSO OCEAN SUBSURFACE DATA	3785
<i>Yongxiang Hu, NASA Langley Research Center; Pengwang Zhai, UMBC</i>	
 WE2-L9: ADVANCES IN BATHYMETRIC AND OCEANOGRAPHIC LIDAR STUDIES II	
WE2-L9.1: MONITORING OF SINKING FLUX OF OCEAN PARTICULATE ORGANIC CARBON USING REMOTE SENSING METHODS	3788
<i>Zui Tao, Tingting Lv, Xiang Zhou, Sheng Ma, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Xiangbing Kong, Ministry of Water Resources, Yellow River Institute of Hydraulic Research</i>	
WE2-L9.2: FUSION OF BATHYMETRIC LIDAR AND HYPERSPECTRAL IMAGERY FOR SHALLOW WATER BATHYMETRY	3792
<i>Zhigang Pan, Craig Glennie, Juan Carlos Fernandez-Diaz, Ramesh Shrestha, Bill Carter, Darren Hauser, Abhinav Singhania, Michael Sartori, University of Houston</i>	
WE2-L9.3: OPERATIONAL DERIVATION OF WATER DEPTH AND SEA BOTTOM ALBEDO FROM HIGH RESOLUTION MULTISPECTRAL SATELLITE IMAGES	3796
<i>Soo Chin Liew, Ka Ming Chua, National University of Singapore</i>	
WE2-L9.4: RESEARCH ON FUSION MODEL OF MULTI-TEMPORAL REMOTE SENSING BATHYMETRY AROUND ISLAND	3799
<i>Jingyu Zhang, Yi Ma, Weifu Sun, The First Institute of Oceanography, State Oceanic Administration</i>	

WE2-L9.5: MAPPING SUBMERGED AQUATIC VEGETATION IN ALBEMARLE SOUND, NORTH CAROLINA, USA USING LANDSAT-8 AND SONAR DATA	3802
<i>Xuelian Luo, Yong Wang, University of Electronic Science and Technology of China; Joseph Luczhovich, Institute for Coastal Science and Policy and Department of Biology East Carolina University</i>	
 WE3-L9: DRAGON 3 COOPERATION	
WE3-L9.1: TERRAIN MEASUREMENTS IN CHINA USING MULTI-SENSOR SAR DATA	3806
<i>Mingsheng Liao, Lu Zhang, Timo Balz, Deren Li, Wuhan University</i>	
WE3-L9.2: DESERTIFICATION MONITORING AND ASSESSMENT: A NEW REMOTE SENSING METHOD	3810
<i>Zhihai Gao, Bin Sun, Zengyuan Li, Institute of Forest Resource Information Techniques, Chinese Academy of Forestry; Gabriel del Barrio, Estacion Experimental de zonas Arida, Spain; Xiaosong Li, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
WE3-L9.3: TERRESTRIAL WATER CYCLE IN SOUTH AND EAST ASIA: HYDROSPHERIC AND CRYOSPHERIC DATA PRODUCTS	3814
<i>Massimo Menenti, Delft University of Technology; Li Jia, Guangcheng Hu, Qinhuo Liu, Xiaozhou Xin, Remote Sensing Digital Earth Institute; Laure Roupioz, University of Strasbourg; Chaolei Zheng, Jie Zhou, Zhansheng Li, Remote Sensing Digital Earth Institute; Robin Faivre, University of Strasbourg; Hamid Ghafarian, Vu Hien Phan, Roderik Lindenbergh, Delft University of Technology; Jing Li, Jianguang Wen, Li Li, Jing Zhao, Baocheng Dou, Remote Sensing Digital Earth Institute</i>	
WE3-L9.4: DEVELOPMENT AND VALIDATION OF REMOTE SENSING PRODUCTS OF HYDROLOGICAL CYCLE TO CLOSE WATER BALANCE AT RIVER BASIN SCALE	3818
<i>Xin Li, Chinese Academy of Sciences Center for Excellence in Tibetan Earth Sciences; Shuguo Wang, Jiangsu Normal University; Chunfeng Ma, Xiaoduo Pan, Xiaohua Hao, Rui Jin, Yanping Cao, Cold and Arid Regions Environmental and Engineering Research Institute, Chinese Academy of Sciences; Shaomin Liu, Beijing Normal University; Chunlin Huang, Cold and Arid Regions Environmental and Engineering Research Institute, Chinese Academy of Sciences</i>	
WE3-L9.5: MEASUREMENT CRUSTAL MOVEMENT ALONG ALTYN TAGH FAULT BY USING MULTI-MODE INSAR TIME SERIES ANALYSIS	3822
<i>Qiming Zeng, Jian Jiao, Lin Shen, Sheng Gao, Ruiyan Fan, Junsong Huang, Peking University; Xinjian Shan, Chinese Earthquake Administration</i>	
 WE4-L9: THE MEXICAN PERSPECTIVE TO THE UNDERSTANDING OF OUR PLANET THROUGH REMOTE SENSING	
WE4-L9.1: UNDERSTANDING THE DYNAMIC OF A TROPICAL FOREST LOCATED IN SOUTHERN MEXICO USING REMOTELY SENSED DATA	3826
<i>Alejandro Monsivais-Huertero, Jose Carlos Jimenez-Escalona, Instituto Politecnico Nacional; Jose Mauricio Galeana-Pizaña, Aura Citlalli Torres-Gomez, Centro de Investigación en Geografía y Geomática “Ing. Jorge L. Tamayo”; Ramata Magagi, Kalifa Goïta, Université de Sherbrooke; Enrique Zempoaltecatl-Ramirez, Enrique Constantino-Recillas, Jesus Daniel Juarez-Vazquez, Juan Carlos Hernandez-Sanchez, Instituto Politecnico Nacional</i>	
WE4-L9.2: POTENTIAL INLAND AQUACULTURE SITES USING HIGH RESOLUTION SATELLITE IMAGES IN A REGION OF HIGH MARGINALIZATION	3830
<i>Yolanda Fernandez-Ordoñez, Colegio de Postgraduados; Jesus Soria-Ruiz, Instituto Nacional de Investigaciones Forestales, Agrícolas y Pecuarias</i>	
WE4-L9.3: MAPS RISK GENERATIONS FOR VOLCANIC ASH MONITORING USING MODIS DATA AND ITS APLICATION IN RISK MAPS FOR AVIATION HAZARD MITIGATION: CASE OF STUDY POPOCATEPETL VOLCANO (MEXICO)	3834
<i>Jose Carlos Jimenez-Escalona, Alejandro Monsivais-Huertero, Jose Eduardo Avila-Razo, ESIME Ticoman, IPN</i>	
WE4-L9.4: PERFORMANCE EVALUATION OF A MULTISPECTRAL CLASSIFICATOR THAT EMPLOYS HIGH-PERFORMANCE COMPUTING TECHNIQUES	3838
<i>Ivan E. Villalon-Turrubiates, ITESO, Universidad Jesuita de Guadalajara</i>	

WE4-L9.5: ESTIMATION OF EVAPOTRANSPIRATION USING NONPARAMETRIC APPROACH	3842
UNDER ALL SKY: PRIMARY RESULTS AND ACCURACY EVALUATIONS	
<i>Xin Pan, Yuanbo Liu, Nanjing Institute of Geography and Limnology, Chinese Academy of Sciences; Yingbao Yang, School of Earth Science and Engineering, Hohai University; Xingwang Fan, Ruonan Wang, Nanjing Institute of Geography and Limnology, Chinese Academy of Sciences</i>	
 WE1-L10: ALOS-2 I	
WE1-L10.1: ALOS-2 OPERATION STATUS	3846
<i>Yukihiro Kankaku, Shinichi Suzuki, Takeshi Motohka, Masato Ohki, Ryo Natsuaki, Masanobu Shimada, Japan Aerospace Exploration Agency</i>	
WE1-L10.3: EMERGENCY OBSERVATION AND DISASTER MONITORING PERFORMED BY ALOS-2 PALSAR-2	3849
<i>Ryo Natsuaki, Takeshi Motohka, Manabu Watanabe, Masato Ohki, Rajesh B. Thapa, Hiroto Nagai, Takeo Tadono, Masanobu Shimada, Shinichi Suzuki, Japan Aerospace Exploration Agency</i>	
WE1-L10.4: POL-INSAR CALIBRATION OF ALOS-2: ANALYSIS AND RESULTS FROM THE CAL-VAL PHASE	3853
<i>Konstantinos Papathanassiou, Jun-Su Kim, German Aerospace Center (DLR)</i>	
WE1-L10.5: OBSERVATION OF GROUND DEFORMATION IN THE OSAKA AND KANTO PLAINS WITH ALOS-2/PALSAR-2	3855
<i>Manabu Hashimoto, Kyoto University</i>	
 WE2-L10: ALOS-2 II	
WE2-L10.1: OIL PLATFORMS IN CASPIAN SEA AS STABLE DISTRIBUTED RADAR SCATTERERS FOR PALSAR CALIBRATION	3859
<i>Alexander Zakharov, Ludmila Zakharova, Mark Sorochinsky, Kotelnikov IRE RAS; Tumen Chimtdorzhiev, IPMS SB RAS</i>	
WE2-L10.2: ENVIRONMENTAL MONITORING BY ALOS-2 QUAD. POL. OBSERVATION	3863
<i>Yoshio Yamaguchi, Niigata University; Gulab Singh, Indian Institute of Technology, Bombay; Yi Cui, Hiroyoshi Yamada, Ryoichi Sato, Niigata University</i>	
WE2-L10.3: SENSITIVITY ANALYSIS OF L-BAND SAR TO INUNDATED AREA	3867
<i>Motofumi Ariei, Mitsubishi Electric Corporation; Takeshi Nishimura, Mitsubishi Space Software Co., Ltd.</i>	
WE2-L10.4: GENERATION OF THE FIRST PALSAR-2 GLOBAL MOSAIC 2014/2015 AND CHANGE DETECTION BETWEEN 2007 AND 2015 USING THE PALSAR AND PALSAR-2	3871
<i>Masanobu Shimada, Tokyo Denki University; Takuya Itoh, Remote Sensing Technology Center of Japan; Takeshi Motooka, Manabu Watanabe, Rajesh B. Thapa, Japan Aerospace Exploration Agency</i>	
WE2-L10.5: ASSESSMENT OF POLARIMETRIC PALSAR-2 POTENTIAL FOR PEATLAND CHARACTERIZATION	3873
<i>Ridha Touzi, X. Jiao, Khalid Omari, CCRS; B Sleep, Alberta ESRD</i>	
 WE3-L10: SENTINEL-1 CONSTELLATION MISSION: CAPABILITIES AND SCIENTIFIC EXPLOITATION RESULTS I	
WE3-L10.1: SENTINEL-1B LEOP AND COMMISSIONING	3877
<i>Ramón Torres, Dave Bibby, Dirk Geudtner, Stein Løkås, Gianluigi Di Cosimo, European Space Agency</i>	
WE3-L10.3: SCIENTIFIC EXPLOITATION OF SENTINEL-1 WITHIN ESA'S SEOM PROGRAMME ELEMENT	3878
<i>Yves-Louis Desnos, European Space Agency; Michael Fomelis, RSAC; Marcus Engdahl, Pierre-Philippe Mathieu, European Space Agency; Francesco Palazzo, Fabrizio Ramoimo, Andy Zmuda, SERCO</i>	

WE3-L10.4: EXPLOITING SENTINEL 1 TIME SERIES TO MONITOR THE LARGEST FRESH WATER BODIES IN PR CHINA, THE POYANG LAKE	3882
<i>Hervé Yésou, Huber Claire, Sadri Haouet, University of Strasbourg; Xijun Lai, NIGLAS; Shifeng Huang, Ministry Water Ressource; Paul De Fraipont, University of Strasbourg; Yves-Louis Desnos, European Space Agency</i>	
WE3-L10.5: TAKING ADVANTAGE OF SENTINEL-1 ACQUISITIONS MODES TO IMPROVE OCEAN SEA STATE RETRIEVAL	3886
<i>Husson Romain, CLS; Alexis Mouche, Bertrand Chapron, IFREMER; Harald Johnsen, NORUT; Fabrice Collard, OceanDataLab; Pauline Vincent, CLS; Gilles Guittou, OceanDataLab; Nicolas Longepe, Guillaume Hajduch, CLS; Yves Quilfen, IFREMER; Lucile Gaultier, OceanDataLab</i>	
WE4-L10: SENTINEL-1 CONSTELLATION MISSION: CAPABILITIES AND SCIENTIFIC EXPLOITATION RESULTS II	
WE4-L10.1: UNSUPERVISED PARALLEL SBAS-DINSAR CHAIN FOR MASSIVE AND SYSTEMATIC SENTINEL-1 DATA PROCESSING	3890
<i>Michele Manunta, Manuela Bonano, Sabatino Buonanno, Francesco Casu, Claudio De Luca, Adele Fusco, Riccardo Lanari, Mariarosaria Manzo, Chandrakanta Ojha, Antonio Pepe, Ivana Zinno, IREA-CNR</i>	
WE4-L10.2: SENTINEL-1 TOPS INTERFEROMETRIC TIME SERIES RESULTS AND VALIDATION	3894
<i>Pau Prats-Iraola, Matteo Nannini, Nestor Yague-Martinez, Rolf Scheiber, German Aerospace Center (DLR); Federico Minati, Francesco Vecchioli, Mario Costantini, e-GEOS SpA; Sven Borgstrom, Prospero De Martino, Valeria Siniscalchi, Istituto Nazionale di Geofisica e Vulcanologia; Thomas Walter, Mehdi Nikkhoo, German Research Centre for Geosciences (GFZ); Michael Fomelis, RSAC c/o ESA-ESRIN; Yves-Louis Desnos, European Space Agency - ESRIN</i>	
WE4-L10.3: TIME-SERIES ANALYSIS OF SENTINEL-1 INTERFEROMETRIC WIDE SWATH DATA: TECHNIQUES AND CHALLENGES	3898
<i>Urs Wegmüller, Charles L. Werner, Andreas Wiesmann, Tazio Strozzi, Penelope Kourkouli, Othmar Frey, Gamma Remote Sensing</i>	
WE4-L10.4: SENTINEL-1A TOPS INTERFEROMETRY APPLICATION OVER THE DEAD SEA	3902
<i>Yuxiao Qin, Daniele Perissin, Purdue University</i>	
WE4-L10.5: MAPPING FOREST DISTURBANCE USING LONG TIME SERIES OF SENTINEL-1 DATA: CASE STUDIES OVER BOREAL AND TROPICAL FORESTS	3906
<i>Oleg Antropov, Yrjö Rauste, Anne Väänänen, Teemu Mutanen, Tuomas Häme, VTT Technical Research Centre of Finland</i>	
WE1-L11: GLOBAL PRECIPITATION MEASUREMENT INSTRUMENTS AND ALGORITHMS I	
WE1-L11.1: SUCCESSES WITH THE GLOBAL PRECIPITATION MEASUREMENT (GPM) MISSION	3910
<i>Gail Skofronick-Jackson, George Huffman, Erich Stocker, NASA Goddard Space Flight Center; Walter Petersen, NASA Marshall Space Flight Center</i>	
WE1-L11.2: TWO YEARS AND FOUR MONTHS ORBITAL OPERATIONS STATUS OF THE DUAL-FREQUENCY PRECIPITATION RADAR ON THE GLOBAL PRECIPITATION MEASUREMENT CORE SPACECRAFT	3913
<i>Kinji Furukawa, Tomomi Nio, Toshiyuki Konishi, Takeshi Masaki, Japan Aerospace Exploration Agency; Toshio Iguchi, National Institute of Information and Communications Technology</i>	
WE1-L11.3: PRECIPITATION RATES ESTIMATED WITH GPM'S DUAL-FREQUENCY RADAR	3917
<i>Toshio Iguchi, National Institute of Information and Communications Technology; Shinta Seto, Jun Awaka, Nagasaki University; Robert Meneghini, NASA; Takuji Kubota, Japan Aerospace Exploration Agency; V. Chandrasekar, Colorado State University; Naofumi Yoshida, Nozomi Kawamoto, Remote Sensing Technology Center of Japan; Riko Oki, Japan Aerospace Exploration Agency</i>	

WE1-L11.4: NEAR REAL TIME PRODUCT OF THE GAUGE ADJUSTED GSMAP (GSMAP_GAUGE_NRT)	3919
<i>Tomoo Ushio, Tomoaki Mega, Osaka University; Takuji Kubota, Misako Kachi, Japan Aerospace Exploration Agency</i>	
WE1-L11.5: INCORPORATING THE TRMM DATASET INTO THE GPM MISSION DATA SUITE.....	3923
<i>Erich Stocker, NASA Goddard Space Flight Center Code 610.2; Yimin Ji, NASA Goddard Space Flight Center Code 610.2 / Wyle Corporation; Joyce Chou, Owen Kelley, John Kwiatkowski, John Stout, NASA Goddard Space Flight Center Code 610.2, George Mason University</i>	
 WE2-L11: GLOBAL PRECIPITATION MEASUREMENT INSTRUMENTS AND ALGORITHMS II	
WE2-L11.1: RAIN ESTIMATES BY USING KU- AND KA-BAND DUAL-FREQUENCY RADAR.....	3926
<i>Liang Liao, Morgan State University; Robert Meneghini, NASA Goddard Space Flight Center; Ali Tokay, University of Maryland, Baltimore County</i>	
WE2-L11.2: HYDROMETEOR PROFILING FOR DUAL-FREQUENCY PRECIPITATION RADAR ON BOARD GPM	3930
<i>V. Chandrasekar, Minda Le, Colorado State University</i>	
WE2-L11.3: RECENT ADVANCES OF THE TRMM PR BEAM-MISMATCH CORRECTION AFTER THE ORBIT BOOST	3934
<i>Kaya Kanemaru, Takuji Kubota, Takeshi Masaki, Riko Oki, Kinji Furukawa, Japan Aerospace Exploration Agency; Toshio Iguchi, Hiroshi Hanado, NICT; Naofumi Yoshida, RESTEC</i>	
WE2-L11.4: SPATIAL AND TEMPORAL VARIATIONS OF MASS-WEIGHTED MEAN DIAMETER ESTIMATED BY GPM/DPR	3938
<i>Shinta Seto, Tatsuya Shimozuma, Nagasaki University; Toshio Iguchi, National Institute of Information and Communications Technology; Toshiaki Kozu, Shimane University</i>	
WE2-L11.5: MICROPHYSICAL FEATURES OF SOLID/MELTING PARTICLES BY GROUND-BASED DIRECT OBSERVATIONS FOR THE GPM/DPR ALGORITHM DEVELOPMENT	3941
<i>Kenji Suzuki, Yamaguchi University; Katsuhiro Nakagawa, National Institute of Information and Communications Technology; Yuki Kaneko, Riko Oki, Japan Aerospace Exploration Agency; Kenji Nakamura, Dokkyo University</i>	
 WE3-L11: ATMOSPHERIC SOUNDING SENSORS	
WE3-L11.1: MONITORING THE ATMOSPHERIC ENVIRONMENT WITH JOINT POLAR SATELLITE SYSTEM (JPSS) REMOTE SENSING DATA PRODUCTS	3945
<i>Lihang Zhou, Physical Scientist/NOAA; Murty Divakarla, Senior Scientist/IMSG; Xingpin Liu, IMSG; Fuzhong Weng, Mitch Goldberg, NOAA/NESDIS</i>	
WE3-L11.2: ENABLING THE NASA DECADAL-SURVEY “PATH” MISSION	3949
<i>Bjorn Lambrigtsen, Todd Gaier, Pekka Kangaslahti, Boon Lim, Alan Tanner, Jet Propulsion Laboratory; Christopher Ruf, University of Michigan</i>	
WE3-L11.3: SECOND-ORDER IONOSPHERIC EFFECTS ON IONOSPHERIC ELECTRON DENSITY ESTIMATION FROM GPS RADIO OCCULTATION	3952
<i>Junhai Li, Shuanggen Jin, Shanghai Astronomical Observatory, Chinese Academy of Sciences</i>	
WE3-L11.4: IONOSPHERIC ACOUSITC AND RAYLEIGH WAVES DETECTED BY GPS FOLLOWING THE 2005 MW=7.2 NORTHERN CALIFORNIA EARTHQUAKE	3956
<i>Rui Jin, Shuanggen Jin, Shanghai Astronomical Observatory, Chinese Academy of Sciences</i>	
WE3-L11.5: COMBINATION OF VIIRS MEASUREMENTS AND PRODUCTS WITH CRIS TOWARD EXTENDING DATA UTILIZATION	3960
<i>Likun Wang, University of Maryland; Yong Han, NOAA; Yong Chen, University of Maryland</i>	

WE4-L11: ATMOSPHERIC SOUNDING ALGORITHMS

WE4-L11.1: USE OF TEMPERATURE AND HUMIDITY PROFILES DERIVED FROM 3963 SATELLITE RETRIEVALS FOR THE DERIVATION OF ATMOSPHERIC STABILITY INDICES

Flavio Iturbide-Sanchez, I.M. Systems Group at National Oceanic and Atmospheric Administration; Silvia Regina Santos da Silva, University of Maryland; Quanhua Liu, National Oceanic and Atmospheric Administration

WE4-L11.2: THE HAVEMANN-TAYLOR FAST RADIATIVE TRANSFER CODE: A LINE-BY-LINE 3967 SENSOR INDEPENDENT RADIATIVE TRANSFER CODE.

Jean-Claude Thelen, Stephan Havemann, UK Met Office

WE4-L11.3: CHARACTERIZE THE UNCERTAINTIES IN THE USE OF RADIOSONDE DATA 3971 FOR SATELLITE ATMOSPHERIC SOUNDING VALIDATION

Bomin Sun, NOAA/NESDIS/Center for Satellite Applications and Research & MSG; Anthony Reale, NOAA/NESDIS/Center for Satellite Applications and Research; Frank Tilley, Michael Pettey, NOAA/NESDIS/Center for Satellite Applications and Research & MSG

WE4-L11.4: A METHOD FOR CALCULATING GLOBAL DOWNWELLING LONGWAVE 3974 RADIATION USING GEOSTATIONARY AND POLAR-ORBITING SATELLITE OBSERVATIONS

Shanshan Yu, Hailong Zhang, Xiaozhou Xin, Qinhuo Liu, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences

WE4-L11.5: TROPOPAUSE VARIATIONS IN TIBET FROM COSMIC GPS RADIO 3978 OCCULTATION OBSERVATIONS

Attaullah Khan, Shuanggen Jin, Shanghai Astronomical Observatory, Chinese Academy of Sciences

WE1-L12: OCEAN WAVES AND CURRENTS

WE1-L12.1: WIND-WAVE EFFECT ON ATI-SAR MEASUREMENTS OF OCEAN SURFACE 3982 CURRENTS IN THE BALTIC SEA

Anis Elyouncha, Leif E. B. Eriksson, Chalmers University of Technology; Roland Romeiser, University of Miami; Gisela K. Carvajal, Lars M. H. Ulander, Chalmers University of Technology

WE1-L12.2: INVESTIGATE THE EFFECT OF TIDES ON THE INTERNAL WAVE 3986 MOPHORLOGY AND GENERATION SITES IN THE SULU SEA USING SATELLITE IMAGES

Bingqing Liu, Louisiana State University

WE1-L12.3: SENSITIVITY OF SEA WIND DIRECTION RETRIEVAL FROM SENTINEL-1 DATA 3989 WITH REGARD TO SPATIAL RESOLUTION AND SPECKLE NOISE

Tran Vu La, Ali Khenchaf, Fabrice Comblet, ENSTA Bretagne; Carole Nahum, French General Directorate for Armament (DGA)

WE1-L12.4: OCEAN DOPPLER ANOMALY AND OCEAN SURFACE CURRENT FROM 3993 SENTINEL 1 TOPS MODE

Harald Johnsen, Vegard Nilsen, Geir Engen, Northern Research Institute; Alexis Mouche, Laboratoire d'océanographie Spatiale - Ifremer; Fabrice Collard, OceanDataLab

WE1-L12.5: EDDIES IN THE WESTERN MEDITERRANEAN SEEN BY SPACEBORNE RADAR 3997

Svetlana Karimova, University of Liege; Martin Gade, Universität Hamburg

WE2-L12: OCEAN TEMPERATURE AND SALINITY

WE2-L12.1: PRELIMINARY PERFORMANCE SIMULATION OF MICROWAVE IMAGER 4001 COMBINED ACTIVE/PASSIVE – A NEW INSTRUMENT FOR CHINESE SALINITY MISSION

Xiaobin Yin, Lanjie Zhang, Hao Liu, Risheng Yun, Lin Wu, Xingou Xu, Di Zhu, National Space Science Center, Chinese Academy of Sciences

WE2-L12.2: NEW SMOS SALINITY PRODUCTS AT CP34-BEC IN BARCELONA.....	4005
<i>Estrella Olmedo, Antonio Turiel, Joaquim Ballabrera-Poy, Justino Martínez, Portabella Marcos, González-Gambau Veronica, Gabarró Carolina, Fernando Pérez, Nina Hoareau, Institut de Ciències del Mar (ICM-CSIC); María Piles, TSC,UPC; Jordi Font, Institut de Ciències del Mar (ICM-CSIC)</i>	
WE2-L12.4: MULTI-RESOLUTION SEA SURFACE TEMPERATURE MODELING BASED ON RADIAL BASIS FUNCTION NETWORKS	4012
<i>Zhihong Liao, Key Laboratory of Digital Earth Science, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences;University of Chinese Academy of Sciences; Qing Dong, Cunjin Xue, Key Laboratory of Digital Earth Science, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Jingwu Bi, Shuchao Wu, Wanjiao Song, Key Laboratory of Digital Earth Science, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences;University of Chinese Academy of Sciences</i>	
WE2-L12.5: COMPARISON OF HYBRID SEA SURFACE TEMPERATURE (SST) WITH EMPIRICAL REGRESSION SST IN THE SEAS AROUND KOREA	4016
<i>Kyung-Ae Park, Eun-Young Lee, Hye-Jin Woo, Seoul National University</i>	
WE3-L12: NOVEL APPLICATIONS OF THE NEW GENERATION SPACEBORNE SAR IN OCEAN OBSERVATIONS I	
WE3-L12.1: DERIVATION OF SEA SURFACE CURRENT FIELDS USING TANDEM-X PURSUIT MONOSTATIC MODE DATA	4019
<i>Yongzheng Ren, Xiaoming Li, Key Laboratory of Digital Earth Science, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
WE3-L12.3: INVESTIGATION OF THE EXPERIMENTAL TANDEM-X PURSUIT MONOSTATIC MODE FOR OIL AND SHIP DETECTION	4023
<i>Domenico Velotto, German Aerospace Center (DLR); Ferdinando Nunziata, Università di Napoli Parthenope; Carlos Bentes, German Aerospace Center (DLR); Maurizio Migliaccio, Università di Napoli Parthenope; Susanne Lehner, German Aerospace Center (DLR)</i>	
WE3-L12.4: A NEW LOOK AT THE OLD SEA OIL SLICK OBSERVATION PROBLEM: OPPORTUNITIES AND PITFALLS OF SAR POLARIMETRY	4027
<i>Ferdinando Nunziata, Andrea Buono, Maurizio Migliaccio, Università di Napoli Parthenope</i>	
WE3-L12.5: MARINE OIL SLICK AND PLATFORM DETECTION BY COMPACT POLRIMETRIC SYNTHETIC APERTURE RADAR	4031
<i>Biao Zhang, Nanjing University of Information Science and Technology; Xiaofeng Li, GST at NOAA/NESDIS; William Perrie, Bedford Institute of Oceanography; Oscar Garcia-Pineda, Water Mapping LLC</i>	
WE4-L12: NOVEL APPLICATIONS OF THE NEW GENERATION SPACEBORNE SAR IN OCEAN OBSERVATIONS II	
WE4-L12.1: MULTI-FREQUENCY AND MULTI-POLARIZATION ANALYSIS OF OIL SLICKS USING TERRASAR-X AND RADARSAT-2 DATA	4035
<i>Suman Singha, Rudolf Ressel, Susanne Lehner, German Aerospace Center (DLR)</i>	
WE4-L12.2: A POLARIMETRIC RADAR VIEW AT EXPOSED INTERTIDAL FLATS	4039
<i>Martin Gade, Universität Hamburg</i>	
WE4-L12.3: MESO- AND SUBMESO-SCALE OCEAN FRONT DETECTION USING SAR AND OPTICAL DATA	4043
<i>Osamu Isoguchi, Remote Sensing Technology Center of Japan; Naoto Ebuchi, Hokkaido University; Masanobu Shimada, Tokyo Denki University</i>	
WE4-L12.4: INTEGRATED SHIP MONITORING SYSTEM FOR REALTIME MARITIME SURVEILLANCE	4046
<i>Chan-Su Yang, Jaehoon Jeong, Korea Institute of Ocean Science and Technology</i>	

WE4-L12.5: SEA ICE CLASSIFICATION USING COMPACT POLARIZED SAR..... 4048
Haiyan Li, University of Chinese Academy of Sciences; William Perrie, Bedford Institute of Oceanography

WEP-P1: AEROSOLS AND ATMOSPHERIC CHEMISTRY III

WEP-P1.1: TWO-WAVELENGTH DEPOLARIZATION MIE LIDAR FOR TROPOSPHERIC 4051
AEROSOL MEASUREMENTS

Miao Zhang, Nanyang Normal University; Ge Han, International School of Software, Wuhan University; Jia Sun, Wei Gong, State Key Laboratory of Information Engineering in Surveying, Mapping and Remote Sensing, Wuhan University

WEP-P1.2: SENSITIVITY STUDY OF INFRARED DIFFERENCE DUST INDEX BY USING 4055
MODTRAN

Yingying Jing, Peng Zhang, Lin Chen, National Satellite Meteorological Center; China Meteorological Administration; Jiancheng Shi, Tianxing Wang, State Key Laboratory of Remote Sensing Science, Institute of Remote Sensing and Digital Earth, CAS

WEP-P1.3: A NEW AEROSOL RETRIEVAL ALGORITHM BASED ON STATISTICAL 4059
SEGMENTATION USING LANDSAT-8 OLI DATA

Yajv Xiong, Yunping Chen, Weihong Han, Ling Tong, University of Electronic Science and Technology of China

WEP-P1.4: DUST STORM DETECTION FOR XINGJIANG REGION USING INDIAN 4063
NATIONAL SATELLITE (INSAT 3A) DATA

Aojie Di, Yong Xue, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Xihua Yang, John Francis Leys, New South Wales Office of Environment and Heritage; Jie Guang, Linlu Mei, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Jingli Wang, Institute of Urban Meteorology, China Meteorological Administration; Lu She, Xingwei He, Yahui Che, Cheng Fan, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences

WEP-P1.5: AN ATMOSPHERIC CORRECTION ALGORITHM FOR FY3/MERSI DATA OVER 4067
LAND IN CHINA

Cheng Fan, Jie Guang, Yong Xue, Aojie Di, Lu She, Yahui Che, State Key Laboratory of Remote Sensing Science, Institute of Remote Sensing and Digital Earth, CAS

WEP-P1.6: COMPARISON OF ATMOSPHERIC CARBON DIOXIDE CONCENTRATION BASED 4071
ON GOSAT AND OCO-2 OBSERVATIONS

Yingying Jing, Jiancheng Shi, State Key Laboratory of Remote Sensing Science, Institute of Remote Sensing and Digital Earth, CAS; Peng Zhang, National Satellite Meteorological Center; China Meteorological Administration; Tianxing Wang, State Key Laboratory of Remote Sensing Science, Institute of Remote Sensing and Digital Earth, CAS; Lin Chen, National Satellite Meteorological Center; China Meteorological Administration

WEP-P2: AEROSOLS AND ATMOSPHERIC CHEMISTRY IV

WEP-P2.7: A DUAL-PHASE AIR QUALITY MONITORING SYSTEM BASED ON SATELLITE 4074
DATA: FRAMEWORK AND PRELIMINARY EVALUATION

Shenglei Zhang, Liangfu Chen, Lin Su, Shenshen Li, Yidan Si, Jinhua Tao, Zifeng Wang, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences

WEP-P2.8: AN IMPROVED ALGORITHM FOR RETRIEVAL OF AEROSOL OPTICAL 4077
PROPERTIES OVER THE YELLOW SEA FROM GEOSTATIONARY OCEAN COLOR IMAGER

Ya-nan Zhang, Xiao-shen Zheng, Tianjin University of Science and Technology

WEP-P2.9: INFLUENCE OF EARTHQUAKE ON THE ATMOSPHERIC AEROSOLS STUDY 4080
USING AERONET RETRIEVED AEROSOL OPTICAL DEPTH

Xiwei Fan, Gaozhong Nie, Yan Deng, Institute of Geology, China Earthquake Administration; Jiwen An, Ping Song, Huayue Li, China Earthquake Administration; Yunhe Gu, Earthquake Administration of Shaanxi Province

WEP-P2.10: MONITORING ATMOSPHERIC COMPOSITION BY GEO-KOMPSAT-1 AND 2..... 4084

Jhoon Kim, Mijin Kim, Myungje Choi, GEMS Science Team, Yonsei University; Young-Je Park, Korea Institute of Ocean Science and Technology; Chu-Yong Chung, KMA; Limseok Chang, NIER; Seung Hoon Lee, KARI

WEP-P2.11: AN ANALYSIS OF ATMOSPHERIC CO₂ CONCENTRATION AROUND THE TAKELAMAGAN DESERT WITH FIVE PRODUCTS RETRIEVED FROM SATELLITE OBSERVATIONS 4087
Nian Bie, University of Chinese Academy of Sciences; Liping Lei, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Zhonghua He, Min Liu, University of Chinese Academy of Sciences

WEP-P3: AEROSOLS AND ATMOSPHERIC CHEMISTRY V

WEP-P3.12: VERTICAL DISTRIBUTIONS OF DUST AEROSOLS DERIVED FROM CALIPSO AND CLOUDSAT OBSERVATIONS IN HEXI CORRIDOR 4090
Zuqin Deng, Institute of Arid Meteorology, China Meteorological Administration, College of Atmospheric Sciences, Lanzhou University, Key Laboratory of Arid Climatic Change and Reducing Desert of Gansu Province; Lei Zhang, Key Laboratory for Semi-Arid Climate Change of the Ministry of Education, College of Atmospheric Sciences, Lanzhou University

WEP-P3.13: SIMULATION OF THE POLARIZATION PATTERN OF SKYLIGHT AFFECTED BY MINERAL DUST AEROSOL PARTICLES 4093
Li Li, Zhengqiang Li, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Yanjun Huang, Beijing Institute of Tracking and Telecommunication Technology; Jiuchun Yang, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Di Yang, Beijing Institute of Tracking and Telecommunication Technology; Kaitao Li, Donghui Li, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences

WEP-P3.14: ESTIMATING AREA COVERED BY HAZE AND FOG IN PAKISTAN AND INDIA DURING WINTERS 4096
Badar Ghauri, Institute of Space Technology

WEP-P3.15: PROPOSAL OF MEP (METHANE EMISSION PRESUMPTION) METHOD TO INVESTIGATE METHANE SOURCES 4100
Jonggeol Park, Tokyo University of Information Sciences; Sooyoung Park, Tokyo University of Agriculture

WEP-P3.16: CLIMATOLOGY OF NIGHTTIME DUST STORMS IN NORTHERN CHINA AND MONGOLIA: RESULTS FROM MODIS THERMAL INFRARED OBSERVATIONS 4104
Yang Liu, Ronggao Liu, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences

WEP-P3.17: INVESTIGATING METEOROLOGICAL AND GEOGRAPHICAL EFFECT IN REMOTE SENSING RETRIEVAL OF PM_{2.5} CONCENTRATION IN YANGTZE RIVER DELTA 4108
Man Jiang, Sun Weiwei, Ningbo University

WEP-P4: AIR POLLUTION

WEP-P4.18: EVALUATION OF THE IMPACT OF ENVIRONMENTAL CONTROL MEASURES DURING LARGE EVENT ON ATMOSPHERIC AEROSOL CONTENTS BASED ON DUAL STATIONS REMOTE SENSING MEASUREMENTS4112
Kaitao Li, Zhengqiang Li, Donghui Li, Hua Xu, Li Li, State Environmental Protection Key Laboratory of Satellite Remote Sensing, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences

WEP-P4.19: A STUDY OF AEROSOL CHANGING RULE IN BEIJING DURING A DECADE4115
Jian Xun, Yang Hang, Zhang Lifu, The Chinese Academy of Sciences

WEP-P4.20: THE STUDY OF LONG-TERM AIR POLLUTION CHARACTERISTIC IN WUHAN, CHINA4119
Xin Ma, Wei Gong, Wuhan University; Zhongmin Zhu, Wuchang Shouyi University

WEP-P4.21: SPATIO-TEMPORAL CHANGE AND INFLUENCING FACTORS OF TROPOSPHERIC NO₂ COLUMN DENSITY OF BEIJING-TIANJIN-HEBEI REGION IN THE DECADE BASED OMI PRODUCT	4123
<i>Chunyan Zhou, Qing Li, Satellite Environmental Center Ministry of Environmental Protection of the People's Republic of China; Yingxia He, LinYi Environmental Monitoring Station; Pengfei Ma, Hui Chen, Zhongting Wang, Lijuan Zhang, Huiqin Mao, Yuhuan Zhang, Cuihong Chen, Satellite Environmental Center Ministry of Environmental Protection of the People's Republic of China</i>	
WEP-P4.22: PREDICTING THE DISPERSION OF VOLCANIC ASH FROM 2013 ERUPTION OF SAKURAJIMA, JAPAN	4127
<i>Seulki Lee, Changwook Lee, Kangwon University</i>	
WEP-P4.23: A NEW AIR POLLUTION SOURCES IDENTIFICATION METHOD BASED ON REMOTELY SENSED AEROSOL AND SWARM INTELLIGENCE	4131
<i>Yunping Chen, Weihong Han, Wenhuan Wang, Yajv Xiong, Tong Ling, UESTC</i>	
WEP-P4.24: SIMULATION OF NON-POINT SOURCE POLLUTION LOAD IN THE XIANGTAN STREAM BASIN THROUGH SWAT MODEL	4135
<i>Huazhang Liu, Shihua Li, School of Resources and Environment, University of Electronic Science and Technology of China; Qingwen Zhang, Agricultural Clear Watershed Group, Institute of Environment and Sustainable Development in Agriculture, CAAS</i>	
 WEP-P5: ATMOSPHERIC SOUNDING ALGORITHMS	
WEP-P5.25: AN IMPROVED METHOD FOR MERSI WATER VAPOR RETRIEVAL USING GPS CALIBRATION	4139
<i>Zhizhao Liu, Xin Li, The Hong Kong Polytechnic University</i>	
WEP-P5.26: ESTIMATING DAYTIME SURFACE AIR TEMPERATURE USING MULTI-SOURCE REMOTE SENSING AND CLIMATE REANALYSIS DATA AT GLACIERIZED BASINS: A CASE STUDY AT LANGTANG VALLEY, NEPAL	4143
<i>Wang Zhou, Bin Peng, Jiancheng Shi, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Yam Prasad Dhital, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences; Tianxin Wang, Dabin Ji, Tianjie Zhao, Panpan Yao, Yurong Cui, Lijuan Shi, Ruzhen Yao, Chunguang Liu, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
WEP-P5.27: DEVELOPMENT OF FAST LLR ALGORITHMS TO RETRIEVE ATMOSPHERIC PROFILES FROM IRAS/FY-3B INFRARED MEASUREMENTS	4147
<i>Zhongyi Wang, Geng-Ming Jiang, Shanshan Li, Fudan University</i>	
WEP-P5.28: ANALYSIS OF GPS IONOSPHERIC SCINTILLATION DURING SOLAR MAXIMUM AT MID-LATITUDE	4151
<i>Wasiu Akande Ahmed, International School, Beihang University, Beijing, China; Falin Wu, School of Instrumentation Science and Opto-electronics Engineering, Beihang University, Beijing, China; Ganiyu Ishola Agbaje, African Regional Centre for Space Science and Technology Education-English.</i>	
 WEP-P6: ATMOSPHERIC SOUNDING SENSORS	
WEP-P6.30: A MOUNTAIN-BASED OCCULTATION EXPERIMENT WITH L2C AND B1I OPEN LOOP	4157
<i>Di Wu, Xianyi Wang, Yueqiang Sun, Qifei Du, Dongwei Wang, Yuerong Cai, Chunjun Wu, Weihua Bai, Junming Xia, Xiangguang Meng, Wei Li, Cheng Liu, National Space Science Center, Chinese Academy of Sciences</i>	
WEP-P6.31: TEMPERATURE AND HUMIDITY PROFILES RETRIEVING OVER LAND USING CLEAR SKY MEASUREMENTS OF MICROWAVE HUMIDITY-TEMPERATURE SOUNDER ON CHINESE FY-3C SATELLITE	4161
<i>Qiurui He, Zhenzhan Wang, Jiaying He, National Space Science Center, Chinese Academy of Sciences</i>	

WEP-P6.32: A TOTAL PRECIPITABLE WATER RETRIEVAL ALGORITHM OVER LAND USING AMSR2	4165
<i>Dabin Ji, Jiancheng Shi, Chuan Xiong, Tianxing Wang, Tianjie Zhao, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
WEP-P6.34: STUDY OF BENDING ANGLE RESIDUAL IONOSPHERIC ERROR IN REAL RO DATA	4171
<i>Congliang Liu, Gottfried Kirchengast, Yueqiang Sun, Weihua Bai, Qifei Du, Xianyi Wang, Xiangguang Meng, Dongwei Wang, Yuerong Cai, Di Wu, Chunjun Wu, Wei Li, Junming Xia, Cheng Liu, National Space Science Center, Chinese Academy of Sciences</i>	
WEP-P7: BISTATIC AND DIGITAL BEAMFORMING SAR II	
WEP-P7.35: EQUIVALENT VALIDATION OF BEAM FOOTPRINT DETECTION FOR NON-COOPERATIVE BISTATIC SAR	4175
<i>Feifei Yan, Wenge Chang, Xiangyang Li, National University of Defense Technology</i>	
WEP-P7.36: ERROR ANALYSIS FOR THE BASELINE ESTIMATION AND CALIBRATION OF DISTRIBUTED INSAR SATELLITES	4179
<i>Shuyuan Zhao, Defeng Gu, Bin Yi, Dongyun Yi, National University of Defense Technology</i>	
WEP-P7.38: MULTI-CHANNEL AZIMUTH RECONSTRUCTION OF HIGH RESOLUTION WIDE SWATH SAR VIA VANDERMONDE MATRIX	4187
<i>Pu Cheng, Jianwei Wan, Qin Xin, Zhan Wang, National University of Defense Technology</i>	
WEP-P7.39: FORWARD-LOOKING SAR IMAGING WITH FREQUENCY DIVERSE ARRAY ANTENNA	4191
<i>Wen-Qin Wang, University of Electronic Science and Technology of China</i>	
WEP-P7.40: GEO-UAV BISTATIC CIRCULAR SYNTHETIC APERTURE RADAR: CONCEPTS AND TECHNOLOGIES	4195
<i>Qilei Zhang, Zhen Dong, Yongsheng Zhang, Zhihua He, National University of Defense Technology</i>	
WEP-P8: DISASTER ASSESSMENT	
WEP-P8.41: STUDY ON A MODIFIED ASSESSMENT OF SEISMIC INTENSITY BASED ON BOTH MULTI-SOURCE RS IMAGES AND SPATIAL GRID ANALYSIS	4199
<i>Xiaoqing Wang, Aixia Dou, Xiang Ding, Xiaoxiang Yuan, Institute of Earthquake Science, China Earthquake Administration; Hongyi Wang, Beijing Pioneer Hi-Tech. Development Company, China</i>	
WEP-P8.42: COUPLING EFFECTS OF NUTRIENTS AND TEMPERATURE FOR THE HAZARD DEGREE DYNAMIC ASSESSMENT OF KARENIA MIKIMOTOI RED TIDE DISASTERS IN THE WENZHOU COASTAL WATERS	4203
<i>Shiyong Wen, Yongjian Liu, Zizhu Wang, Xinxin Wang, Xiang Wang, Jianhua Zhao, National Marine Environmental Monitoring Centre</i>	
WEP-P8.43: VEGETATION VARIATIONS INFLUENCED BY TYPHOON HAIYAN ON GREATER MEKONG SUB-REGION IN 2013	4207
<i>Jing Zhao, Jing Li, Qinhua Liu, State Key Laboratory of Remote Sensing Science, Institute of Remote Sensing and Digital Earth, CAS / Joint Center for Global Change Studies; Mu Xihan, School of Geography, Beijing Normal University</i>	
WEP-P8.44: ESTIMATE THE HIGH-RESOLUTION DISTRIBUTION OF GROUND-LEVEL PARTICULATE MATTER BASED ON SPACE OBSERVATIONS AND A PHYSICAL-BASED MODEL	4211
<i>Jie Guang, Yong Xue, Cheng Fan, Ying Li, Lu She, Yahui Che, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
WEP-P8.45: ESTIMATED POST-FLOOD EFFECTS THROUGH FREE, FULL AND OPEN SATELLITE REMOTE SENSING DATA TO SUPPORT CIVIL PROTECTION	4215
<i>Cesario Vincenzo Angelino, Luca Cicala, C.I.R.A.; Nicomino Fiscante, GeosLab Srl; Mariano Focareta, MAPSAT Srl</i>	

WEP-P8.46: SPATIO-TEMPORAL DISTRIBUTION OF ATMOSPHERE POLLUTANTS DURING WINTER HEATING PERIOD OVER SU-LU-YU-WAN PROVINCES	4219
<i>Yang Bai, Lixin Wu, Yuan Zhou, Kai Qin, China University of Mining and Technology</i>	
WEP-P8.47: EXPERIMENTAL STUDY ON THERMAL INFRARED RADIATION VARIATION OF LOADED SANDSTONE IN THE COLD SKY BACKGROUND	4222
<i>Jianwei Huang, Shanjun Liu, Tianzi Li, Liang Song, Qiang Ni, Northeastern University</i>	
 WEP-P9: DROUGHTS	
WEP-P9.48: THE VERIFICATION OF CLIMATE DROUGHT DYNAMIC MONITORING IN ALPINE MEADOW BASED ON STANDARDIZED PRECIPITATION INDEX AND GIS	4226
<i>Xinlai Zhao, Wenlong Li, Yuting Zhao, Lanzhou University; Jing Xu, Lanzhou Commercial College; Xulin Guo, University of Saskatchewan</i>	
WEP-P9.49: IMPROVING SOIL MOISTURE ESTIMATION BY ASSIMILATING REMOTELY SENSED DATA INTO CROP GROWTH MODEL FOR AGRICULTURAL DROUGHT MONITORING	4229
<i>Hongkui Zhou, Jianjun Wu, Xiaohan Li, Guangpo Geng, Leizhen Liu, Beijing Normal University</i>	
WEP-P9.50: ASSESSING THE OCCURRENCE OF DROUGHT BASED ON NDVI, LST AND RAINFALL PATTERN DURING 2010-2014	4233
<i>Muhammad Arslan, Rao Zahid, Badar Ghauri, Institute of Space Technology</i>	
WEP-P9.51: DYNAMIC ANALYSIS OF DROUGHT TREND IN HUANG-HUAI-HAI REGION BASED ON MODIS AND TVDI	4237
<i>Qin Sun, Liang Liang, Xiang Luo, Hui Lin, Yanjun Li, Jia Rui, Lianpeng Zhang, Jiangsu Normal University</i>	
WEP-P9.52: TEMPORAL AND SPATIAL DISTRIBUTION OF DROUGHT IN NORTHEAST CHINA BASED ON TEMPERATURE VEGETATION DROUGHT INDEX (TVDI) FROM 2001-2013	4241
<i>Dianmin Cong, Shuhe Zhao, Xian Li, Xiyang Zhuang, Cheng Chen, Nanjing University</i>	
 WEP-P10: EARTHQUAKE	
WEP-P10.53: IONOSPHERE CHANGE BEFORE JAPAN 2011 M9.0 EARTHQUAKE	4245
<i>Guangmeng Guo, Nanyang Normal University</i>	
WEP-P10.54: DAMAGED ROAD EXTRACTION FROM POST-SEISMIC REMOTE SENSING IMAGES BASED ON GIS AND OBJECT-ORIENTED METHOD	4247
<i>Qiang Li, Institute of Engineering Mechanics, China Earthquake Administration; Jingfa Zhang, Na Wang, Institute of Crustal Dynamics, China Earthquake Administration</i>	
WEP-P10.55: EARTHQUAKE-INDUCED BUILDING DAMAGE DETECTION METHOD BASED ON NORMAL COMPUTATION OF NEIGHBORING POINTS SEARCHING ON 2D-PLANE	4251
<i>Shusong Huang, Aixia Dou, Xiaoqing Wang, Jinxia Wang, Institute of Earthquake Science, China Earthquake Administration</i>	
WEP-P10.56: THE LOSS ASSESSMENT METHOD OF BUILDING EARTHQUAKE DAMAGE USING THE REMOTE SENSING AND BUILDING GRID DATA	4255
<i>Aixia Dou, Xiaoqing Wang, Xiaoxiang Yuan, Shumin Wang, Institute of Earthquake Science, China Earthquake Administration</i>	
WEP-P10.57: A NEW FRAMEWORK OF BUILDING COLLAPSE EXTRACTION BASED ON AZIMUTH TIME-FREQUENCY ANALYSIS	4259
<i>Haizhen Zhang, Qiming Zeng, Jian Jiao, Peking University; Sheng Gao, Peking University / Institute of Electronics Chinese Academy of Sciences</i>	
WEP-P10.58: INTEGRATION OF SAR IMAGE AND VULNERABILITY DATA FOR BUILDING DAMAGE DEGREE ESTIMATION	4263
<i>Liqiang An, Institute of Engineering Mechanics, CEA. Key Laboratory of Earthquake Engineering and Engineering Vibration, CEA, Earthquake Administration of Tianjin Municipality; Jingfa Zhang, Lixia Gong, Qiang Li, Institute of Crustal Dynamics, CEA</i>	

WEP-P11: ESTIMATION AND REGRESSION APPLICATIONS: DENOISING

WEP-P11.59: DENOISING OF HYPERSPECTRAL IMAGERY USING AN INTRINSIC SPECTRAL REPRESENTATION MODEL WITH SPATIAL SMOOTHNESS CONSTRAINT 4267

Longshan Yang, Linlin Xu, Xiao Sun, Yuan Fang, Yujia Chen, Junhuan Peng, China University of Geosciences

WEP-P11.60: RETRIEVING MODIS BAND REFLECTANCE AT CLOUDY PIXELS CONSIDERING SPATIAL HETEROGENEITY 4271

Bo Gao, Huili Gong, Capital Normal University; Li Jia, The Institute of Remote Sensing and Digital Earth of Chinese Academy of Sciences; Qiang Liu, Henan University of Economics and Law; Peng Guo, Shandong Agricultural University

WEP-P11.62: EXPLORATORY DATA ANALYSIS AND MODELLING SOLAR RADIATION AND ASSOCIATED ENVIRONMENTAL PHENOMENON 4279

Amrita Das, Jin Ki Park, Jong Hwa Park, Chungbuk National University

WEP-P11.64: DIRECTION-OF-ARRIVAL ESTIMATION FOR COHERENT SOURCES VIA SPARSE BAYESIAN LEARNING 4286

Zhongguo Lu, Research Institute of Electronic Science and Technology; Jing Yu, Southwest Electronics and Telecommunication Technology Research Institute; Shunsheng Zhang, Xianyang Hu, Research Institute of Electronic Science and Technology; Wen-Qin Wang, School of Communication and Information Engineering

WEP-P11.65: TWO-DIMENSIONAL DIRECTION-OF-ARRIVAL ESTIMATION OF NON-CIRCULAR SIGNALS USING ONE SNAPSHOT 4290

Qingqing Lin, Liangwei Huang, Ping Shuai, Qian Xuesen Laboratory of Space Technology, China Academy of Space Technology

WEP-P12: ESTIMATION AND REGRESSION APPLICATIONS: LAND

WEP-P12.66: ANALYZING THE INFLUENCE OF ANOMALOUS ATMOSPHERE ON LAND SURFACE TEMPERATURE RETRIEVAL 4294

Chuan Zhan, a.Institute of Geographic Sciences and Natural Resources Research, CAS / University of Chinese Academy of Sciences; Bo-Hui Tang, Hua Wu, Rong-Lin Tang, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences; Zhao-Liang Li, Institute of Geographic Sciences and Natural Resources Research, CAS / Ministry of Agriculture/Institute of Agricultural Resources and Regional Planning, Chinese Academy of Agricultural Sciences

WEP-P12.67: AN ALGORITHM FOR RETRIEVING INSTANTANEOUS MICROWAVE LAND SURFACE EMISSIVITY FROM PASSIVE MICROWAVE BRIGHTNESS TEMPERATURE AND PRECIPITABLE WATER VAPOR DATA 4298

Fang-Cheng Zhou, State Key Laboratory of Resources and Environment Information System, Institute of Geographic Sciences and Natural Resources Research, CAS; Zhao-Liang Li, Key Laboratory of Agri-informatics, Ministry of Agriculture/Institute of Agricultural Resources and Regional Planning, Chinese Academy of Agricultural Sciences; Hua Wu, Bo-Hui Tang, Rong-Lin Tang, State Key Laboratory of Resources and Environment Information System, Institute of Geographic Sciences and Natural Resources Research, CAS; Xiaoning Song, University of Chinese Academy of Sciences; Guangjian Yan, State Key Laboratory of Remote Sensing Science, School of Geography, Beijing Normal University

WEP-P12.68: RETRIEVING LAND SURFACE TEMPERATURE FROM LANDSAT 8 TIRS DATA USING RTTOV AND ASTER GED 4302

Xiangchen Meng, Hua Li, Yongming Du, Qinhuo Liu, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Jinshan Zhu, Lin Sun, Shandong University of Science and Technology

WEP-P12.70: COMPARISON OF DIURNAL TEMPERATURE CYCLE MODEL AND POLYNOMIAL REGRESSION TECHNIQUE IN TEMPORAL NORMALIZATION OF AIRBORNE LAND SURFACE TEMPERATURE 4309

Linqing Zhu, Ji Zhou, University of Electronic Science and Technology of China; Shaomin Liu, Beijing Normal University; Mingsong Li, Guoquan Li, University of Electronic Science and Technology of China

WEP-P12.71: MONITORING THE METEOROLOGICAL DROUGHT IN THE MIDDLE REACHES OF HEIHE RIVER BASIN BASED ON TRMM PRECIPITATION DATA 4313

Yao Wang, Changji Meteorological Bureau; Zhonglin Xu, Xinjiang University; Bing Zhang, Qi Li, Changji Meteorological Bureau

WEP-P13: ESTIMATION AND REGRESSION APPLICATIONS: SOIL

WEP-P13.73: INVERSION OF FEO AND TIO₂ CONTENT USING MICROWAVE RADIANCE 4319
SIMULATION BASED ON CHANG-E2 PASSIVE MICROWAVE RADIOMETER DATA

Yi Lian, Pengfei Liu, Hongyuan Huo, Hu Zhang, Tiejun Cui, Peng Du, Tianjin Normal University

WEP-P13.74: ESTIMATING SURFACE BROADBAND EMISSIVITY OF THE XINJIANG 4323
DESERTS BASE ON FTIR AND MODIS DATA

Yongqiang Liu, Huoqing Li, Xinjiang University; Mamtimin Ali, Wen Huo, Xinghua Yang, Qing He, Xinjiang Meteorological Bureau

WEP-P13.75: ESTIMATION OF SURFACE SOIL MOISTURE USING FENGYUN-2E (FY-2E) 4327
DATA: A CASE STUDY OVER THE SOURCE AREA OF THE YELLOW RIVER

Yawei Wang, Xiaoning Song, University of Chinese Academy of Sciences; Pei Leng, Chinese Academy of Agricultural Sciences; Chuan Sun, Xin Liu, University of Chinese Academy of Sciences

WEP-P13.76: PREDICTING SOIL HEAVY METAL BASED ON RANDOM FOREST MODEL..... 4331

Weibo Ma, Kun Tan, China University of Mining and Technology; Peijun Du, Nanjing University

WEP-P13.77: PARAMETER SENSITIVITY ANALYSIS FOR BISTATIC SCATTERING OF ROUGH 4335
SURFACE

Yuan Liu, ICube, Uds, CNRS; Jiangyuan Zeng, Kun-Shan Chen, Chinese Academy of Sciences; Zhao-Liang Li, ICube, Uds, CNRS

WEP-P14: ESTIMATION AND REGRESSION APPLICATIONS: VEGETATION

WEP-P14.79: RETRIEVAL OF CANOPY WATER CONTENT USING OBJECTIVE BASED 4343
METHOD

Dasong Xu, Binbin He, Xingwen Quan, University of Electronic Science and Technology of China

WEP-P14.80: THE PRELIMINARY EVALUATION OF ALBEDO PRODUCTS FROM MCBI 4347
WITH IN SITU MEASUREMENT

Zhiming Feng, Jianguang Wen, Baocheng Dou, Dongqin You, Qing Xiao, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences

WEP-P14.81: COMPARISON OF FRACTIONAL VEGETATION COVER ESTIMATING 4351
METHODS USING IN-SITU MEASUREMENTS AND THE PROSAIL MODEL

Yanling Ding, Northeast Normal University; Xingming Zheng, Tao Jiang, Northeast Institute of Geography and Agroecology, Chinese Academy of Sciences

WEP-P14.82: ANALYZING THE POTENTIAL OF DIFFERENT FRACTIONS OF 4355
PHOTOSYNTHETICALLY ACTIVE RADIATION (FPARS) TO ESTIMATE GROSS PRIMARY
PRODUCTION

Zhengjia Liu, Chaoyang Wu, Shiguang Xu, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences

WEP-P14.83: INVERSION OF CHLOROPHYLL FLUORESCENCE BASED ON VEGETATION 4359
INDICES

Min Jia, Chen Zhou, Tao Cheng, Yongchao Tian, Yan Zhu, Weixing Cao, Xia Yao, Nanjing Agricultural University

WEP-P15: ESTIMATION AND REGRESSION TECHNIQUES

WEP-P15.84: ACCURATE PARAMETER ESTIMATION USING ROTATIONAL INVARIANCE 4363
TECHNIQUES FOR SYNTHETIC APERTURE RADARS

Tao Chen, Yongfei Ding, Ruifan Pang, Cheng Gong, Dinghai Xu, Aviation Industry of China (AVIC); Hengyang Zhang, Airforce Engineering University

WEP-P15.85: MODELING POPULATION DENSITY AT COMPATIBLE SCALE..... 4367

Weichao Sun, Xia Zhang, Honglei Lin, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences

WEP-P15.86: COMPRESSIVE HYPER-SPECTRAL IMAGING IN THE PRESENCE OF REAL NOISE	4371
<i>Hemant Kumar Aggarwal, Indraprastha Institute of Information Technology-Delhi; Angshul Majumdar, IIITD</i>	
WEP-P15.87: SENSITIVITY ANALYSIS OF ESTIMATING SHORTWAVE SOLAR RADIATION TO THE DEM SPATIAL SCALE	4375
<i>Yanli Zhang, Jun Zhao, Northwest Normal University</i>	
WEP-P15.89: MULTISPECTRAL IMAGE ENHANCEMENT WITH EXTENDED OFFSET-SPARSITY DECOMPOSITION	4383
<i>Long Tian, Qian Du, Nicolas Younan, Mississippi State University; Ivica Kopriva, Ruder Boškovic Institute</i>	
 WEP-P16: FLOODS	
WEP-P16.90: GEOSPATIAL TECHNIQUES FOR FLOOD INUNDATION MAPPING	4387
<i>Kuldeep Kuldeep, P.K. Garg, Rahul Dev Garg, Indian Institute of Technology, Roorkee</i>	
WEP-P16.91: AGRICULTURE FLOOD RISK ASSESSMENT BASED ON INFORMATION DIFFUSION	4391
<i>Sun Zhangli, Liu Xianfeng, Zhu Xiufang, Pan Yaozhong, Beijing Normal University</i>	
WEP-P16.93: COASTAL FLOOD MONITORING BASED ON AMSR-E DATA	4399
<i>Wei Zheng, National Satellite Meteorological Center, China Meteorological Administration; Donglian Sun, Sanmei Li, George Mason University</i>	
WEP-P16.94: IMPROVING UNSUPERVISED FLOOD DETECTION WITH SPATIO-TEMPORAL CONTEXT ON HJ-1B CCD DATA	4402
<i>Xiaoyi Liu, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Jiancheng Li, China Highway Engineering Consulting Corporation; Hichem Sahli, Vrije Universiteit Brussel; Yu Meng, Qingqing Huang, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
WEP-P16.95: VALUATION OF EMPIRICAL RADAR RAINFALL MODEL DURING THE MASSIVE FLOOD IN MALAYSIA	4406
<i>Mohd Nadzri Md Reba, Nurulhani Roslan, Geoscience and Digital Earth Centre (INSTeG), Research Institute for Sustainability and Environment (RISE); Achmad Syafuddin, Faculty of Civil Engineering; Mazlan Hashim, Geoscience and Digital Earth Centre (INSTeG), Research Institute for Sustainability and Environment (RISE)</i>	
 WEP-P17: FORESTS AND VEGETATION II	
WEP-P17.96: ESTIMATING CROP NET PRIMARY PRODUCTION USING HIGH SPATIAL RESOLUTION REMOTE SENSING DATA	4410
<i>Lu Wang, Wenjie Fan, Xiru Xu, Peking University</i>	
WEP-P17.97: UNCERTAINTIES IN LINKING SOLAR-INDUCED CHLOROPHYLL FLUORESCENCE TO PLANT PHOTOSYNTHETIC ACTIVITIES	4414
<i>Liangyun Liu, Xinjie Liu, Linlin Guan, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
WEP-P17.98: RETRIEVAL OF FOREST ABOVE GROUND BIOMASS USING AUTOMATIC KNN MODEL	4418
<i>Chunmei Li, Xin Tian, Zengyuan Li, Erxue Chen, Chinese Academy of Forestry; Wangfei Zhang, Southwest Forestry University</i>	
WEP-P17.99: SEMANTIC PRE-CLASSIFICATION OF VEGETATION GRADIENT BASED ON LINEARLY UNMIXED LANDSAT TIME SERIES	4422
<i>Damien Arvor, CNRS; Bill Donatien Loubelo Madiela, University Marien Ngouabi; Thomas Corpetti, CNRS</i>	

WEP-P18: FORESTS AND VEGETATION III

WEP-P18.100: ESTIMATION OF GROSS PRIMARY PRODUCTIVITY OF FOUR TYPES OF FOREST IN CHINA 4426

Wenwu Fan, Xin Tian, Chinese Academy of Forestry; Feilong Ling, Fuzhou University; Min Yan, Chinese Academy of Forestry

WEP-P18.101: UNCERTAINTY ANALYSIS OF FOREST ABOVE-GROUND BIOMASS INCREMENTS IN SOUTHERN QILIAN MOUNTAINS 4430

Zongtao Han, Xin Tian, Chinese Academy of Forestry; Hong Jiang, Feilong Ling, Fuzhou University; Min Yan, Chinese Academy of Forestry

WEP-P18.102: VERTICAL CANOPY COVER RETRIEVAL FOR GREATER KHINGAN FOREST BASED ON A GEOMETRIC-OPTICAL MODEL USING LANDSAT DATA 4434

Chengyan Gu, Xin Tian, Zengyuan Li, Chinese Academy of Forestry

WEP-P18.103: SPATIOTEMPORAL PATTERNS OF PRIMARY PRODUCTIVITY DERIVED FROM REMOTE SENSING AND FLUX MEASUREMENTS 4438

Yang-Sheng Chiang, National Central University; Kun-Shan Chen, Chinese Academy of Sciences

WEP-P18.104: STATEWIDE MAPPING AND ESTIMATION OF VEGETATION ABOVEGROUND BIOMASS USING AIRBORNE LIDAR 4442

Qi Chen, University of Hawaii at Manoa; Ronald McRoberts, U.S. Department of Agriculture - Forest Service

WEP-P19: GEOGRAPHIC INFORMATION SCIENCE I

WEP-P19.105: AUTOMATED ORTHO-RECTIFIED SAR IMAGE OF GF-3 SATELLITE USING REVERSE-RANGE-DOPPLER METHOD 4445

Jiayin Liu, Xiaolan Qiu, Wen Hong, Institute of Electronics, Chinese Academy of Sciences

WEP-P19.107: 3D MODELING FOR MINE ROADWAY FROM LASER SCANNING POINT CLOUD 4452

Jiateng Guo, Jizhou Jiang, Northeastern University; Lixin Wu, Northeastern University; China University of Mine & Technology; Wenhui Zhou, Lianhuan Wei, Northeastern University

WEP-P19.109: DROUGHT ASSESSMENT IN BEIJING-TIANJIN-HEBEI REGION IN CHINA IN RECENT TEN YEARS 4458

Siyao Yang, Dan Meng, Xiaojuan Li, Capital Normal University

WEP-P19.110: SIMULATION AND ANALYSIS ON THE INFLUENCE OF DIFFERENT TYPES OF SOIL BACKGROUND ON THE REMOTE SENSING INFORMATION OF WHEAT NDVI OF FARMLAND 4462

Yuchen Fang, Peiyan Wang, Jingming Chen, Qingjiu Tian, Nanjing University

WEP-P20: GEOGRAPHIC INFORMATION SCIENCE II

WEP-P20.111: WHICH ONE IS THE BEST:THE INTERPOLATION METHODS COMPARISON ON AVERAGE ANNUAL TEMPERATURE IN XINJIANG FROM 1951 TO 2013 4466

Qian Yang, Jianghua Zheng, Zhihui Liu, Xinjiang University

WEP-P20.112: SPATIAL-TEMPORAL REASONING OF GEOVIDEO DATA BASED ON ONTOLOGY 4470

Yan Zhou, Zhe Wang, Di He, University of Electronic Science and Technology of China

WEP-P21: HAZARDS AND DISASTERS

- WEP-P21.114: A NEW METHOD TO LOCATE OIL SPILL ORIGIN WITH MODIFIED LAGRANGIAN MODEL - A CASE STUDY OF PL19-3 OIL SPILL ACCIDENT** 4477
Siyu Tian, Xiaoxia Huang, Hongga Li, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences
- WEP-P21.115: FLASH FLOODS IN MALIR BASIN DUE TO URBANIZATION** 4481
Sumaira Zafar, Arjumand Zaidi, Institute of Space Technology

WEP-P22: LAND COVER DYNAMICS

- WEP-P22.117: THE MONITORING OF LAND USE AND LAND COVER CHANGE OF SICHUAN PROVINCE AND CHENGDU DISTRICT, CHINA** 4489
Shijie Yu, Zezhong Zheng, The University of Electronic Science and Technology of China; Wunian Yang, Key Laboratory of Geoscience Spatial Information Technology, Ministry of Land and Resources of the China; Mingcang Zhu, Land and Resources Department of Sichuan Province; Yong He, Sichuan Institute of Geo-Environment Monitoring; Zhenlu Yu, Shengli Wang, The University of Electronic Science and Technology of China; Fu Wang, National Satellite Meteorological Center, China Meteorological Administration; Jiang Li, Old Dominion University
- WEP-P22.118: INTER-ANNUAL GROWTH OF BROAD-LEAVED CANOPY ESTIMATED FROM THE REPEATED LIDAR MEASUREMENTS** 4493
Youngkeun Song, Seoul National University; Junichi Imanishi, Kyoto University; Takeshi Sasaki, Kobe University; Keiko Ioki, Kyoto University; Yukihiko Morimoto, Kyoto Gakuen University
- WEP-P22.119: DYNAMICS OF DESERT VEGETATION AND ITS RESPONSE TO CLIMATE CHANGES DURING 1982-2013 IN THE HEXI CORRIDOR OF NORTHWEST CHINA** 4495
Xuemei Yang, Jianping Ma, Jinnian Tang, Gansu Desert Control Research Institute; Taibao Yang, Lanzhou University; Quanlin Ma, Yuan Hongbo, Gansu Desert Control Research Institute; Mihretab G. Ghebrezgabher, Lanzhou University
- WEP-P22.120: SPATIOTEMPORAL VARIATION IN THE TERRESTRIAL VEGETATION PHENOLOGY IN DANJIANGKOU RESERVOIR FROM 2001 TO 2012** 4498
Huanhua Peng, Ji Liang, Chaokui Li, Hunan University of Science and Technology
- WEP-P22.121: VALIDATION METHODS FOR REGIONAL RETROSPECTIVE HIGH RESOLUTION LAND COVER FOR UKRAINE** 4502
Mykola Lavreniuk, Nataliia Kussul, Andrii Shelestov, Bohdan Yailymov, Tamara Oliinyk, Alexander Kostecky, Space Research Institute NASU-SSAU
- WEP-P22.123: RADARSAT-2 AND TERRASAR-X POLARIMETRIC DATA FOR CROP GROWTH STAGES ESTIMATION** 4510
Yifeng Li, George Lampropoulos, A.U.G. Signals Ltd.
- WEP-P22.124: ANALYSIS ON TEMPORAL-SPATIAL CHANGE OF VEGETATION COVER IN HULUNBUIR STEPPE (2000-2014)** 4514
Peng Fei, Anhui University of Science & Technology; Fan Wenjie, Xu Xiru, Institute of Remote Sensing and GIS, Peking University; Liu Xing, Anhui University of Science & Technology

WEP-P23: LAND USE APPLICATIONS

- WEP-P23.126: SPATIO-TEMPORAL DISTRIBUTION OF CROP PHENOLOGY IN EASTERN COASTAL CHINA BASED ON MODIS DATA** 4521
Tinting Lv, Zui Tao, Xiang Zhou, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Xiaoyu Sun, National Marine Environmental Forecasting Center
- WEP-P23.127: MERGED MSG AND EPS LAND SURFACE ALBEDO PRODUCTS IN THE FRAME OF THE LSA SAF PROJECT: METHOD AND VALIDATION OVER EUROPE** 4525
Jean-Louis Roujean, Dominique Carrer, Gregoire Jacob, Xavier Ceamanos, Suman Moparthy, Météo-France

WEP-P23.128: A NOVEL APPROACH FOR OPTIMAL WEIGHT FACTOR OF DT-CWT COEFFICIENTS FOR LAND COVER CLASSIFICATION USING MODIS DATA	4528
<i>Akanksha Garg, Shashi Vardhan Naidu, Shruti Gupta, Dharmendra Singh, Indian Institute of Technology, Roorkee; Nicolas Brodu, Hussein Yahia, INRIA</i>	
WEP-P23.129: COMPARISON OF HYPERSPECTRAL VEGETATION INDICES BASED ON CASI AIRBORNE DATA	4532
<i>Xiaojun She, Lifu Zhang, Changping Huang, Siheng Wang, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
WEP-P23.130: TEMPORAL-SPATIAL PATTERNS OF LAND USE CHANGE IN COASTAL CHINA FROM 1980'S TO 2010	4535
<i>Minmin Li, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Danny Lo Seen, La recherche agronomique pour le développement; Zengxiang Zhang, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
WEP-P23.132: HYPERSPECTRAL SPECTROSCOPY BASED VEGETATION STRESS DETECTION AROUND PB-ZN-CD ABANDONED MINING SITE IN NORTHERN TUNISIA	4541
<i>Nouha Mezned, Marwen Mechergui, Faten Alayet, Saadi Abdeljaouad, Science Faculty of Tunis</i>	
WEP-P24: LIDAR SYSTEMS AND TECHNIQUES	
WEP-P24.133: TREE POINT CLOUDS REGISTRATION USING AN IMPROVED ICP ALGORITHM BASED ON KD-TREE	4545
<i>Shihua Li, Jingxian Wang, Zuqin Liang, Lian Su, University of Electronic Science and Technology of China</i>	
WEP-P24.134: A LOW COST INDOOR MAPPING ROBOT BASED ON TINYSLAM ALOGRITHM	4549
<i>Zheng Gong, Jonathan Li, Wei Li, Xiamen University</i>	
WEP-P24.136: A GROUND-BASED DIFFERENTIAL ABSORPTION LIDAR FOR ATMOSPERIC CO2 DETECTION	4557
<i>Ge Han, Wuhan University; Miao Zhang, Nanyang Normal University; Xiaohui Cui, Ailin Liang, Gong Wei, Wuhan University</i>	
WEP-P24.137: VIBRATION ESTIMATION OF SYNTHETIC APERTURE LIDAR BASED ON DIVISION OF INNER VIEW FIELD BY TWO DETECTORS ALONG TRACK	4561
<i>Xuan Hu, Science and Technology on Microwave Imaging Key Laboratory, Institute of Electronics, Chinese Academy of Sciences/University of Chinese Academy of Sciences; Daojing Li, Science and Technology on Microwave Imaging Key Laboratory, Institute of Electronics, Chinese Academy of Sciences; Jianbo Du, Meng Ma, Jianwei Zhou, Science and Technology on Microwave Imaging Key Laboratory, Institute of Electronics, Chinese Academy of Sciences/University of Chinese Academy of Sciences</i>	
WEP-P25: OCEAN ALTIMETRY	
WEP-P25.138: A SUB-LOOK ALIGNMENT METHOD FOR SAR ALTIMETER	4565
<i>Lei Wang, Ke Xu, Lingwei Shi, Shuang-Bao Yang, Peng Liu, Xiufen Yu, Key Laboratory of Microwave Remote Sensing, National Space Science Center, Chinese Academy of Sciences</i>	
WEP-P25.139: NEW SATELLITE ALTIMETRY MEASUREMENTS IN CHINA SEAS	4569
<i>Yongcun Cheng, Old Dominion University; Qing Xu, Hohai University; Yuan Zhang, Nanjing University of Information Science and Technology; Shuangshang Zhang, Hohai University</i>	
WEP-P25.140: LONG-TERM VALIDATION OF THE SIGNIFICANT WAVE HEIGHT PRODUCT OF HY-2 ALTIMETER	4573
<i>Chuntao Chen, Yili Zhao, Jianhua Zhu, Xiaoqi Huang, He Wang, Wanlin Zhai, National Ocean Technology Center; Hailong Peng, National Satellite Ocean Application Service</i>	

WEP-P26: OCEAN BIOLOGY AND WATER QUALITY

WEP-P26.141: REMOTE SENSING OBSERVATIONS OF PHYTOPLANKTON BLOOM INDUCED BY AN ANTI-CYCLONIC EDDY 4577

Dawei Li, Institute of Oceanology, Chinese Academy of Sciences

WEP-P26.142: COUPLED PATTERNS BETWEEN THE SURFACE CHLOROPHYLL-A AND THE PHYSICAL FACTORS IN THE PACIFIC OCEAN 4581

Xueyan Hou, Tsinghua University; Qing Dong, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Yang Hong, Di Long, Yaokui Cui, Tsinghua University

WEP-P26.144: GEOMORPHIC ZONES MAPPING AND DEVELOPMENT STATUS MONITORING OF CORAL REEFS IN XISHA, CHINA 4588

Jingping Xu, Fang Li, Jianhua Zhao, Shiyong Wen, National Marine Environmental Monitoring Center

WEP-P26.145: OPTICAL PROPERTIES OF JIAOZHOU BAY AND QINGDAO COAST..... 4592

Liu Xiaoyan, Yang Qian, Zong Fangyi, Institute of Oceanographic Instrumentation of Shandong Academy of Sciences; Chen Shuguo, Hu Lianbo, Ocean University of China

WEP-P26.146: WATER FLOWS, NUTRIENT EXCHANGE AND EXCURSIONS OF FRONTS IN THE STRAITS BETWEEN THE BALTIC SUB-BASINS 4595

Ülo Suursaar, Tiit Kullas, University of Tartu

WEP-P27: OCEAN SURFACE WINDS I

WEP-P27.147: CHARACTERISTICS OF NRCS ON X-BAND SAR UNDER HIGH WINDS TOGETHER WITH RAIN 4599

Weizeng Shao, Zhejiang Ocean University; Xiaoming Li, Chinese Academy of Sciences

WEP-P27.149: WIND AND WAVE UNDER STRONG TROPICAL CYCLONES..... 4607

Xiaobin Yin, Ruanyu Zhang, Xingou Xu, Yingzhu Huang, Zhenzhan Wang, National Space Science Center, Chinese Academy of Sciences

WEP-P27.150: THE EFFECTS OF WAVE BREAKING ON SCATTEROMETER WIND RETRIEVAL4611

Dawei Li, Institute of Oceanology, Chinese Academy of Sciences; Hui Shen, Bedford Institute of Oceanography; Chongguang Pang, Baoshu Yin, Institute of Oceanology, Chinese Academy of Sciences

WEP-P27.151: ASSESSMENT OF THE AZIMUTH WAVELENGTH CUT-OFF DEPENDENCE ON THE OCEAN STATE AND ON THE SURFACE WIND SPEED FOR SENTINEL-1 SAR IMAGES 4615

Giuseppe Grieco, Agenzia Spaziale Italiana; Wenming Lin, Institut de Ciències del Mar (ICM-CSIC); Maurizio Migliaccio, University of Naples Parthenope; Marcos Portabella, Institut de Ciències del Mar

WEP-P28: OCEAN SURFACE WINDS II

WEP-P28.152: SEA SURFACE WIND SPEED INVERSION USING LOW INCIDENT NRCS 4619

Qingliu Bao, Youguang Zhang, Wentao An, Limin Cui, Shuyan Lang, Mingsen Lin, National Satellite Ocean Application Service; Peng Gong, Tsinghua University

WEP-P28.153: UNCERTAINTIES IN DIRECTIONAL OFFSHORE WIND DISTRIBUTION ESTIMATE FROM SATELLITE REMOTE SENSING 4623

Xiaohui Zhu, Xiaofeng Yang, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences

WEP-P28.154: DATA AND PROCESSING OF RFSCAT ONBOARD CFOSAT..... 4627

Xingou Xu, Risheng Yun, Xiaolong Dong, Di Zhu, The CAS Key Laboratory of Microwave Remote Sensing; Shuyan Lang, National Satellite Ocean Application Service

WEP-P28.155: KU-BAND SCATTEROMETER SST SENSITIVITY AND GEOPHYSICAL MODEL FUNCTION	4629
<i>Zhixiong Wang, Ocean University of China; Koninklijk Nederlands Meteorologisch Instituut; Ad Stoffelen, Anton Verhoef, Koninklijk Nederlands Meteorologisch Instituut</i>	
WEP-P28.156: THE EFFECTS OF ENVIRONMENTAL FACTORS ON THE COUPLING COEFFICIENT BETWEEN SST AND ENWF	4633
<i>Hongli Ying, Yunhua Wang, Yanmin Zhang, Ocean University of China</i>	
WEP-P28.157: EXPLORING FOR THE WIND SPEED RETRIEVAL FROM INTERFEROMETRIC IMAGING RADAR ALTIMETER	4637
<i>Lin Ren, Jingsong Yang, Second Institute of Oceanography, State Oceanic Administration; Yunhua Zhang, Wenshuai Zhai, National Space Science Center, Chinese Academy of Sciences; Gang Zheng, Juan Wang, Second Institute of Oceanography, State Oceanic Administration</i>	
 WEP-P29: OCEAN TEMPERATURE AND SALINITY	
WEP-P29.158: CHARACTERISTICS OF SATELLITE-OBSERVED SEA SURFACE SALINITY ERRORS IN THE NORTHWEST PACIFIC OCEAN AND OCEANIC RESPONSES TO TYPHOONS	4641
<i>Jae-Jin Park, Kyung-Ae Park, Jae-Cheol Jang, Seoul National University</i>	
WEP-P29.159: AN EMPIRICAL ALGORITHM FOR RETREIVING SALINITY IN THE ARABIAN GULF: APPLICATION TO LANDSAT-8 DATA	4645
<i>Jun Zhao, Marouane Temimi, Masdar Institute of Science and Technology</i>	
WEP-P29.160: COMPARISON OF DIFFERENT SPATIAL RESOLUTION THERMAL INFRARED DATA IN MONITORING THERMAL PLUME FROM THE HONGYANHE NUCLEAR POWER PLANT	4649
<i>Xiang Wang, Xin-xin Wang, Jianchao Fan, Shiyong Wen, Jianhua Zhao, Xiu Su, National Marine Environmental Monitoring Center</i>	
WEP-P29.161: EFFECT OF EMISSIVITY ON SHIPBOARD SEA SURFACE SKIN TEMPERATURE MEASUREMENTS	4653
<i>Minglun Yang, Lei Guan, Kailin Zhang, Liqin Qu, Ocean University of China</i>	
 WEP-P30: OCEAN WAVES AND CURRENTS	
WEP-P30.162: A GLOBAL DISTRIBUTION OF CROSSING SWELL FROM ENVISAT ASAR WAVE MODE DATA BASED ON SWELL PROPAGATION	4657
<i>He Wang, National Ocean Technology Center; Alexis Mouche, Institut Francais pour la Recherche et l'Exploitation de la Mer; Romain Husson, Collecte Localisation Satellites; Bertrand Chapron, Institut Francais pour la Recherche et l'Exploitation de la Mer; Haoyu Jiang, Ocean University of China</i>	
WEP-P30.163: THE INVERSION OF THE NON-GAUSSIAN SLOPES PROBABILITY DENSITY FUNCTION OF THE OCEAN WAVES BY KUROS RADAR MEASUREMENTS	4661
<i>Liye Wang, Huazhong University of Science and Technology; Danièle Hauser, Université de Versailles Saint-Quentin-en-Yvelines; Ping Chen, Huazhong University of Science and Technology</i>	
WEP-P30.164: SAR BASED SEA CURRENT ESTIMATION IN THE NAPLES COASTAL AREA	4665
<i>Virginia Zamparelli, Institute for Electromagnetic Sensing of the Environment, National Research Council; Giuseppe Jackson, Institute for Electromagnetic Sensing of the Environment, National Research Council / University of Naples "Parthenope"; Andrea Cucco, Institute for Marine and Coastal Environment - National Research Council; Gianfranco Fornaro, Institute for Electromagnetic Sensing of the Environment, National Research Council; Stefano Zecchetto, Institute of Atmospheric Sciences and Climate - National Research Council</i>	

WEP-P30.166: SAR IMAGING AND NUMERICAL SIMULATION OF UPWELLING PROCESSES	4672
NEAR THE COASTAL AREA OF QINGDAO IN CHINA	
<i>Len Pietrafesa, Shaowu Bao, Coastal Carolina University; Xiaofeng Li, Zizang Yang, National Oceanic and Atmospheric Administration; Dongliang Shen, Shanghai Ocean University; Weizhong Zheng, National Oceanic and Atmospheric Administration</i>	
WEP-P30.167: ASSESSMENT OF SATELLITE AND GROUND-BASED ESTIMATES OF SURFACE	4675
CURRENTS	
<i>Gisela K. Carvajal, Monika Wozniak, Chalmers University of Technology; Céline Heuzé, University of Gothenburg; Leif E. B. Eriksson, Chalmers University of Technology; Johan Kronsell, Swedish Meteorological and Hydrological Institute; Bengt Rydberg, Moller Data Workflow Systems AB</i>	
 WEP-P31: PHYSICAL INFORMATION EXTRACTION IN SAR POLARIMETRY	
WEP-P31.168: UNIFIED PHENOMENOLOGICAL DECOMPOSITION OF RADAR TARGETS	4679
<i>Dong Li, Yunhua Zhang, National Space Science Center, Chinese Academy of Sciences</i>	
WEP-P31.169: POLARIMETRIC FEATURES ANALYSIS OF OIL SPILLS IN C-BAND AND	4683
L-BAND SAR IMAGES	
<i>Honglei Zheng, Yanmin Zhang, Yunhua Wang, Ocean University of China</i>	
WEP-P31.170: POLARIMETRIC PROPERTIES OF MICROWAVE BISTATIC SCATTERING	4687
FROM A LAYERED SASTRUGI SURFACE	
<i>Kun-Shan Chen, Xu Peng, Yu Liu, Chinese Academy of Sciences</i>	
WEP-P31.171: WASTEWATER PLUME DETECTION BASED ON POLSAR IMAGES	4691
<i>Ying Deng, Hong Zhang, Chao Wang, Lei Liu, Meng Liu, Institute of Remote Sensing and Digital Earth, Chinese Academ</i>	
 WEP-P32: POL AND POLINSAR III	
WEP-P32.173: TREE HEIGHT ESTIMATION AT PLATEAU MOUNTAINS, NORTHWESTERN	4698
SICHUAN, CHINA USING DUAL POL-INSAR DATA	
<i>Huimin Li, Yong Wang, Xuelian Luo, University of Electronic Science and Technology of China</i>	
WEP-P32.174: TEMPORAL ANALYSIS OF POLINSAR BASED FOREST HEIGHT INVERSION	4702
FOR TECTONA GRANDIS AND EUCALYPTUS PLANTATIONS	
<i>Unmesh Khati, Gulab Singh, Indian Institute of Technology, Bombay</i>	
WEP-P32.175: THE CLASSIFICATION RESULTS INTERPRETATION FOR COMPACT SAR DATA	4706
BASED ON PARTIAL POLARIZATION DECOMPOSITION	
<i>Wangfei Zhang, Yongjie Ji, Leiguang Wang, Southwest Forestry University; Wenmei Li, Nanjing University of Posts and Telecommunications; Longhua Yu, Southwest Forestry University</i>	
WEP-P32.176: LAND COVER CLASSIFICATION USING RADIOMETRIC-TERRAIN-CALIBRATED	4710
POLARIMETRIC SAR IMAGES	
<i>Jinyan Xu, State Oceanic Administration; Mingsheng Liao, Lu Zhang, Xinwei Yang, Wuhan University</i>	
WEP-P32.177: UNSUPERVISED CLASSIFICATION OF THE WEAK BACKSCATTERING	4714
SCATTERERS BY THE USE OF POLSAR IMAGERY	
<i>Lingli Zhao, Jie Yang, Pingxiang Li, Lei Shi, Wuhan University; Jinyan Xu, State Oceanic Administration</i>	
WEP-P32.178: URBAN LAND COVER CHANGE TYPES IDENTIFICATION USING FULLY	4718
POLARIMETRIC SAR DESCRIPTORS	
<i>Lei Xie, Hong Zhang, Chao Wang, Institute of Remote Sensing and Digital Earth, Chinese Academ</i>	

WEP-P33: POL AND POLINSAR IV

WEP-P33.179: STUDY ON THE IMPACT OF POLARIMETRIC CALIBRATION ERRORS ON TERRAIN CLASSIFICATION WITH POLINSAR 4722

Liying Xu, Wei Li, Lei Cui, Qingwei Tong, Junli Chen, Shanghai Institute of Satellite Engineering

WEP-P33.180: ADAPTIVE MODEL-BASED POLARIMETRIC DECOMPOSITION USING CORRELATION COEFFICIENT 4726

Houda Latrache, Mounira Ouarzeddine, Boularbah Souissi, USTHB

WEP-P33.181: A NOVEL INTERPRETATION OF THE POLSAR COHERENCY MATRIX DATA 4730

Feiya Zhu, Yunhua Zhang, Dong Li, National Space Science Center, Chinese Academy of Sciences

WEP-P33.182: STATISTICAL ANALYSIS OF SEA CLUTTER ACQUIRED BY QUAD-POL COHERENT X-BAND RADAR 4734

Yunhua Wang, Qun Li, Yanmin Zhang, Ocean University of China

WEP-P33.183: AN AUTOMATIC K-WISHART DISTRIBUTION SHIP DETECTOR FOR POLSAR DATA 4738

Weiwei Fan, Feng Zhou, Mingliang Tao, Xueru Bai, Xidian University

WEP-P33.184: METRIC LEARNING BASED COLLAPSED BUILDING EXTRACTION FROM POST-EARTHQUAKE POLSAR IMAGERY 4742

Hao Dong, Xin Xu, Rong Gui, Chao Song, Haigang Sui, Wuhan University

WEP-P34: POL AND POLINSAR V

WEP-P34.185: A NEW FORMULATION FOR POLSAR INCOHERENT TARGET DECOMPOSITION 4746

Feng Xu, Qian Song, Fudan University

WEP-P34.186: MULTITEMPORAL MULTIDIMENSIONAL SPECKLE FILTERING OF POLSAR IMAGES 4749

Maryam Salehi, Ali Mohammadzadeh, Yasser Maghsoudi, Faculty of Geodesy and Geomatics Engineering, K.N. Toosi University of Technology

WEP-P34.187: FARADAY ROTATION CORRECTION AND TOTAL ELECTRON CONTENT ESTIMATION USING ALOS-2/PALSAR-2 FULL POLARIMETRIC SAR DATA 4753

Shradha Mohanty, Gulab Singh, Indian Institute of Technology, Bombay; Yoshio Yamaguchi, Niigata University

WEP-P34.188: ANALYSIS OF FULL AND HYBRID POLARIMETRIC BASED DESCRIPTORS FOR DIFFERENT LAND FEATURES 4757

Vineet Kumar, Y. S. Rao, Indian Institute of Technology, Bombay

WEP-P34.189: LEARNING TASK-DRIVEN POLARIMETRIC TARGET DECOMPOSITION: A NEW PERSPECTIVE 4761

Zaidao Wen, Biao Hou, Shuang Wang, Licheng Jiao, Xidian University

WEP-P35: RADAR REMOTE SENSING MISSIONS I

WEP-P35.190: REFLECTIVITY CALIBRATION FOR X-BAND SOLID-STATE RADAR WITH METAL SPHERE 4765

Zhaoming Li, Hongbin Chen, Shu Duan, Yongheng Bi, Hengchi Lei, Yue Lai, Haijun Wu, Dongyang Li, Institute of Atmospheric Physics, Chinese Academy of Sciences

WEP-P35.191: EVALUATION OF RESOLUTION OF GEO-SAR IMAGES BASED ON GEOMETRIC CORRECTION 4769

Yukun Guo, Ze Yu, Jingwen Li, Beihang University

WEP-P35.192: PRELIMINARY RESULTS OF THE RETRIEVAL OF THE MEAN SQUARE SLOPES OF THE LARGE-SCALE SEA WAVES BY THE DUAL-FREQUENCY PRECIPITATION RADAR	4772
<i>Vladimir Karaev, Mariya Panfilova, Yury Titchenko, Eugeny Meshkov, Galina Balandina, Institute of Applied Physics RAS</i>	
WEP-P35.193: DATA PRE-PROCESSING OF MICAP (MICROWAVE IMAGER COMBINED ACTIVE AND PASSIVE) SCATTEROMETER	4776
<i>Xingou Xu, Risheng Yun, Xiaolong Dong, Di Zhu, Xiaobin Yin, Hao Liu, The CAS Key Laboratory of Microwave Remote Sensing</i>	
WEP-P35.194: STUDY ON ECHO SIMULATIONS OF SPACEBORNE MILLIMETER-WAVE CLOUD PROFILE RADAR	4780
<i>Kai Cui, Dandan Zhang, Xichao Dong, Beijing Institute of Technology; Mingming Bian, China Academy of Space Technology</i>	
 WEP-P36: RADAR REMOTE SENSING MISSIONS II	
WEP-P36.195: DECONVOLUTION METHOD FOR RESOLUTION ENHANCEMENT OF DUAL-FREQUENCY POLARIZED SCATTEROMETER	4784
<i>Liling Liu, Xiaolong Dong, National Space Science Center, Chinese Academy of Sciences; Jintai Zhu, DFH Satellite co., Ltd; Di Zhu, National Space Science Center, Chinese Academy of Sciences</i>	
WEP-P36.196: RADIOMETRIC CALIBRATION BASED ON ANTENNA MODEL	4788
<i>Jiwen Geng, Na Pu, Ze Yu, Peng Lin, Chunsheng Li, Beihang University</i>	
WEP-P36.197: DEPLOYMENT RESEARCH OF MULTI-TETHERED INSAR SYSTEM FOR GMTI MISSION	4792
<i>Jinxiu Zhang, Zhigang Zhang, Harbin Institute of Technology</i>	
WEP-P36.198: PHASE DIFFERENCE MEASUREMENT OF UNDERSAMPLED SINUSOIDAL SIGNALS BASED ON COHERENT ACCUMULATION AND DFT	4796
<i>Zhihui Yuan, Lifu Chen, Changsha University of Science and Technology; Haisheng Xu, Tsinghua University; Xuemin Xing, Changsha University of Science and Technology</i>	
WEP-P36.200: A NEW BROADBAND REFLECTARRAY ANTENNA USING NOVEL SINGLE-LAYER ELEMENTS	4803
<i>Fei Xue, National Space Science Center, Chinese Academy of Sciences / University of Chinese Academy of Sciences; Hongjian Wang, Min Yi, National Space Science Center, Chinese Academy of Sciences</i>	
 WEP-P37: RECENT ADVANCES IN GNSS-R	
WEP-P37.201: TECHDEMOSAT-1 DDM DECONVOLUTION TO RETRIEVE THE NRCS FIELD IN A GRIDDED FORMAT	4807
<i>Domenico Schiavulli, CNRS and GET Observatoire Midi Pyrenees; Frédéric Frappart, Guillaume Ramillien, Jose Darrozes, GET Observatoire Midi Pyrenees; Ferdinando Nunziata, Maurizio Migliaccio, Università degli studi di Napoli</i>	
WEP-P37.202: ASSESSMENT OF DME/TACAN RFI MITIGATION TECHNIQUES IN GNSS-R	4811
<i>Raül Onrubia, Jorge Querol, Daniel Pascual, Hyuk Park, Alberto Alonso-Arroyo, Adriano Camps, Universitat Politècnica de Catalunya</i>	
WEP-P37.203: UNIFIED GNSS-R FORMULATION INCLUDING COHERENT AND INCOHERENT SCATTERING COMPONENTS	4815
<i>Hugo Carreno-Luengo, Adriano Camps, UPC</i>	
WEP-P37.204: USING GPS SNR DATA TO ESTIMATE SOIL MOISTURE VARIATIONS: PROPOSING A NEW INTERFERENCE MODEL	4819
<i>Xuefeng Peng, Peking University; Wei Wan, Tsinghua University; Xiuwan Chen, Peking University</i>	

WEP-P37.205: TSUNAMI DETECTION BASED ON NOISY SEA SURFACE HEIGHT MEASUREMENT	4823
<i>Kegen Yu, Wuhan University</i>	
WEP-P37.206: AN INTEGRATED GNSS REMOTE SENSING INSTRUMENT AND ITS FIRST GNSS-R AIRBORNE EXPERIMENT	4827
<i>Xianyi Wang, Yueqiang Sun, Qifei Du, Dongwei Wang, Di Wu, Yuerong Cai, Chunjun Wu, Weihua Bai, Junming Xia, Wei Li, National Space Science Center, Chinese Academy of Sciences</i>	
WEP-P37.207: GREEPS: AN GNSS-R END-TO-END PERFORMANCE SIMULATOR	4831
<i>Weihua Bai, Junming Xia, Danyang Zhao, Yueqiang Sun, Xiangguang Meng, Congliang Liu, Qifei Du, Xianyi Wang, Dongwei Wang, Di Wu, Chunjun Wu, Cheng Liu, Yuerong Cai, National Space Science Center; Chinese Academy of Sciences</i>	
 WEP-P38: SEA ICE I	
WEP-P38.208: NEURAL NETWORK BASED AUTOMATIC SEA ICE CLASSIFICATION FOR CL-POL RISAT-1 IMAGERY	4835
<i>Rudolf Ressel, Suman Singha, Susanne Lehner, German Aerospace Center (DLR)</i>	
WEP-P38.209: BOHAI SEA ICE THICKNESS ESTIMATION BASED ON THERMODYNAMIC ICE MODEL AND EARTH OBSERVATION DATA	4839
<i>Lijian Shi, Juha Karvonen, National Satellite Ocean Application Service; Bin Cheng, Marko Makynen, Tao Zeng, Finnish Meteorological Institute; Bin Zou, National Satellite Ocean Application Service</i>	
WEP-P38.211: NUMERICAL SIMULATION OF MICROWAVE SCATTERING FROM SEA ICE BASED ON THE FINITE ELEMENT METHOD	4846
<i>Xu Xu, Anthony Paul Doulgeris, Frank Melandsø, Camilla Brekke, UiT The Arctic University of Norway</i>	
WEP-P38.212: BACKSCATTERING CHARACTERISTICS OF ICE ON LAKE SAROMA OBSERVED BY PALSAR-2 AND PI-SAR-2L	4850
<i>Hiroyuki Wakabayashi, Nihon University</i>	
WEP-P38.213: NEW ICE FORMATION IN THE OKHOTSK SEA AND THE JAPAN SEA FROM C- AND L-BAND SATELLITE SARS	4853
<i>Leonid Mitnik, Vyacheslav Dubina, Elena Khazanova, V.I. Il'ichev Pacific Oceanological Institute, Far Eastern Branch, Russian Academy of Sciences</i>	
 WEP-P39: SEA ICE II	
WEP-P39.214: SEA ICE THICKNESS RETRIEVAL WITH MODIS THERMAL INFRARED DATA OVER THE LIAODONG BAY DURING WINTER 2012-2013	4857
<i>Lijian Shi, Tao Zeng, National Satellite Ocean Application Service; Marko Makynen, Bin Cheng, Finnish Meteorological Institute</i>	
WEP-P39.215: DISCUSSION ON SEA ICE SEGMENTATION OF HIGH RESOLUTION RADAR DATA	4861
<i>Xiaoyan Dang, Key Laboratory of East China Sea and Oceanic Fishery Resources Exploitation and Utilization; Shanghai Ocean University; Yumei Wu, Wei Fan, Shengmao Zhang, Key Laboratory of East China Sea & Oceanic Fishery Resources Exploitation and Utilization</i>	
WEP-P39.216: AN APPROACH TO DISCRIMINATION OF SEA ICE FROM OPEN WATER USING SAR DATA	4865
<i>Huiying Liu, Huadong Guo, Xiaoming Li, Lu Zhang, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
WEP-P39.217: SENSITIVITY ANALYSIS OF THE LONG-TERM TREND IN ANTARCTIC SEA ICE EXTENT	4868
<i>Lei Xu, Xi Zhao, Xiaoping Pang, Wuhan University; Alfred Stein, Twente University; Qing Ji, Wuhan University</i>	

WEP-P39.218: DETECTION OF SEA ICE BASED ON BEIDOU-REFLECTED SIGNALS..... 4872
Hongxing Gao, Dongkai Yang, Weiqiang Li, Qiang Wang, Feng Wang, Beihang University; Cong Yin, China Meteorological Administration

WEP-P40: SNOW COVER AND FROZEN/THAW

WEP-P40.219: IMPROVEMENT OF LONG-TERM SNOW DEPTH PRODUCT ACCURACY 4876
FROM PASSIVE MICROWAVE SATELLITE OBSERVATIONS : A CASE STUDY WITH SNODAS DATA

Xiaojing Liu, Lingmei Jiang, Gongxue Wang, Shirui Hao, Beijing Normal University

WEP-P40.220: HYDROLOGICAL APPLICATIONS OF SUPER RESOLUTION SWE 4880
PROCESSING SYSTEM OVER EUROPE

Matias Takala, Jaakko Ikonen, Kari Luojus, Juha Lemmetyinen, Finnish Meteorological Institute; Sari Metsämäki, Finnish Environment Institute SYKE; Jouni Pulliainen, Juval Cohen, Ali Arslan, Finnish Meteorological Institute

WEP-P40.221: CONSIDERATION OF VARIABLE ATMOSPHERIC TRANSMISSIVITY IN 4882
PASSIVE MICROWAVE SNOWPACK RETRIEVALS OVER TIBETAN PLATEAU

Yubao Qiu, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Juha Lemmetyinen, Arctic Research Centre, Finnish Meteorological Institute; Huadong Guo, Lijuan Shi, Jiancheng Shi, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences

WEP-P40.222: LAND SURFACE TEMPERATURE RETRIEVAL USING AMSR-E DATA IN THE 4886
CENTRAL TIBETAN PLATEAU

Yi Tang, Sichuan University; Yonghong Yi, The University of Montana; Wenjiang Zhang, Sichuan University

WEP-P40.223: HIGH-LATITUDE FREEZE AND THAW STATES DETECTION USING 4890
SATELLITE-BASED MICROWAVE LAND SURFACE EMISSIVITY ESTIMATES

Hamidreza Norouzi, Satya Prakash, New York City College of Technology, CUNY; Marzi Azarderakhsh, Fairleigh Dickinson University; Reginald Blake, New York City College of Technology, CUNY; Christian Campo, The City College of New York

WEP-P40.224: AUTOMATIC CHAMBER MEASUREMENTS OF NET ECOSYSTEM (CO₂) 4894
EXCHANGE AT A SUBARCTIC MIRE IN NORTHERN SWEDEN

Ryan Lawrence, University of New Hampshire; Maeah Walthall, George Mason University; Linda Hayden, Elizabeth City State University; Xavier Parker-Smith, North Carolina A&T State University

WEP-P41: SNOW COVER II

WEP-P41.225: VALIDATION OF THE ANTARCTIC SNOW ACCUMULATION AND ICE 4897
DISCHARGE BASAL STRESS BOUNDARY OF THE SOUTHEASTERN REGION OF THE ROSS ICE SHELF, ANTARCTICA

Kamberlin King, Mississippi Valley State University; Charlie Nelson, Kentucky State University; Ayanna Overton, North Carolina A & T State University; Michael Jefferson, Linda Hayden, Elizabeth City State University

WEP-P41.226: A METHOD FOR COMPOSITING MODIS IMAGES TO REMOVE CLOUD 4901
COVER OVER HIMALAYAS FOR SNOW COVER MAPPING

Mohammed Abdul Athick Abdul Subhan, Hasan Raja Naqvi, Adama Science & Technology University

WEP-P41.227: APPLICATION OF SNOWMELT RUNOFF MODEL (SRM) IN UPPER 4905
SONGHUANJIANG BASIN USING MODIS REMOTE SENSING DATA

Qian Yang, Jilin Jianzhu University; Shengbo Chen, Jilin University; Hongjie Xie, The University of Texas at San Antonio; Xiaohua Hao, Chinese academy of science; Wenchun Zhang, Jilin Jianzhu University

WEP-P41.228: ACCURACY ANALYSIS FOR AN IMPROVED DAILY CLOUD-FREE SNOW 4909
COVER PRODUCT ON TIBETAN PLATEAU

Wei Wang, Institute of Arid Meteorology, China Meteorological Administration; Xiaodong Huang, Renping Zhang, Lanzhou University; Yaohui Li, Institute of Arid Meteorology, China Meteorological Administration

WEP-P41.229: CLOUD REMOVAL FOR MODIS FRACTIONAL SNOW COVER PRODUCTS BY SIMILAR PIXEL REPLACEMENT GUILD WITH MODIFIED NON-DOMINATED SORTING GENETIC ALGORITHM	4913
<i>Jinliang Hou, Chunlin Huang, CAREERI,CAS</i>	
WEP-P41.230: A MULTILAYER SOIL TEXTURE DATASET FOR PERMAFROST MODELING OVER QINGHAI-TIBETAN PLATEAU	4917
<i>Xiaobo Wu, University of Chinese Academy of Sciences; Zhuotong Nan, School of Geography Science, Nanjing Normal University</i>	
 WEP-P42: SNOW COVER III	
WEP-P42.231: DETECTION OF TERRESTRIAL SNOWMELT OF CHINA BASED ON QUIKSCAT	4921
<i>Yurong Cui, Chuan Xiong, Jiancheng Shi, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Lingmei Jiang, State Key Laboratory of Remote Sensing Science, Beijing Normal University; Bing Peng, Tongxi Hu, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
WEP-P42.232: DAILY CLOUD FREE SNOW COVER MAPPING OVER CENTRAL ASIA AND XINJIANG PROVINCE OF CHINA	4924
<i>Yubao Qiu, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Xiaoqi Yu, Liaoning Technical University; Huadong Guo, Lijuan Shi, Huan Zhang, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
WEP-P42.233: IMPROVED SNOW COVER MONITORING METHOD BASED ON HJ-1B INFRARED DATA	4928
<i>Qingqing Huang, Yu Meng, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Jiancheng Li, China Highway Engineering Consulting Corporation; Anzhi Yue, Jiansheng Chen, Xiaoyi Liu, Lei Lin, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
WEP-P42.234: RETRIEVING SOIL MOISTURE AND TEMPERATURE USING SMOS OBSERVATIONS AT A TEST SITE IN THE YAMAL PENINSULAR	4932
<i>Konstantin Muzalevskiy, Mikhail Mikhailov, Valery Mironov, Zdenek Ruzicka, Kirensky Institute of Physics SB RAS</i>	
WEP-P42.235: MONITORING SNOW DEPTH AND ITS CHANGE USING REPEAT-PASS INTERFEROMETRIC SAR IN MANAS RIVER BASIN	4936
<i>Hui Li, Xiamen University of Technology; Pengfeng Xiao, Xuezhi Feng, Nanjing University; Guangjun He, Space Star Technology Corporation limited; Zuo Wang, Anhui Normal University</i>	
WEP-P42.236: SNOW RECOGNITION IN MOUNTAIN AREAS BASED ON SAR AND OPTICAL REMOTE SENSING DATA	4940
<i>He Guangjun, Yan Hao, State Key Laboratory of Space-Ground Integrated Information Technology, Space Star Technology Corporation limited, China Academy of Space Technology; Pengfeng Xiao, Xuezhi Feng, Nanjing University; Hui Li, Zuo Wang, College of Territorial Resources and Tourism, Anhui Normal University</i>	
 WEP-P43: SUBSIDENCE AND LANDSLIP	
WEP-P43.237: MICRO-UAV BASED REMOTE SENSING METHOD FOR MONITORING LANDSLIDES IN THREE GORGES RESERVOIR, CHINA	4944
<i>Haiyu Lin, Haifeng Huang, Yiming Lv, Xiaofei Du, Wu Yi, China Three Gorges University</i>	
WEP-P43.239: A METHOD FOR LANDSLIDE SUSCEPTIBILITY ASSESSMENT INTEGRATING ROUGH SET AND DECISION TREE: A CASE STUDY IN BEICHUAN, CHINA	4952
<i>Zhi Wen, Binbin He, Dasong Xu, Qian Feng, University of Electronic Science and Technology of China</i>	
WEP-P43.240: DETECTION OF LAND SUBSIDENCE IN THE AREA OF INTENSIVE OIL PRODUCTION BY ALOS PALSAR DATA	4956
<i>Yusupujiang Aimaiti, Alimujiang Kasimu, Yashengjiang Maimaitiyiming, Xinjiang Normal University</i>	

WEP-P43.241: SIMULTANEOUS ESTIMATION OF BUILDING HEIGHT AND GROUND 4960
DEFORMATION OVER XI'AN CITY, CHINA USING MULTI-TEMPORAL INSAR METHOD
Feifei Qu, Qin Zhang, Chaoying Zhao, Chang'an University; Zhong Lu, Southern Methodist University; Juqing Zhang, Jing Zhang, Chang'an University

WEP-P44: THEORETICAL ASPECTS OF SAR POLARIMETRY

WEP-P44.242: POLARIMETRIC SAR IMAGE CLASSIFICATION BASED ON SELECTIVE 4964
ENSEMBLE LEARNING OF SPARSE REPRESENTATION
Cuijuan Han, Lamei Zhang, Xiao Wang, Harbin Institute of Technology

WEP-P44.244: FRACTAL POLARIZATION SIGNATURE OF RADAR BACKSCATTERING 4972
VARIATIONS
Aleksey Dmitriev, Tumen Chimitdorzhiev, Pavel Dagurov, Institute of Physical Materials Science of Siberian Branch of Russian Academy of Science

WEP-P44.245: POLARIMETRIC SAR IMAGES CLASSIFICATION BASED ON L DISTRIBUTION 4976
AND SPATIAL CONTEXT
Qiao Xu, Qihao Chen, Xiaoli Xing, Shuai Yang, Xiuguo Liu, China University of Geosciences

WEP-P44.246: EVALUATION OF ENTROPY/ALPHA/ANISOTROPY BASED ON ADAPTIVE 4980
COHERENCY MATRIX ESTIMATION
Shuai Yang, Qihao Chen, China University of Geosciences; Xiaohui Yuan, University of North Texas; Qiao Xu, Xiuguo Liu, China University of Geosciences

WEP-P44.247: ESA'S ACTIVITIES FOR THE DEVELOPMENT AND EXPLOITATION OF 4984
POLARIMETRIC SAR MISSIONS
Yves-Louis Desnos, Malcolm Davidson, Klaus Scipal, European Space Agency

TH1-L1: SAR IMAGING TECHNIQUES III

TH1-L1.1: A MODIFIED NOTCH FILTER FOR SUPPRESSING 4988
RADIO-FREQUENCY-INTERFERENCE IN P-BAND SAR DATA
Peng Wu, Lin Yang, Yongsheng Zhang, Zhen Dong, National University of Defense Technology; Min Wang, Chinese Academy of Sciences; Siyao Du, National University of Defense Technology

TH1-L1.2: ADAPTIVE NOISE DEPRESSION CS-ISAR IMAGING VIA OMP WITH CFAR 4992
THRESHOLDING
Hong Xia Bu, Hebei Normal University; Xia Bai, Juan Zhao, Beijing Institute of Technology; Yu E Song, Beijing Polytechnic College; Ruo Ying Yan, Hebei Normal University

TH1-L1.3: DECEPTIVE JAMMING SUPPRESSION FOR SAR BASED ON TIME-VARYING 4996
INITIAL PHASE
Qingqing Feng, Huaping Xu, Zhefeng Wu, Bing Sun, Beihang University

TH1-L1.4: 3-D INFORMATION OF A SPACE TARGET RETRIEVED FROM A SEQUENCE OF 5000
HIGH-RESOLUTION 2-D ISAR IMAGES
Feng Wang, Feng Xu, Ya-Qiu Jin, Fudan University

TH1-L1.5: CLUSTERING-BASED SAR IMAGE DENOISING BY SPARSE REPRESENTATION 5003
WITH KSVD
Yunshu Zhang, Kefeng Ji, Zhipeng Deng, Shilin Zhou, Huanxin Zou, College of Electronic Science and Engineering, National University of Defense Technology

TH2-L1: SAR IMAGING TECHNIQUES IV

TH2-L1.1: SUBPIXEL GEOCODING OF COSMO-SKYMED AND SENTINEL-1 TIME SERIES 5007 IMAGED WITH DIFFERENT GEOMETRY

Marco Gianinetto, Vito Monno, Luigi Barazzetti, Politecnico di Milano; Luigi Dini, Maria Girolamo Daraio, Italian Space Agency; Francesco Rota Nodari, Politecnico di Milano

TH2-L1.2: GEODETIC STEREO SAR WITH SMALL MULTI-DIRECTIONAL RADAR5011 REFLECTORS

Martin Willberg, Christoph Gisinger, Technische Universität München; Ulrich Balss, Thomas Fritz, Michael Eineder, German Aerospace Center (DLR)

TH2-L1.3: USING AN ACTIVE CONTOUR METHOD TO DETECT BILGE DUMPS FROM SAR 5015 IMAGERY

Lizwe Mdakane, University of Pretoria; Waldo Kleynhans, Colin Peter Schwegmann, The Council for Scientific and Industrial Research (CSIR)

TH2-L1.4: ENHANCED PROCESSING OF SENTINEL-1 TOPSAR DATA..... 5019

Davide Giudici, Simone Mancon, ARESYS S.r.l.; Andrea Monti-Guarnieri, Politecnico di Milano; Riccardo Piantanida, Giorgio Prandi, ARESYS S.r.l.; Lisa Recchia, Politecnico di Milano; Andrea Recchia, ARESYS S.r.l.

TH2-L1.5: AUTOMATED EXTRACTION OF 3-D GROUND CONTROL POINTS FROM SAR 5023 IMAGES - AN UPCOMING NOVEL DATA PRODUCT

Ulrich Balss, Hartmut Runge, Steffen Suchandt, German Aerospace Center (DLR); Xiao Ying Cong, Technische Universität München

TH3-L1: SAR IMAGING TECHNIQUES V

TH3-L1.1: A NOVEL IMAGING METHOD FOR AIRBORNE DOWNWARD-LOOKING 3D 5027 MIMO-SAR BASED ON COMPRESSED SENSING

Tao-yong Li, Qun Zhang, Institute of Information and Navigation, Air Force Engineering University; Kai Wang, Department of Scientific Research, Air Force Engineering University; Fu-fei Gu, Institute of Information and Navigation, Air Force Engineering University

TH3-L1.2: HIGH-RESOLUTION 3-D IMAGING OF MICROMOTION TARGETS FROM RID 5031 IMAGE SERIES

Xueru Bai, Yongguo Li, Ping Huang, Xidian University

TH3-L1.3: A COMPRESSIVE SENSING APPROACH FOR SKEW-VIEW SAR IMAGING 5035

Xiao-Chun Xie, Gannan Normal University; Lingjuan Yu, Jiangxi University of Science and Technology

TH3-L1.4: SAR MOVING TARGET IMAGING AND VELOCITY ESTIMATION METHOD USING 5039 GENETIC ALGORITHM

Zhongyu Li, Junjie Wu, Zhichao Sun, Yulin Huang, Haiguang Yang, Jianyu Yang, University of Electronic Science and Technology of China

TH3-L1.5: FOCUSING AND COMPENSATION METHODS FOR PHYSICAL SCATTERING IN 5043 SUBSPACE-BASED IMAGING

Jon Mitchell, Saibun Tjuatja, Jonathan Bredow, The University of Texas at Arlington

TH4-L1: SAR IMAGING TECHNIQUES VI

TH4-L1.1: TRANSMITTER LEAKAGE CANCELING FOR LFMCW SAR 5047

Xiaojiang Guo, Yesheng Gao, Kaizhi Wang, Xingzhao Liu, Qianrong Lu, Shanghai Jiao Tong University

TH4-L1.2: ANALYSIS OF EFFECTS OF TIME VARIANT TROPOSPHERE ON 5051 GEOSYNCHRONOUS SAR IMAGING

Ye Tian, Cheng Hu, Xichao Dong, Tao Zeng, Beijing Institute of Technology

TH4-L1.3: SPECTRUM ANALYSIS OF SAR IMAGE IN POLAR GRID SYSTEM FOR BACK PROJECTION ALGORITHM	5055
<i>Song Zhou, Lei Yang, Lifan Zhao, Guoan Bi, School of Electrical and Electronic Engineering, Nanyang Technological University</i>	
TH4-L1.4: ACCURATE RANGE MODEL BASED ON EQUIVALENT MIDPOINT FOR GEOSYNCHRONOUS SAR	5059
<i>Ping Guo, Shiyang Tang, Nan Liu, Yu Zhou, Linrang Zhang, Gaogao Liu, Yan Zhang, Xidian University</i>	
TH4-L1.5: NEAR-FIELD CROSS SECTION IMAGING BASED ON 2-D NUFFT FOR MILLIMETER WAVE	5063
<i>Yingzhi Kan, Yongfeng Zhu, Liang Tang, National University of Defense Technology; Hongzhong Zhao, Equipment Command College</i>	
 TH1-L2: NEURAL NETWORK BASED CLASSIFICATION	
TH1-L2.1: INTEGRATING SPECTRAL AND SPATIAL INFORMATION INTO DEEP CONVOLUTIONAL NEURAL NETWORKS FOR HYPERSPECTRAL CLASSIFICATION	5067
<i>Shaohui Mei, Jingyu Ji, Qianqian Bi, Northwestern Polytechnical University; Junhui Hou, Nanyang Technological University; Qian Du, Mississippi State University; Wei Li, Beijing University of Chemical Technology</i>	
TH1-L2.2: FULLY CONVOLUTIONAL NEURAL NETWORKS FOR REMOTE SENSING IMAGE CLASSIFICATION	5071
<i>Emmanuel Maggiori, Yuliya Tarabalka, Inria Sophia Antipolis - Méditerranée; Guillaume Charpiat, Inria Saclay; Pierre Alliez, Inria Sophia Antipolis - Méditerranée</i>	
TH1-L2.3: CONVOLUTIONAL NEURAL NETWORK BASED CLASSIFICATION FOR HYPERSPECTRAL DATA	5075
<i>Peiyuan Jia, Miao Zhang, Wenbo Yu, Harbin Institute of Technology; Fei Shen, Shanghai Institute of Spaceflight Control Technology; Yi Shen, Harbin Institute of Technology</i>	
TH1-L2.4: HYPERSPECTRAL IMAGE CLASSIFICATION USING TWO-CHANNEL DEEP CONVOLUTIONAL NEURAL NETWORK	5079
<i>Jingxiang Yang, Yongqiang Zhao, Northwestern Polytechnical University; Jonathan Cheung-Wai Chan, Vrije Universiteit Brussel; Chen Yi, Northwestern Polytechnical University</i>	
TH1-L2.5: MULTILABEL CLASSIFICATION OF UAV IMAGES WITH CONVOLUTIONAL NEURAL NETWORKS	5083
<i>Abdallah Zeggada, Farid Melgani, University of Trento</i>	
 TH2-L2: REGION BASED IMAGE CLASSIFICATION	
TH2-L2.1: REGION-BASED CLASSIFICATION OF REMOTE SENSING IMAGES WITH THE MORPHOLOGICAL TREE OF SHAPES	5087
<i>Gabriele Cavallaro, University of Iceland; Mauro Dalla Mura, Grenoble Institute of Technology; Edwin Carlinet, Thierry Géraud, EPITA; Nicola Falco, Jón Atli Benediktsson, University of Iceland</i>	
TH2-L2.2: HOW USEFUL IS REGION-BASED CLASSIFICATION OF REMOTE SENSING IMAGES IN A DEEP LEARNING FRAMEWORK ?	5091
<i>Nicolas Audebert, Bertrand Le Saux, ONERA; Sébastien Lefèvre, Université Bretagne-Sud</i>	
TH2-L2.3: DETECTION OF COMPOUND STRUCTURES BY REGION GROUP SELECTION FROM HIERARCHICAL SEGMENTATIONS	5095
<i>H. Gokhan Akcay, Selim Aksoy, Bilkent University</i>	
TH2-L2.4: INTEGRATION OF REGION GROWING AND MORPHOLOGICAL ANALYSIS WITH SUPER-RESOLUTION LAND COVER MAPPING	5099
<i>Huiran Jin, University of Maryland; Peijun Li, Peking University</i>	

TH2-L2.5: UNSUPERVISED POLSAR IMAGE CLASSIFICATION USING BOUNDARY-PRESERVING REGION DIVISION AND REGION-BASED AFFINITY PROPAGATION CLUSTERING	5103
<i>Biao Hou, Yuheng Jiang, Bo Ren, Zaidao Wen, Shuang Wang, Licheng Jiao, Key Laboratory of Intelligent Perception and Image Understanding of Ministry of Education of China, Xidian University</i>	
 TH3-L2: IMAGE ANALYSIS AND CLASSIFICATION	
TH3-L2.1: AN OUTLIER GENERATION APPROACH FOR ONE-CLASS RANDOM FORESTS: AN EXAMPLE IN ONE-CLASS CLASSIFICATION OF REMOTE SENSING IMAGERY	5107
<i>Zhongkui Shi, Peijun Li, Yi Sun, Peking University</i>	
TH3-L2.2: UNSUPERVISED CLASSIFIER SELECTION APPROACH FOR HYPERSPECTRAL IMAGE CLASSIFICATION	5111
<i>Bharath Bhushan Damodaran, Nicolas Courty, Sébastien Lefèvre, Université Bretagne-Sud</i>	
TH3-L2.3: CLASSIFICATION OF HYPERSPECTRAL IMAGES WITH VERY SMALL TRAINING SIZE USING SPARSE UNMIXING	5115
<i>Vera Andrejchenko, Rob Heylen, Paul Scheunders, University of Antwerp; Wilfried Philips, Wenzhi Liao, University of Gent</i>	
TH3-L2.4: A NOVEL LAND COVER MAPPING ALGORITHM BASED ON RANDOM FOREST AND MARKOV RANDOM FIELD MODELS	5118
<i>Teerasit Kasetkasem, Panyanat Aonpong, Kasetsart University; Preesan Rakwatin, Geo-Informatics and Space Technology Development Agency (Public Organization); Thitiporn Chanwimaluang, Thailand National Electronics and Computer Technology Center; Itsuo Kumazawa, Tokyo Institute of Technology</i>	
TH3-L2.5: EXTINCTION PROFILES: A NOVEL APPROACH FOR THE ANALYSIS OF REMOTE SENSING DATA	5122
<i>Pedram Ghamisi, German Aerospace Center (DLR), Remote Sensing Technology Institute (IMF) and Technische Universitt Mnchen (TUM), Signal Processing in Earth Observation; Roberto Souza, Leticia Rittner, School of Electrical and Computer Engineering - UNICAMP; Jón Atli Benediktsson, Faculty of Electrical and Computer Engineering, University of Iceland; Roberto Lotufo, School of Electrical and Computer Engineering - UNICAMP; Xiao Xiang Zhu, German Aerospace Center (DLR), Remote Sensing Technology Institute (IMF) and Technische Universitt Mnchen (TUM), Signal Processing in Earth Observation</i>	
 TH4-L2: HIGH RESOLUTION IMAGE ANALYSIS	
TH4-L2.1: SPECTRAL-SPATIAL ROTATION FOREST FOR HYPERSPECTRAL IMAGE CLASSIFICATION	5126
<i>Junshi Xia, Lionel Bombrun, Yannick Berthoumieu, Christian Germain, Université de Bordeaux; Peijun Du, Nanjing University</i>	
TH4-L2.2: LOCAL SPECTRAL-SPATIAL CLUSTERING FOR REMOTE SENSING IMAGERY	5130
<i>Ailong Ma, Yanfei Zhong, Hongzan Jiao, Liangpei Zhang, Wuhan University</i>	
TH4-L2.3: EXTENDED MULTI-STRUCTURE LOCAL BINARY PATTERN FOR HIGH-RESOLUTION IMAGE SCENE CLASSIFICATION	5134
<i>Xiaoyong Bian, Wuhan University of Science and Technology; Chen Chen, The University of Texas at Dallas; Qian Du, Mississippi State University; Yuxia Sheng, Wuhan University of Science and Technology</i>	
TH4-L2.4: COMPUTATIONAL EFFICIENCY ACTIVE LEARNING FOR CLASSIFICATION OF HYPERSPECTRAL IMAGES	5138
<i>Zhongyi Sun, Mingmin Chi, Fudan University; Jón Atli Benediktsson, University of Iceland</i>	
TH4-L2.5: HADAMARD-WALSH RANDOM PROJECTION FOR HYPERSPECTRAL IMAGE CLASSIFICATION	5141
<i>Vineetha Menon, Qian Du, James Fowler, Mississippi State University</i>	

TH1-L3: MULTITEMPORAL VHR IMAGES ANALYSIS

TH1-L3.1: SIMULTANEOUS CHANGE REGION AND PATTERN IDENTIFICATION FOR VHR IMAGES 5145

Leigang Huo, Guangxi Teachers Education University; Chunlei Huo, Institute of Automation, Chinese Academy of Sciences

TH1-L3.2: AN APPROACH TO MULTIPLE CHANGE DETECTION IN MULTISENSOR VHR OPTICAL IMAGES BASED ON ITERATIVE CLUSTERING 5149

Yady Tatiana Solano-Correa, Fondazione Bruno Kessler - University of Trento; Francesca Bovolo, Fondazione Bruno Kessler; Lorenzo Bruzzone, University of Trento

TH1-L3.3: MONITORING FUNCTIONAL TRAITS OF ALPINE VEGETATION ON THE TIBET PLATEAU USING MULTI-SENSOR REMOTE SENSING 5153

Chengxiu Li, Hendrik Wulf, Irene Garonna, Michael Schaeppman, University of Zurich

TH1-L3.4: LEARNING A TRANSFERABLE CHANGE DETECTION METHOD BY RECURRENT NEURAL NETWORK 5157

Haobo Lyu, Hui Lu, Tsinghua University

TH1-L3.5: BATTLE DAMAGE ASSESSMENT BASED ON SELF-SIMILARITY AND CONTEXTUAL MODELING OF BUILDINGS IN DENSE URBAN AREAS 5161

Fatih Kahraman, Mumin Imamoglu, TUBITAK-BILGEM; Hasan Fehmi Ates, Isik University

TH2-L3: ANALYSIS OF IMAGE TIME SERIES: OPTICAL SENSORS II

TH2-L3.1: COMPARING SUPERVISED ALGORITHMS IN LAND USE AND LAND COVER CLASSIFICATION OF A LANDSAT TIME-SERIES 5165

Thayse Nery, Rohan Sadler, Maria Solis-Aulestia, Ben White, Maksym Polyakov, Morteza Chalak, The University of Western Australia

TH2-L3.2: A FRAMEWORK OF COLLABORATIVE CHANGE DETECTION WITH MULTIPLE OPERATORS AND MULTI-SOURCE REMOTE SENSING IMAGES 5169

Xi Chen, Jing Li, Yunfei Zhang, Liangliang Tao, Beijing Normal University; Wei Shen, ShangHai Ocean University

TH2-L3.3: VHR SATELLITE IMAGE TIME SERIES ANALYSIS USING EXPERT KNOWLEDGE MODELING AND USER ASSISTANCE 5173

Safa Rejichi, Ferdaous Chaabane, Higher school of Communication of Tunis; Florence Tupin, Télécom ParisTech

TH2-L3.4: SPATIO-TEMPORAL ANALYSIS OF BIOMASS BURNING IN INSULAR SOUTHEAST ASIA USING EMPIRICAL ORTHOGONAL FUNCTION (EOF) 5177

Soo Chin Liew, National University of Singapore

TH2-L3.5: TRANSFORMING THE AUTOCORRELATION FUNCTION OF A TIME SERIES TO DETECT LAND COVER CHANGE 5181

Brian Salmon, University of Tasmania; Waldo Kleyhans, Council for Scientific and Industrial Research; Jan Olivier, University of Tasmania; Colin Peter Schwegmann, Council for Scientific and Industrial Research

TH3-L3: CHANGE DETECTION APPLICATIONS

TH3-L3.1: A COMPARATIVE STUDY OF COASTLINE CHANGES AT TAMPA BAY AND XIANGSHAN HARBOR DURING THE LAST 30 YEARS 5185

Qiandong Guo, Ruiliang Pu, University of South Florida; Bing Zhang, Lianru Gao, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences

TH3-L3.2: ANALYSIS OF SATELLITE IMAGES FOR DISASTER DETECTION 5189

Siti Nor Khuzaimah Binti Amit, Keio University; Soma Shiraishi, Tetsuo Inoshita, NEC Corporation; Yoshimitsu Aoki, Keio University

TH3-L3.3: MULTI-TEMPORAL LAND COVER CHANGE ANALYSIS OF THE SAMBAS WATERSHED, WEST KALIMANTAN, EAST MALAYSIA: IMPLICATIONS FOR TROPICAL EROSION	5193
<i>Sandeep Narayan Kundu, Jun Bei Tan, National University of Singapore</i>	
TH3-L3.4: REMOTE SENSING OF VEGETATION FRACTION FOR MONITORING RECLAMATION DYNAMICS: A CASE STUDY IN PINGSHUO MINING AREA	5197
<i>Yao Zhang, Wei Zhou, China University of Geosciences</i>	
TH3-L3.5: DEFORESTATION CHANGE DETECTION USING HIGH-RESOLUTION MULTI-TEMPORAL X-BAND SAR IMAGES AND SUPERVISED LEARNING CLASSIFICATION	5201
<i>Thiago Luiz Morais Barreto, Rafael Antonio da Silva Rosa, Christian Wimmer, Bradar Indústria S/A; João Bosco Nogueira Júnior, Santo Antônio Energia; Jurandy Almeida, Fabio Augusto Menocci Cappabianco, Federal University of Sao Paulo</i>	
 TH4-L3: GLOBAL CHANGE STUDY	
TH4-L3.1: GLOBAL WATER VAPOR CONTENT AND VEGETATION CHANGE ANALYSIS BASED ON REMOTE SENSING DATA	5205
<i>K.B. Mao, Y. Ma, Z.Y. Zuo, Institute of Agricultural Resources and Regional Planning, Chinese Academy of Agricultural Sciences; Y.Q. Jiao, College of Science of China University of Petroleum; F. Wang, National-Local Joint Engineering Laboratory of Geo-spatial Information Technology, Hunan University of Science and Technology; Q. Liu, Institute of Agricultural Resources and Regional Planning, Chinese Academy of Agricultural Sciences; Z.W. Sun, Space Star Technology Co., Ltd.</i>	
TH4-L3.2: ASSESSING DROUGHT VULNERABILITY USING SOIL MOISTURE-BASED WATER USE EFFICIENCY IN NORTHEAST ASIA DRYLAND REGIONS	5209
<i>Sinkyu Kang, Nayoung Do, Kangwon National University; Sukyoung Hong, National Academy of Agricultural Science</i>	
TH4-L3.3: WHICH YEAR IS THE HOTTEST OR COLDEST FROM 2001 TO 2012 BASED ON REMOTE SENSING DATA	5213
<i>Kebiao Mao, Y. Ma, Institute of Agricultural Resources and Regional Planning, Chinese Academy of Agricultural Science; Z.Y. Zuo, Institute of Agricultural Resources and Regional Planning, Chinese Academy of Agricultural Sciences; F. Wang, National-Local Joint Engineering Laboratory of Geo-spatial Information Technology, Hunan University of Science and Technology; Y.Q. Jiao, College of Science of China University of Petroleum, Beijing, China; X.Y. Shen, Institute of Agricultural Resources and Regional Planning, Chinese Academy of Agricultural Science; Q. Liu, National Hulunber Grassland Ecosystem Observation and Research Station, Institute of Agricultural Resources and Regional Planning, Chinese Academy of Agricultural Sciences</i>	
TH4-L3.4: LONG-TERM GLOBAL RADIATION, CARBON AND WATER FLUXES DERIVED FROM MULTI-SATELLITE DATA AND A PROCESS-BASED MODEL	5217
<i>Chongya Jiang, Youngryel Ryu, Seoul National University</i>	
TH4-L3.5: MAPPING SNOW-ALGAE IN ANTARCTIC PENINSULA WITH MULTI-TEMPORAL SATELLITE REMOTE SENSING DATA	5221
<i>Mazlan Hashim, Syarifuddin Misbari, Nadzri Mohd Reba, Mohd Firdaus Abdul-Wahab, Amin Beirvand Pour, Mohd Farid Muhamad Said, Abdul Hafidz Omar, Kamaruzaman Soeed, Universiti Teknologi Malaysia</i>	
 TH1-L4: APPLICATIONS OF SMAP DATA FOR SCIENCE AND SOCIETY: A SHOWCASE OF SMAP EARLY ADOPTER RESEARCH I	
TH1-L4.1: OVERVIEW OF THE SMAP APPLICATIONS AND THE SMAP EARLY ADOPTERS PROGRAM – NASA’S FIRST MISSION-DIRECTED OUTREACH EFFORT	5225
<i>Vanessa M. Escobar, Sabrina Delgado Arias, NASA Goddard Space Flight Center; Susan Moran, U.S. Department of Agriculture; Grey Nearing, NASA Goddard Space Flight Center; Dara Entekhabi, Massachusetts Institute of Technology; Eni G. Njoku, Simon Yueh, NASA Jet Propulsion Laboratory; Brad Doorn, NASA HQ; Rolf Reichle, NASA Goddard Space Flight Center</i>	
TH1-L4.3: A PRELIMINARY ASSESSMENT OF THE IMPACT OF SMAP SOIL MOISTURE ON NUMERICAL WEATHER FORECASTS FROM GFS AND NUWRF MODELS	5229
<i>Xiwu Zhan, NOAA/NESDIS; Weizhong Zheng, NOAA NWS; Li Fang, Jicheng Liu, Chris Hain, Jifu Yin, NOAA/NESDIS; Michael Ek, NOAA NWS</i>	

TH1-L4.4: IMPACTS OF SMAP DATA IN ENVIRONMENT CANADA’S REGIONAL DETERMINISTIC PREDICTION SYSTEM	5233
<i>Bernard Bilodeau, Marco Carrera, Albert Russell, Xihong Wang, Stephane Belair, Environment Canada</i>	
TH1-L4.5: SOIL MOISTURE DATA PRODUCT GENERATED FROM NASA SMAP OBSERVATIONS WITH NOAA ANCILLARY DATA	5237
<i>Xiwu Zhan, Jicheng Liu, NOAA/NESDIS; Jun Wen, Chinese Academy of Sciences; Limin Zhao, Marco Vargas, Fuzhong Weng, NOAA/NESDIS</i>	
 TH2-L4: APPLICATIONS OF SMAP DATA FOR SCIENCE AND SOCIETY: A SHOWCASE OF SMAP EARLY ADOPTER RESEARCH II	
TH2-L4.1: ENHANCING THE USDA GLOBAL CROP ASSESSMENT DECISION SUPPORT SYSTEM USING SMAP L3 SOIL MOISTURE DATA	5241
<i>John Bolten, NASA Goddard Space Flight Center; Iliana Mladenova, University of Maryland; Wade Crow, U.S. Department of Agriculture - Hydrology and Remote Sensing Lab; Curt Reynolds, U.S. Department of Agriculture - Foreign Agricultural Service</i>	
TH2-L4.2: EVALUATION OF ASSIMILATED SMOS SOIL MOISTURE DATA FOR US CROPLAND SOIL MOISTURE MONITORING	5244
<i>Zhengwei Yang, U.S. Department of Agriculture - National Agricultural Statistics Service; Ranjay Shrestha, George Mason University; Wade Crow, U.S. Department of Agriculture - ARS; John Bolten, Iva Mladenova, NASA; Genong Yu, Liping Di, George Mason University</i>	
TH2-L4.3: THICKNESS OF THIN SEA ICE RETRIEVED FROM SMOS AND SMAP	5248
<i>Marcus Huntemann, Alfred Wegener Institute, Helmholtz Centre for Polar and Marine Research; Catalin Patilea, Georg Heygster, University of Bremen</i>	
TH2-L4.4: INTEGRATION OF PASSIVE AND ACTIVE MICROWAVE DATA FROM SMAP, AMSR2 AND SENTINEL-1 FOR SOIL MOISTURE MONITORING	5252
<i>Emanuele Santi, Simonetta Paloscia, Simone Pettinato, Institute of Applied Physics - National Research Council (IFAC - CNR); Dara Entekhabi, Seyed Hamed Alemohammad, Alexandra G. Konings, Massachusetts Institute of Technology</i>	
 TH3-L4: NEW APPROACHES TO SOIL MOISTURE	
TH3-L4.1: IMAGING SUBSURFACE SOIL MOISTURE DYNAMICS USING TOMOGRAPHIC PROFILING: OBSERVATIONS AND MODELLING	5256
<i>Simon Zwieback, Irena Hajsek, Swiss Federal Institute of Technology Zurich; Alexander Edwards-Smith, Keith Morrison, Cranfield University</i>	
TH3-L4.2: POLARIMETRIC GNSS-R MEASUREMENTS FOR SOIL MOISTURE AND VEGETATION SENSING	5260
<i>Yan Jia, Patrizia Savi, Politecnico di Torino</i>	
TH3-L4.3: TESTING SEMI-EMPIRICAL MODEL OF REFLECTION COEFFICIENT BASED ON GNSS-R MEASUREMENTS	5264
<i>Mikhail Mikhailov, Konstantin Muzalevskiy, Valery Mironov, Kirensky Institute of Physics SB RAS</i>	
TH3-L4.4: ASSESSMENT OF RETRIEVAL ERRORS OF AIRMOSS ROOT-ZONE SOIL MOISTURE PRODUCTS	5268
<i>Alireza Tabatabaenejad, Richard H. Chen, Mahta Moghaddam, University of Southern California</i>	
TH3-L4.5: A PRELIMINARY ANALYSIS OF COMPONENT POLARIMETRIC DECOMPOSITION TOWARDS SOIL MOISTURE INVERSION IN AN OASIS OF THE NORTHWEST ARID REGIONS OF CHINA	5272
<i>Chunfeng Ma, Xin Li, Cold and Arid Regions Environmental and Engineering Research Institute, Chinese Academy of Sciences; Irena Hajsek, Haijing Wang, The Swiss Federal Institute of Technology</i>	

TH4-L4: SNOW COVER

TH4-L4.1: MODELING SNOW ANISOTROPY AND BACKSCATTERING CO-POLARIZATION 5276 PHASE DIFFERENCE USING BICONTINUOUS MEDIA AND NUMERICAL SOLUTIONS OF MAXWELL EQUATIONS

Shurun Tan, University of Michigan; Chuan Xiong, Chinese Academy of Sciences; Leung Tsang, University of Michigan

TH4-L4.2: EVALUATION OF NORTHERN HEMISPHERE SNOW EXTENT PRODUCTS 5280 WITHIN ESA SNOWPEX-PROJECT

Sari Metsämäki, Finnish Environment Institute; Elisabeth Ripper, ENVEO IT GmbH; Olli-Pekka Mattila, Finnish Environment Institute; Richard Fernandes, Canada Centre for Remote Sensing; Gabriele Bippus, ENVEO IT GmbH; Kari Luojus, Finnish Meteorological Institute; Thomas Nagler, ENVEO IT GmbH; Bojan Bojkov, European Space Agency

TH4-L4.3: ASSESSING GLOBAL SATELLITE-BASED SNOW WATER EQUIVALENT DATASETS 5284 IN ESA SNOWPEX PROJECT

Kari Luojus, Jouni Pulliainen, Juval Cohen, Jaakko Ikonen, Matias Takala, Juha Lemmetyinen, Tuomo Smolander, Finnish Meteorological Institute; Chris Derksen, Environment Canada; Thomas Nagler, ENVEO IT GmbH; Bojan Bojkov, European Space Agency - ESRIN

TH4-L4.4: DRY SNOWPACK AND FRESHWATER ICEPACK REMOTE SENSING USING 5288 WIDEBAND AUTOCORRELATION RADIOMETRY

Seyedmohammad Mousavi, Roger De Roo, Kamal Sarabandi, University of Michigan, Ann Arbor; Anthony England, University of Michigan, Dearborn; Hamid Nejati, SiTune Corporation

TH4-L4.5: FROST HEAVE ESTIMATION OF MARSHY SOIL BY ALOS PALSAR 5292 INTERFEROMETRY AND GEODETIC LEVELING, CASE STUDY FROM THE BAIKAL LAKE REGION

Tumen Chimtdorzhiev, Pavel Dagurov, Michail Bykov, Aleksey Dmitriev, Irina Kirbizhekova, Institute of Physical Materials Science of Siberian Branch of Russian Academy of Science

TH1-L5: THE POTENTIAL MULTIFREQUENCY MICROWAVE SATELLITE DATA FOR THE MONITORING OF VEGETATION BIOMASS I

TH1-L5.1: MULTIFREQUENCY MICROWAVE EMISSION FOR ESTIMATING OPTICAL 5296 DEPTH AND VEGETATION BIOMASS

Simonetta Paloscia, Emanuele Santi, Paolo Pampaloni, Simone Pettinato, CNR-IFAC

TH1-L5.3: MEDITERRANEAN SHRUBLANDS BIOMASS ESTIMATION USING SENTINEL-1 5300 AND SENTINEL-2

Jisung Chang, Maxim Shoshany, Technion - Israel Institute of Technology

TH1-L5.4: RETRIEVAL OF FOREST ABOVEGROUND BIOMASS THROUGH THE SYNERGY 5304 OF X-BAND (TERRASAR-X/TANDEM-X) AND L-BAND (PALSAR-2) INSAR DATA

Wenjian Ni, Chinese Academy of Sciences; Guoqing Sun, University of Maryland; Zhiyu Zhang, Chinese Academy of Sciences; Huina Yu, Shan Dong University of Science and Technology

TH1-L5.5: BIOMASS ESTIMATION OF OILSEED RAPE USING SIMULATED COMPACT 5307 POLARIMTRIC SAR IMAGERY

Hao Yang, Beijing Research Center for Information Technology in Agriculture, Beijing Academy of Agriculture and Forestry Sciences; Lei Xie, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Erxue Chen, Institute of Forest Resource Information Techniques, Chinese Academy of Forestry; Hong Zhang, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Guijun Yang, Beijing Research Center for Information Technology in Agriculture, Beijing Academy of Agriculture and Forestry Sciences; Zhenhong Li, School of Civil Engineering and Geosciences, Newcastle University; Xiaohu Gu, Beijing Research Center for Information Technology in Agriculture, Beijing Academy of Agriculture and Forestry Sciences

TH2-L5: THE POTENTIAL MULTIFREQUENCY MICROWAVE SATELLITE DATA FOR THE MONITORING OF VEGETATION BIOMASS II

TH2-L5.1: SMOS FOREST OPTICAL DEPTH INTERCOMPARISONS OVER PAN-TROPICAL BIOMES5311

Cristina Vittucci, Paolo Ferrazzoli, Tor Vergata University; Yann Kerr, Philippe Richaume, Centre d'Études Spatiales de la Biosphère (CESBIO); Leila Guerriero, Tor Vergata University; Gaia Vaglio Laurin, Tuscia University

TH2-L5.2: ESTIMATING OPTICAL DEPTH AND SINGLE SCATTERING ALBEDO OF SHORT VEGETATION BASED ON THE REFINED MVI 5315

Linna Chai, Beijing Normal University; Jiancheng Shi, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Fengmin Wu, Chongqing Geomatics Center

TH2-L5.3: RELATIONSHIP BETWEEN VEGETATION OPTICAL DEPTH AND EFFECTIVE OPTICAL DEPTH USING SIMULATED DATA 5319

Yunqing Li, Beijing City University; Jiancheng Shi, State Key Laboratory of Remote Sensing Science, Institute of Remote Sensing and Digital Earth, CAS

TH2-L5.4: MULTI-FREQUENCY INVESTIGATION INTO SCATTERING FROM VEGETATION OVER THE GROWTH CYCLE 5323

Mehmet Kurum, Roger Lang, Mark Tentindo, George Washington University; Peggy O'Neill, Alicia Joseph, Manohar Deshpande, NASA Goddard Space Flight Center; Michael Cosh, U.S. Department of Agriculture - ARS

TH2-L5.5: BENEFIT OF MODELING THE OBSERVATION ERROR IN A DATA ASSIMILATION FRAMEWORK USING VEGETATION INFORMATION OBTAINED FROM PASSIVE-BASED MICROWAVE DATA 5325

John Bolten, NASA Goddard Space Flight Center; Iliana Mladenova, University of Maryland; Wade Crow, U.S. Department of Agriculture - Hydrology and Remote Sensing Lab; Richard de Jeu, Transmissivity

TH3-L5: FOREST BIOMASS

TH3-L5.1: ESTIMATION OF FOREST STEM VOLUME USING ALOS-2 PALSAR-2 SATELLITE IMAGES 5327

Johan E. S. Fransson, Swedish University of Agricultural Sciences; Maurizio Santoro, Gamma Remote Sensing; Jörgen Wallerman, Henrik J. Persson, Swedish University of Agricultural Sciences; Albert R. Monteith, Leif E. B. Eriksson, Chalmers University of Technology; Mats Nilsson, Håkan Olsson, Swedish University of Agricultural Sciences; Maciej J. Soja, Lars M. H. Ulander, Chalmers University of Technology

TH3-L5.2: AUTOMATED DETECTION OF FOREST DISTURBANCES USING MULTITEMPORAL RADARSAT-2 DATA 5331

Gordon Staples, Marco van der Kooij, MDA; David G. Goodenough, University of Victoria

TH3-L5.3: ABOVEGROUND BIOMASS ESTIMATION IN TROPICAL FORESTS AT SINGLE TREE LEVEL WITH ALS DATA 5334

Michele Dalponte, Fondazione E. Mach; Tommaso Jucker, University of Cambridge; David F. R. P. Burslem, University of Aberdeen; Simon L. Lewis, University of Leeds; Reuben Nilus, Forest Research Centre, Sepilok; Oliver Phillips, Lan Qie, University of Leeds; David A. Coomes, University of Cambridge

TH3-L5.4: ACCESS THE SPATIOTEMPORAL VARIATION OF NET PRIMARY PRODUCTIVITY IN CHINA USING MODIS AND METEOROLOGY DATA 5338

Xue Wang, Kun Tan, Yaqin Sun, China University of Mining and Technology

TH3-L5.5: GENERATION OF LARGE-SCALE FOREST HEIGHT MOSAIC AND FOREST DISTURBANCE MAP THROUGH THE COMBINATION OF SPACEBORNE REPEAT-PASS INSAR COHERENCE AND AIRBORNE LIDAR 5342

Yang Lei, Paul Siqueira, University of Massachusetts Amherst; Diya Chowdhury, Nathan Torbick, Applied GeoSolutions

TH4-L5: FOREST AND VEGETATION I

TH4-L5.1: FUSION OF LIDAR AND RADAR FOR VEGETATION STRUCTURE AND BIOMASS RETRIEVAL 5346

Wenge Ni-Meister, Hunter College of The City University of New York

TH4-L5.2: RESPONSE OF SEASONAL CYCLE OF CARBON DIOXIDE CONCENTRATION TO VEGETATION ACTIVITY FROM SATELLITE OBSERVATION 5350

Zhonghua He, Liping Lei, Zhaocheng Zeng, Chinese Academy of Sciences

TH4-L5.3: PLANT: POLARIMETRIC-INTERFEROMETRIC LAB AND ANALYSIS TOOLS FOR ECOSYSTEM AND LAND-COVER SCIENCE AND APPLICATIONS 5354

Marco Lavallo, Gustavo H X. Shiroma, Piyush Agram, Eric Gurrola, Gian Franco Sacco, Paul Rosen, Jet Propulsion Laboratory, California Institute of Technology

TH4-L5.4: PRELIMINARY FAPARCHL PRODUCTS FROM MODIS AND HYPERION 5358

Qingyuan Zhang, Tian Yao, Universities Space Research Association; Elizabeth Middleton, Alexei Lyapustin, NASA Goddard Space Flight Center; Yujie Wang, University of Maryland, Baltimore County

TH4-L5.5: APPLICATION OF THE PHOTOCHEMICAL REFLECTANCE INDEX TO TRACK LIGHT USE EFFICIENCY WITH A TWO-LEAF MODEL 5362

Qian Zhang, Weimin Ju, Jing Chen, Nanjing University; Fengting Yang, Chinese Academy of Sciences

TH1-L6: DIGITAL TERRAIN MODELS

TH1-L6.1: EVALUATION OF THE TANDEM-X INTERMEDIATE DEM FOR TERRAIN ILLUMINATION CORRECTION IN LANDSAT DATA 5366

Fuqin Li, Geoscience Australia; David L.B. Jupp, The Commonwealth Scientific and Industrial Research Organisation; Medhavy Thankappan, Lan-Wei Wang, Adam Lewis, Geoscience Australia; Alex Held, The Commonwealth Scientific and Industrial Research Organisation

TH1-L6.2: ADAPTIVE FILTER FOR IMPROVING QUALITY OF ALOS PRISM DSM 5370

Junichi Takaku, Akira Iwasaki, The University of Tokyo; Takeo Tadono, Japan Aerospace Exploration Agency

TH1-L6.3: VERTICAL ACCURACY ASSESSMENT OF ALOS WORLD 3D – 30M DIGITAL ELEVATION MODEL OVER NORTHEASTERN MINDANAO, PHILIPPINES 5374

Jojene Santillan, Meriam Makinano-Santillan, Ronald Makinano, Caraga State University

TH1-L6.4: ASSESSMENT OF 1" SRTM DATA QUALITY IN CHINA TAKING LOESS HILLY AREA AS AN EXAMPLE 5378

Chunmei Wang, Qinke Yang, Guowei Pang, Boqing Wen, Northwest University

TH1-L6.5: ASSESSING STORM-RELATED GEOMORPHIC SHORELINE CHANGES BASED ON GPS SURVEYS, OLD MAPS AND AERIAL PHOTOGRAPHS 5382

Ülo Suursaar, University of Tartu; Hannes Tõnisson, Are Kont, Tallinn University

TH2-L6: SURFACE HAZARDS AND ANOMALIES

TH2-L6.1: LANDSLIDE PREDICTION USING SOIL MOISTURE ESTIMATION DERIVED FROM POLARIMETRIC RADARSAT-2 DATA AND SRTM 5386

Shiyu Luo, University of Electronic Science and Technology of China; Kamal Sarabandi, University of Michigan, Ann Arbor; Ling Tong, University of Electronic Science and Technology of China; Leland Pierce, University of Michigan, Ann Arbor

TH2-L6.2: PALSAR-2 REMOTE SENSING DATA FOR DETECTION OF HAZARDS ZONES OF GEOLOGICAL ORIGIN IN KELANTAN RIVER BASIN, PENINSULAR MALAYSIA 5390

Amin Beiranvand Pour, Mazlan Hashim, Geoscience and Digital Earth Centre (Geo-DEC) Research Institute for Sustainability and Environment (RISE) Universiti Teknologi Malaysia (UTM)

TH2-L6.3: ALTERATION ANOMALY INFORMATION EXTRACTION USING HYPERSPECTRAL REMOTE SENSING IN COALBED METHANE ENRICHMENT	5394
<i>Guangwei Zhen, Sinomine Resource Exploration Company Limited; Li Chen, Peking University; Chao Chen, Biyun Guo, Zhejiang Ocean University</i>	
TH2-L6.4: DETECTION OF SINKHOLE PRECURSORS THROUGH SAR INTERFEROMETRY: FIRST RESULTS FROM SOUTH AFRICA	5398
<i>André Theron, Jeanine Engelbrecht, Council for Scientific and Industrial Research; Jaco Kemp, University of Stellenbosch; Waldo Kleynhans, Council for Scientific and Industrial Research; Terence Turnbull, South African Air Force</i>	
TH2-L6.5: MICROWAVE THERMMAL EMISSION FEATURES OF MARE ORIENTALE REVEALED BY CELMS DATA	5402
<i>Zhiguo Meng, Jidong Zhang, Jilin University; Zesheng Tang, Macau University of Science and Technology; Jinsong Ping, China Academy of Sciences; Zhanchuan Cai, Macau University of Science and Technology</i>	
 TH3-L6: MINERALS AND HYDROCARBONS I	
TH3-L6.1: TOWARDS A SEAMLESS, SCALABLE WORLD OF 3D MINERALOGY	5406
<i>Thomas Cudahy, CSIRO</i>	
TH3-L6.3: A REMOTE SENSING MODEL OF RESOURCE EXPLORED AND NEW DISCOVERY IN GEOLOGICAL PROSPECTING WORK	5410
<i>Fojun Yao, Institute of Mineral Resources Chinese Academy of Geological Sciences</i>	
TH3-L6.4: RARE EARTH ELEMENT DETECTION FROM NEAR-FIELD TO SPACE - SAMARIUM DETECTION USING THE REEMAP ALGORITHM	5414
<i>Nina Kristine Boesche, Christian Rogass, Christian Mielke, Christin Lubitz, Maximilian Brell, Sabrina Herrmann, Friederike Körting, Anne Papenfuß, Sabine Tonn, Helmholtz Center - German Research Centre for Geosciences; Uwe Altenberger, University of Potsdam; Luis Guanter, Helmholtz Center - German Research Centre for Geosciences</i>	
TH3-L6.5: MINERAL INFORMATION AT MICRON TO KILOMETER SCALES: LABORATORY, FIELD, AND REMOTE SENSING IMAGING SPECTROMETER DATA FROM THE ORANGE HILL PORPHYRY COPPER DEPOSIT, ALASKA, USA	5418
<i>Raymond Kokaly, Todd Hoefen, Garth Graham, Karen Kelley, Michaela Johnson, Bernard Hubbard, U.S. Geological Survey; Richard Goldfarb, China University of Geosciences; Marcel Buchhorn, Anupma Prakash, University of Alaska Fairbanks</i>	
 TH4-L6: MINERALS AND HYDROCARBONS II	
TH4-L6.1: UAV FOR MINING APPLICATIONS: A CASE STUDY AT AN OPEN-CUT MINE AND A LONGWALL MINE IN NEW SOUTH WALES, AUSTRALIA	5422
<i>Linlin Ge, Xiaojing Li, Alex Hay-Man Ng, University of New South Wales</i>	
TH4-L6.2: LITHOLOGICAL MAPPING FROM HYPERSPECTRAL IMAGERY USING EXTENDED ONE-CLASS KERNEL SPARSE REPRESENTATION	5426
<i>Peijun Li, Peking University; Benqin Song, China Academy of Electronics and Information Technology</i>	
TH4-L6.3: MAPPING LARGE-SCALE MICROSEEPAGE SIGNALS FOR SUPPORTING OIL AND GAS EXPLORATION IN NEW VENTURES	5430
<i>Marco Gianinetta, Federico Frassy, Andrea Marchesi, Pieralberto Maianti, Politecnico di Milano; Riccardo De Paulis, Paolo Biffi, Eni S.p.A.; Francesco Rota Nodari, Politecnico di Milano</i>	
TH4-L6.4: CHARACTERISTIC OF MULTISPECTRAL IMAGES AND WELL YIELDS OF HYDROGEOLOGICAL UNITS IN FRACTURE BEDROCK, TAIWAN	5434
<i>Jung-Jun Lin, Yuei-An Liou, National Central University; Shih-Meng Hsu, Su-Yun Chi, Sinotech Engineering Consultants, Inc; Anh Kim Nguyen, National Central University</i>	

TH4-L6.5: A NEW METHOD OF MINERAL ABSORPTION FEATURE EXTRACTION FROM VEGETATION COVERED AREA	5437
<i>Hengqian Zhao, China University of Mining and Technology; Lifu Zhang, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Xuesheng Zhao, China University of Mining and Technology; Hang Yang, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Keming Yang, China University of Mining and Technology; Xia Zhang, Shandong Wang, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Hao Sun, China University of Mining and Technology</i>	
TH1-L7: LAND USE AND LAND COVER APPLICATIONS	
TH1-L7.1: SEMANTIC ANNOTATION OF SATELLITE IMAGES VIA JOINT MULTI-FEATURE LEARNING WITH DIVERSITY CONSTRAINT	5441
<i>Xiwen Yao, Junwei Han, Gong Cheng, Peicheng Zhou, Lei Guo, Northwestern Polytechnical University</i>	
TH1-L7.2: LAND COVER MAPPING, CHANGE DETECTION AND ITS DRIVING FORCES QUANTIFYING IN THE SOUTHWESTERN CHINA FROM 1990 TO 2010	5445
<i>Ainong Li, Guangbin Lei, Jinhu Bian, Zhengjian Zhang, Institute of Mountain Hazards and Environment, Chinese Academy of Sciences</i>	
TH1-L7.3: A CNN BASED FUNCTIONAL ZONE CLASSIFICATION METHOD FOR AERIAL IMAGES	5449
<i>Zhengxin Zhang, Yunhong Wang, Qingjie Liu, Beihang University; Lingling Li, Ping Wang, National Disaster Reduction Center of China, Ministry of Civil Affairs</i>	
TH1-L7.4: SPARSITY-CONSTRAINED PROBABILISTIC LATENT SEMANTIC ANALYSIS FOR LAND COVER CLASSIFICATION	5453
<i>Jun Shi, Xilan Tian, No. 38 Research Institute, China Electronic Technology Group Corporation; Zhiguo Jiang, Danpei Zhao, Ming Lu, Image Processing Center, School of Astronautics, Beihang University</i>	
TH1-L7.5: A HMM-BASED APPROACH FOR HISTORIC AND UP-TO-DATE LAND COVER MAPPING THROUGH LANDSAT TIME-SERIES IN THE STATE OF SAO PAULO, BRAZIL	5457
<i>Lorenzo Iannini, Ramses Molijn, Ali Mousivand, Ramon Hanssen, TU-Delft; Rubens Lamparelli, UNICAMP</i>	
TH2-L7: LAND COVER DYNAMICS	
TH2-L7.1: MULTI-TEMPORAL ANALYSIS OF LAND SURFACE DYNAMICS IN THE YELLOW RIVER BASIN (CHINA)	5461
<i>Christian Wohlfart, Company for Remote Sensing and Environmental Research (SLU); Gaohuan Liu, Chong Huang, Institute for Remote Sensing and Natural Resources; Claudia Kuenzer, German Aerospace Center (DLR)</i>	
TH2-L7.2: MODELLING LAND COVER CHANGE IN A MEDITERRANEAN ENVIRONMENT USING RANDOM FORESTS AND A MULTI-LAYER NEURAL NETWORK MODEL	5464
<i>Elias Symeonakis, Manchester Metropolitan University</i>	
TH2-L7.3: DROUGHT RESILIENCE OF AUSTRALIAN RANGELANDS UNDER INTENSE HYDROCLIMATIC VARIABILITY	5467
<i>Leandro Giovannini, Xuanlong Ma, Alfredo Huete, University of Technology Sydney</i>	
TH2-L7.4: CONTINUOUS ANNUAL LAND USE AND LAND COVER MAPPING USING AVHRR GIMMS NDVI3G AND MODIS MCD12Q1 DATASETS OVER CHINA FROM 1982 TO 2012	5470
<i>Yaqian He, Eungul Lee, Timothy Warner, West Virginia University</i>	
TH2-L7.5: URBANIZATION ANALYSIS IN WUHAN AREA FROM 1991 TO 2013 BASED ON MESMA	5473
<i>Anchang Sun, Tao Chen, Ruiqing Niu, China University of Geosciences</i>	

TH3-L7: DATA MANAGEMENT AND SYSTEMS

TH3-L7.1: FENGYUN-3 SERIES METEOROLOGICAL SATELLITE DATA ARCHIVING AND SERVICE SYSTEM 5477

Zhe Xu, Jianmei Qian, Di Xian, Yonggang Qi, National Satellite Meteorological Center, China Meteorological Administration

TH3-L7.2: EARTH OBSERVATION DATA INTEGRATION AND OPENING SYSTEM 5481

Jitao Yang, Beijing Language and Culture University; Guoqing Li, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences

TH3-L7.3: CUSTOMIZATION OF REMOTE SENSING WORKFLOW SERVICE BASED ON ONTOLOGY 5485

Lili Wang, Beijing Capital Normal University; Yong Xue, Jie Guang, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences

TH3-L7.4: NATIONAL SATELLITE IMAGE COVERAGE USING OVERALL PLANNING TECHNIQUE 5488

Tao Zhang, Bing Lei, Yuhang Gan, Yizhi Hu, Ke Liu, Satellite Surveying and Mapping Application Center, National Administration of Surveying, Mapping and Geoinformation of China

TH3-L7.5: COMPOUND AND CONFIGURABLE FRAMEWORK FOR EXPLORATORY EARTH OBSERVATION DATA ANALYSIS 5492

Corina Vaduva, Florin Andrei Georgescu, Mihai Datcu, University Politehnica of Bucharest

TH4-L7: REMOTE SENSING DATA AND POLICY DECISIONS

TH4-L7.1: EQUIPPING UNDERGRADUATE STEM MAJORS WITH GEOSCIENCE AND REMOTE SENSING TOOLS: A PATHWAY TO REPLENISHING THE GEOSCIENCE WORKFORCE 5496

Reginald A. Blake, Janet Liou-Mark, Hamidreza Norouzi, New York City College of Technology

TH4-L7.3: TEMPORAL DYNAMICS OF TIME SERIES LEAF AREA INDEX AND THE CORRELATIONS WITH METEOROLOGICAL FACTORS OVER CHINA 5502

Xinlu Li, Hui Lu, Tsinghua University

TH4-L7.4: ANALYSIS OF ANISOTROPY VARIANCE BETWEEN THE KERNEL-DRIVEN MODEL AND THE PROSAIL MODEL 5506

Xiaoning Zhang, School of Geography, Beijing Normal University; Ziti Jiao, Beijing Normal University; Yadong Dong, Dongni Bai, Yang Li, Dandan He, School of Geography, Beijing Normal University

TH4-L7.5: BIBLIOMETRIC ANALYSIS ON GLOBAL REMOTE SENSING RESEARCH DURING 2010-2014 5510

Hongyue Zhang, Guoqing Li, Mingrui Huang, Lianchong Zhang, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Jibo Xie, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences / Hainan Key Laboratory of Earth Observation; Chuanzhao Tian, Chinese Academy of Sciences

TH1-L8: INTERNATIONAL OPERATIONAL SATELLITE MISSIONS TO MONITOR THE PLANET I

TH1-L8.1: WMO INTEGRATED GLOBAL OBSERVING SYSTEMS (WIGOS) – CURRENT AND FUTURE NEEDS 5514

Wenjian Zhang, World Meteorological Organization

TH1-L8.3: THE CHINESE METEOROLOGICAL SATELLITE AND APPLICATIONS 5516

Peng Zhang, National Satellite Meteorological Center, China Meteorological Administration

TH1-L8.4: THE NOAA SATELLITE OBSERVING SYSTEM ARCHITECTURE STUDY 5518

Stephen Volz, NOAA/NESDIS; Mark Maier, The Aerospace Corporation; David Dipietro, NASA Goddard Space Flight Center

TH1-L8.5: THE GLOBAL SPACE-BASED INTERCALIBRATION SYSTEM (GSICS)..... 5522
Peng Zhang, NSMC/CMA; Kenneth Holmlund, EUMETSAT; Mitch Goldberg, NESDIS/NOAA; Jerome Lafeuille, WMO Space Programme

TH2-L8: INTERNATIONAL OPERATIONAL SATELLITE MISSIONS TO MONITOR THE PLANET II

TH2-L8.1: THE NOAA JPSS SATELLITE PROGRAM AND APPLICATIONS 5524
Mitch Goldberg, Harry Cikanek, NOAA/NESDIS/JPSS

TH2-L8.2: NEW RUSSIAN METEOROLOGICAL SATELLITE METEOR-M N 2: SENSING OF 5528
THE SUBSURFACE, SURFACE AND ATMOSPHERIC CHARACTERISTICS BY MTVZA-GY
MICROWAVE IMAGER/SOUNDER
Igor Barsukov, Grigory Cherniavsky, Igor Cherny, Technological Center “Kosmonit”, JSC “Russian Space Systems; Leonid Mitnik, Vladimir Kuleshov, Maia Mitnik, V.I. Il’ichev Pacific Oceanological Institute, Far Eastern Branch, Russian Academy of Science

TH2-L8.3: COMMUNITY SATELLITE PROCESSING PACKAGE FROM DIRECT BROADCAST: 5532
PROVIDING REAL-TIME SATELLITE DATA TO EVERY CORNER OF THE WORLD
Allen Huang, Liam Gumley, Kathy Strabala, Scott Mindock, Ray Garcia, Graeme Martin, Geoff Cureton, James Davies, Nick Bearson, Jessica Braum, Rebecca Cintineo, Marek Rogal, Mitch Goldberg, SSEC/UW-Madison

TH2-L8.4: ADVANCED CONCEPT FOR AN INTEGRATED TWO-WAY INTERACTIVE 5536
SENSORWEB AND ENVIRONMENTAL MODELLING SYSTEM ARCHITECTURE
Michael Kalb, NOAA/NESDIS; Michael Seablom, NASA; Glenn Higgins, Robert Mahoney, Northrop Grumman Corporation

TH2-L8.5: SATELLITE DATA ASSIMILATION FOR SOCIETAL BENEFITS..... 5540
Fuzhong Weng, National Oceanic and Atmospheric Administration; Xiaolei Zou, University of Maryland; Lihang Zhou, Mitch Goldberg, National Oceanic and Atmospheric Administration

TH3-L8: EARTH REMOTE SENSING WITH SMALL SATELLITES I

TH3-L8.1: SMALL SATELLITE DEVELOPMENTS 5543
Boon Lim, Jet Propulsion Laboratory

TH3-L8.3: GSS-RT: AN ADVANCED SIMULATION INSTRUMENT FOR EARLY-STAGE 5546
VERIFICATION & VALIDATION OF A SAR DATA COLLECTION SYSTEM
Filippo Speziali, Davide D’Aria, Antonio Valentino, Emanuele Giorgi, ARESYS S.r.l.

TH3-L8.4: NEW CAPABILITIES FOR EARTH SCIENCE MEASUREMENTS WITH 6U CUBESAT 5550
TECHNOLOGIES
Charles Norton, NASA Jet Propulsion Laboratory, California Institute of Technology; Pamela Millar, Robert Bauer, George Komar, NASA Earth Science Technology Office

TH3-L8.5: 874-GHZ HETERODYNE CUBESAT RECEIVER FOR CLOUD ICE 5553
MEASUREMENTS-FLIGHT MODEL DATA
Eric Bryerton, Jeffrey Hesler, Steven Retzloff, Thomas Crowe, Virginia Diodes, Inc.

TH4-L8: EARTH REMOTE SENSING WITH SMALL SATELLITES II

TH4-L8.1: POTENTIAL APPLICATIONS OF SMALL SATELLITE MICROWAVE OBSERVATIONS 5556
FOR MONITORING AND PREDICTING HURRICANES AND TYPHOONS
Fuzhong Weng, National Oceanic and Atmospheric Administration; Yuan Ma, Hu Yang, Xiaolei Zou, University of Maryland

TH4-L8.2: TEMPORAL EXPERIMENT FOR STORMS AND TROPICAL SYSTEMS	5559
TECHNOLOGY DEMONSTRATION (TEMPEST-D): REDUCING RISK FOR 6U-CLASS NANOSATELLITE CONSTELLATIONS	
<i>Steven Reising, Colorado State University; Todd Gaier, Jet Propulsion Laboratory, California Institute of Technology; Christian Kummerow, Colorado State University; Sharmila Padmanabhan, Boon Lim, Shannon Brown, Cate Heneghan, Jet Propulsion Laboratory, California Institute of Technology; V. Chandrasekar, Jon Olson, Wesley Berg, Colorado State University</i>	
TH4-L8.3: DEMONSTRATING A LOW-COST SUSTAINABLE PASSIVE MICROWAVE SENSOR	5561
ARCHITECTURE: THE COMPACT OCEAN WIND VECTOR RADIOMETER MISSION	
<i>Shannon Brown, Paolo Focardi, Amarit Kitiyakara, Frank Maiwald, Lance Milligan, Oliver Montes, Sharmila Padmanabhan, Richard Redick, Damon Russel, Vin Bach, Phillip Walkemeyer, Jet Propulsion Laboratory</i>	
TH4-L8.4: PRELAUNCH ANTENNA CALIBRATION OF CUBESAT MMW/SMMW	5565
RADIOMETERS WITH APPLICATION TO THE POLARCUBE 3U TEMPERATURE SOUNDING RADIOMETER MISSION	
<i>Lavanya Periasamy, Albin J. Gasiewski, University of Colorado Boulder</i>	
TH4-L8.5: MICROWAVE CUBESAT FLEET SIMULATION FOR HYDROMETRIC TRACKING	5569
IN SEVERE WEATHER	
<i>Kun Zhang, Albin J. Gasiewski, University of Colorado Boulder</i>	
 TH1-L9: LIDAR TECHNOLOGY AND APPLICATIONS	
TH1-L9.1: DECOMPOSING LIDAR WAVEFORMS WITH NONPARAMETRIC CLASSIFICATION	5573
METHODS	
<i>Qinghua Li, Serkan Ural, Jie Shan, Purdue University</i>	
TH1-L9.3: A FEATURE PRESERVING ALGORITHM FOR POINT CLOUD SIMPLIFICATION	5581
BASED ON HIERARCHICAL CLUSTERING	
<i>Pengcheng Zhao, Yue Wang, Qingwu Hu, Wuhan University</i>	
TH1-L9.4: IDENTIFYING ASIAN DUST WITH DIGITAL IMAGING OF ATMOSPHERIC LASER	5585
LIGHT SCATTER	
<i>Nimmi Sharma, Central Connecticut State University; John Barnes, NOAA</i>	
 TH2-L9: RECENT ADVANCES IN GNSS-R	
TH2-L9.1: THE SOFTWARE PARIS INTERFEROMETRIC RECEIVER (SPIR)	5593
<i>Serni Ribó, Juan Carlos Arco-Fernández, Oleguer Nogués-Correig, Fran Fabra, Estel Cardellach, Antonio Rius, ICE CSIC/IEEC; Manuel Martín-Neira, European Space Agency - ESTEC</i>	
TH2-L9.2: THE GNSS REFLECTOMETRY RESPONSE TO THE OCEAN SURFACE	5596
<i>Paul Chang, Zorana Jelenak, Seubson Soisuvann, Faozi Said, NOAA/NESDIS/Center for Satellite Applications and Research</i>	
TH2-L9.3: SYNOPTIC CAPABILITIES OF THE GNSS-R INTERFEROMETRIC TECHNIQUE	5600
WITH THE SPIR INSTRUMENT	
<i>Fran Fabra, Estel Cardellach, Serni Ribó, Weiqiang Li, Antonio Rius, IEEC/ICE-CSIC; Jaan Praks, Erkka Rouhe, Jaakko Seppänen, Aalto University; Manuel Martín-Neira, European Space Agency - ESTEC</i>	
TH2-L9.4: IMPACT OF MULTI-PATH BY ISS STRUCTURE ON GEROS-ISS MEASURED	5603
WAVEFORMS	
<i>Hyuk Park, Adriano Camps, Ivan Sekulic, J.M. Rius, Daniel Pascual, Alberto Alonso-Arroyo, Jorge Querol, Raúl Onrubia, Universitat Politècnica de Catalunya</i>	
TH2-L9.5: IMPROVEMENT OF PAU/PARIS END-TO-END PERFORMANCE SIMULATOR	5607
(P2EPS): LAND SCATTERING INCLUDING TOPOGRAPHY	
<i>Hyuk Park, Adriano Camps, Daniel Pascual, Alberto Alonso-Arroyo, Jorge Querol, Raúl Onrubia, Universitat Politècnica de Catalunya</i>	

TH3-L9: INSTRUMENTATION ADVANCES FOR REFLECTOMETRY WITH GNSS AND SIGNALS OF OPPORTUNITY (GNSS+R) I

TH3-L9.1: INNOVATIVE SEA SURFACE MONITORING WITH GNSS-REFLECTOMETRY5611 ABOARD ISS: OVERVIEW AND RECENT RESULTS FROM GEROS-ISS

Jens Wickert, GFZ Potsdam; O. Andersen, Technical University of Denmark; J. Bandejas, Deimos Engenharia; L. Bertino, Nansen Environmental and Remote Sensing Centre; Estel Cardellach, IEEC/ICE-CSIC, Institute of Space Sciences; Adriano Camps, IEEC/CTE-UPC, Center for Space Technologies; N. Catarino, Deimos Engenharia; Bertrand Chapron, IFREMER; Giuseppe Foti, Christine Gommenginger, National Oceanography Center; J. Hatton, European Space Agency; P. Høeg, Technical University of Denmark; A. Jäggi, University Bern; M. Kern, European Space Agency; T. Lee, Jet Propulsion Laboratory, California Institute of Technology; Manuel Martín-Neira, European Space Agency; H. Park, IEEC/CTE-UPC, Center for Space Technologies; Nazzareno Pierdicca, Sapienza University of Rome; J. Rosello, European Space Agency; M. Semmling, GFZ Potsdam; C.K. Shum, The Ohio State University; Cinzia Zuffada, Jet Propulsion Laboratory, California Institute of Technology; F. Soulat, Collecte Localisation Satellites; A. Sousa, Deimos Engenharia; J. Xie, Nansen Environmental and Remote Sensing Centre

TH3-L9.3: FIRST SHIPBORNE GNSS-R CAMPAIGN FOR RECEIVING LOW ELEVATION 5613 ANGLE SEA SURFACE REFLECTED SIGNALS

Junming Xia, Weihua Bai, Danyang Zhao, Yueqiang Sun, Xiangguang Meng, Congliang Liu, Qifei Du, Xianyi Wang, Dongwei Wang, Di Wu, Chunjun Wu, Cheng Liu, Yuerong Cai, National Space Science Center; Chinese Academy of Sciences

TH3-L9.4: FIRST RESULTS FROM THE GLORIE POLARIMETRIC GNSS-R AIRBORNE 5617 CAMPAIGN DEDICATED TO LAND PARAMETERS ESTIMATION

Erwan Motte, Mehrez Zribi, Pascal Fanise, Frédéric Baup, Centre d'Études Spatiales de la Biosphère (CESBIO); Nicolas Baghdadi, IRSTEA; Pierre-Louis Frison, Matis-IGN / UPEM; Dominique Guyon, INRA; Laurent Lestarquit, GRSG/CNES; Jean-Pierre Wigneron, INRA

TH3-L9.5: ALTIMETRIC PERFORMANCE OF THE GEROS EXPERIMENT AT THE ISS 5621

Adriano Camps, Hyuk Park, Raúl Onrubia, Daniel Pascual, Jorge Querol, Alberto Alonso-Arroyo, Universitat Politècnica de Catalunya – BarcelonaTech and IEEC/UPC; Javier Benito, Ana Andres-Bevide, Sergio Moreno, Airbus Defence and Space; Xabier Ballesteros, Marc Segarra, Roger Vilaseca, MIER Comunicaciones; Antonio Rius, Institut de Ciències de l'Espai/CSIC and IEEC/CSIC; Manuel Martín-Neira, European Space Agency - ESTEC

TH4-L9: INSTRUMENTATION ADVANCES FOR REFLECTOMETRY WITH GNSS AND SIGNALS OF OPPORTUNITY (GNSS+R) II

TH4-L9.1: STUDIES OF TDS-1 GNSS-R OCEAN ALTIMETRY USING A “FULL DDM” 5625 RETRIEVAL APPROACH

Jeonghwan Park, Joel Johnson, Andrew O'Brien, The Ohio State University; Stephen Lowe, Jet Propulsion Laboratory

TH4-L9.2: PRELIMINARY RESULTS OF FENIX: FRONT-END GNSS INTERFERENCE 5627 EXCISOR

Jorge Querol, Eva Maria Julian, Raúl Onrubia, Alberto Alonso-Arroyo, Daniel Pascual, Adriano Camps, UPC-BarcelonaTech

TH4-L9.3: HIGH RATE INTERFERENCE PATTERN TECHNIQUE APPLIED TO REAL TIME 5631 ALTIMETRY

Jean-Christophe Kucwaj, Georges Stienne, Serge Reboul, Jean-Bernard Choquel, Mohammed Benjelloun, Université du Littoral Côte d'Opale

TH4-L9.4: GROUND-BASED GNSS-R SOLUTIONS BY MEANS OF SOFTWARE DEFINED 5635 RADIO

Thomas Hobiger, Rüdiger Haas, Joakim Strandberg, Chalmers University of Technology

TH4-L9.5: AIRBORNE P-BAND SIGNAL OF OPPORTUNITY (SOOP) DEMONSTRATOR 5638 INSTRUMENT; STATUS UPDATE

Joseph Knuble, Jeffrey Piepmeier, Manohar Deshpande, Cornelis Du Toit, NASA Goddard Space Flight Center; James Garrison, Yao-Cheng Lin, Georges Stienne, Stephen Katzberg, Purdue University; George Alikakos, Harris Inc.

TH1-L10: ADVANCED METHODS FOR POLARIMETRIC SAR INFORMATION EXTRACTION I

TH1-L10.1: SCATTERING POWER DECOMPOSITION AND ITS APPLICATIONS..... 5642
Yoshio Yamaguchi, Yi Cui, Niigata University; Gulab Singh, Avik Bhattacharya, Indian Institute of Technology, Bombay

TH1-L10.3: EXPERIMENTAL STUDY ON MULTI-BASELINE POLSAR SCATTERING 5646
COMPONENT DECOMPOSITION
Hiroyoshi Yamada, Niigata University; Motofumi Arie, Mitsubishi Space Software Co., Ltd.; Ryoichi Sato, Yoshio Yamaguchi, Niigata University; Shoichiro Kojima, National Institute of Information and Communications Technology

TH1-L10.4: BLIND SOURCE SEPARATION IN POLARIMETRIC SAR INTERFEROMETRY..... 5650
Gabriel Vasile, CNRS; Leandro Pralon, Grenoble INP

TH1-L10.5: DEVELOPMENT OF CIRCULARLY POLARIZED SYNTHETIC APERTURE RADAR 5654
FOR AIRCRAFT AND MICROSATELLITE
Josaphat Tetuko Sri Sumantyo, Nobuyoshi Imura, Chiba University

TH2-L10: ADVANCED METHODS FOR POLARIMETRIC SAR INFORMATION EXTRACTION II

TH2-L10.1: TARGET SCATTERING DECOMPOSITION: A REVIEW..... 5658
Ridha Touzi, CCRS

TH2-L10.2: A NEW CHANGE DETECTOR IN POLSAR IMAGERY 5662
Junjun Yin, University of Science and Technology Beijing; Jian Yang, Tsinghua University

TH2-L10.3: SUBAPERTURE ANALYSIS OF POLARIMETRIC SAR DATA FOR ICEBERG 5666
DETECTION
Vahid Akbari, Anthony Paul Doulgeris, Camilla Brekke, UiT- The Arctic University of Norway

TH2-L10.4: THEORETICAL CHARACTERIZATION OF MULTI INCIDENCE ANGLE AND 5670
FULLY POLARIMETRIC SAR DATA FROM RICE PADDIES
Motofumi Arie, Mitsubishi Electric Corporation; Takeshi Nishimura, Tomomi Komatsu, Mitsubishi Space Software Co., Ltd.; Hiroyoshi Yamada, Niigata University; Tatsuharu Kobayashi, Shoichiro Kojima, Toshihiko Umehara, NICT

TH2-L10.5: RICE PHENOLOGY RETRIEVAL AUTOMATICALLY USING POLARIMETRIC SAR..... 5674
Kun Li, Zhi Yang, Yun Shao, Long Liu, Fengli Zhang, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences

TH3-L10: SAR POLARIMETRY: THEORY AND APPLICATIONS I

TH3-L10.1: COASTAL ZONE LAND-USE CLASSIFICATION OF FULL-POLARIZATION SAR DATA 5678
BASED ON JOINT SPARSE
Shuiping Gou, Peng Wang, Xidian University; Xiaofeng Li, GST at National Oceanic and Atmospheric Administration; Licheng Jiao, Xidian University

TH3-L10.3: STUDY ON FINE FEATURE DESCRIPTION OF MULTI-ASPECT SAR 5682
OBSERVATIONS
Yun Lin, Wen Hong, Yang Li, Institute of Electronics, Chinese Academy of Sciences; Weixian Tan, Inner Mongolia University of Technology; Lingjuan Yu, Liying Hou, Jianfeng Wang, Yan Liu, Weiyang Wang, Institute of Electronics, Chinese Academy of Sciences

TH3-L10.4: CROP SCATTERING ANALYSIS OF L-BAND POLSAR DATA FOR VEGETATION AND 5686
SOIL MONITORING
Matias Barber, Institute of Astronomy and Space Physics; Carlos López-Martínez, Universitat Politècnica de Catalunya; Francisco Grings, Institute of Astronomy and Space Physics

TH3-L10.5: INTERNATIONAL DEVELOPMENT OF MULTI-BAND POL-INSAR SATELLITE 5690
SENSORS FOR PROTECTING THE FLORA AND FAUNA AS WELL AS NATURAL LAND AND
COASTAL ENVIRONMENT WITHIN THE EQUATORIAL BELT OF +/- 23.77°, +/- 18°, +/- 12° AND
+/- 8° LATITUDE

Wolfgang-Martin Boerner, Danilo Erricolo, Tadahiro Negishi, Rui Yang, University of Illinois at Chicago; Gerhard Krieger, Andreas Reigber, Alberto Moreira, Deutsches Zentrum für Luft und Raumfahrt

TH4-L10: SAR POLARIMETRY: THEORY AND APPLICATIONS II

TH4-L10.1: POLARIMETRIC CHARACTERIZATION OF 3-D SCENES USING 5694
HIGH-RESOLUTION AND FULL-RANK POLARIMETRIC TOMOGRAPHIC SAR FOCUSING

Laurent Ferro-Famil, University of Rennes 1, IETR; Yue Huang, INRIA Bretagne Atlantique; Stefano Tebaldini, Politecnico di Milano, DEIB

TH4-L10.2: RIEMANNIAN SPARSE CODING FOR CLASSIFICATION OF POLSAR IMAGES..... 5698

Wen Yang, Neng Zhong, Xiangli Yang, Wuhan University; Anoop Cherian, The Australian National University

TH4-L10.3: POLARIMETRIC SAR CHANGE DETECTION IN MULTIPLE FREQUENCY BANDS 5702
FOR ENVIRONMENTAL MONITORING IN ARCTIC REGIONS

Andreas Reigber, Marc Jäger, German Aerospace Center (DLR); Ernst Krogager, DDRE

TH4-L10.4: SHIP DETECTION IN POLARIMETRIC SAR IMAGES USING TARGETS' SPARSE 5706
PROPERTY

Shengli Song, Bin Xu, Jian Yang, Tsinghua University

TH4-L10.5: CHARACTERIZING VEGETATION AND SOIL PARAMETERS ACROSS DIFFERENT 5710
BIOMES USING POLARIMETRIC P-BAND SAR MEASUREMENTS

Seyed Hamed Alemohammad, Massachusetts Institute of Technology; Alexandra G. Konings, Stanford University; Thomas Jagdhuber, German Aerospace Center (DLR); Dara Entekhabi, Massachusetts Institute of Technology

TH1-L11: AEROSOLS AND ATMOSPHERIC CHEMISTRY I

TH1-L11.1: REMOTE SENSING MEASUREMENTS OF AEROSOL OPTICAL PROPERTIES 5713
DURING THE 2015 INDONESIAN BIOMASS BURNING

Santo V. Salinas, Soo Chin Liew, National University of Singapore

TH1-L11.2: ESTIMATE PM2.5 CONCENTRATION IN 500M RESOLUTION FROM SATELLITE 5716
DATA AND GROUND OBSERVATION

Lixin Wu, Yang Bai, Yuanyuan Zhang, Jiale Li, Yafang Han, Kai Qin, China University of Mining and Technology

TH1-L11.3: VALIDATION OF AEROSOL PROFILES FROM SCIAMACHY LIMB SCATTER 5720
MEASUREMENTS

Jingmei Yang, Institute of Atmospheric Physics, Chinese Academy of Sciences

TH1-L11.4: CHARACTERIZING POLLUTION WEATHER PATTERNS USING SATELLITE 5724
CARBON MONOXIDE DATA

Huiling Yuan, Nanjing University; Jane Liu, Nanjing University & Toronto University; Lei Lei, Han Han, Nanjing University

TH1-L11.5: SATELLITE REMOTE SENSING OF AEROSOL OPTICAL DEPTH, SO2 AND NO2 5727
OVER CHINA'S BEIJING-TIANJIN-HEBEI REGION DURING 2002-2013

Kai Qin, Mingyu Hu, Lixin Wu, Lanlan Rao, Hongmei Lang, Luyao Wang, Bai Yang, China University of Mining and Technology

TH2-L11: AEROSOLS AND ATMOSPHERIC CHEMISTRY II

TH2-L11.1: A HIGH-RESOLUTION GLOBAL DATASET OF AEROSOL OPTICAL DEPTH OVER LAND FROM MODIS DATA 5729

Lin Sun, Jing Wei, Chen Jia, Yikun Yang, Xueying Zhou, Ping Gan, Fangwei Liu, Shangfeng Jia, Ruibo Li, Shandong University of Science and Technology

TH2-L11.2: REMOTE SENSING OF PARTICULATE MATTER CONCENTRATIONS OVER THE UNIED ARAB EMIRATES (UAE) 5733

Jun Zhao, Marouane Temimi, Masdar Institute of Science and Technology; Fahad Mohammad Saeed Hareb, Ministry of Environment and Water, UAE; Iyasu Eibedingil, Masdar Institute of Science and Technology

TH2-L11.3: A NEW ALGORITHM FOR AEROSOL RETRIEVAL USING HJ-1 CCD AND MODIS NDVI DATA OVER URBAN AREAS 5737

Weihong Han, Ling Tong, Yunping Chen, University of Electronic Science and Technology of China

TH2-L11.4: LONG TEMPORAL ANALYSIS OF AEROSOL OPTICAL DEPTH FROM 3 KM MODIS AEROSOL PRODUCTS OVER XUZHOU AREA IN CHINA 5741

Yanjun Li, Chao Liu, Qingmiao Ma, Yingjie Li, Chao Ji, Qingju Song, Kangchen Liu, Jiangsu Normal University

TH2-L11.5: AEROSOL OPTICAL DEPTH RETRIEVAL FROM RECALIBRATED AVHRR DATA FOR CHINA MAINLAND IN 1998 5745

Xingwei He, Yong Xue, Jie Guang, Linlu Mei, The Institute of Remote Sensing and Digital Earth of Chinese Academy of Sciences

TH3-L11: AIR POLLUTION

TH3-L11.1: POTENTIAL APPLICATION OF DMSP/OLS NIGHTTIME LIGHT DATA FOR ESTIMATING GROUND-LEVEL PM_{2.5} CONCENTRATIONS 5749

Xueke Li, Chuanrong Zhang, Weidong Li, University of Connecticut; Kai Liu, Institute of Geographic Sciences and Natural Resources, Chinese Academy of Sciences

TH3-L11.2: SPACEBORNE MICROWAVE AND INFRARED RADIOMETRIC OBSERVATIONS DURING THE SUB-PLINIAN ERUPTION OF CALBUCCO VOLCANO IN 2015 5753

Frank S. Marzano, Sapienza University of Rome; Mario Montopoli, Domenico Cimini, CNR; Arve Kylling, NILU

TH3-L11.3: SPATIAL AND TEMPORAL DISTRIBUTION OF AEROSOL PROPERTIES IN BRAZIL, CHINA, AUSTRALIA AND CANADA DURING 2000-2012 5757

Ying Li, Chinese Academy of Sciences; Xue Yong, London Metropolitan University; Guang Jie, Linlu Mei, Chinese Academy of Sciences

TH3-L11.4: MAPPING PM_{2.5} DISTRIBUTION IN CHINA BY FUSING STATION MEASUREMENTS AND SATELLITE OBSERVATION 5761

Tongwen Li, Huanfeng Shen, Liangpei Zhang, Wuhan University

TH3-L11.5: ACHIEVEMENTS OF THE REFER PROJECT IN THE PREVENTION PHASE OF THE FOREST FIRE MANAGEMENT 5765

Giovanni Laneve, Lorenzo Fusilli, Guido Bernini, Università di Roma 'La Sapienza'

TH4-L11: EARTHQUAKE & SUBSIDENCE

TH4-L11.1: BUILDING COLLAPSE EXTRACTION USING MODIFIED FREEMAN DECOMPOSITION FROM POST-DISASTER POLARIMETRIC SAR IMAGE 5769

Qihao Chen, Linlin Li, China University of Geosciences; Ping Jiang, Meteorological Service Center of Xinjiang Meteorological Bureau; Xiuguo Liu, China University of Geosciences

TH4-L11.2: LANDSLIDES ANALYSIS IN WESTERN MOUNTAINOUS AREAS OF CHINA USING DISTRIBUTED SCATTERERS BASED INSAR 5773

Jie Dong, Jianya Gong, Mingsheng Liao, Lu Zhang, Xuguo Shi, Yuzhou Liu, Wuhan University

TH4-L11.3: USE OF REMOTE SENSING AND TOPOGRAPHIC SLOPE IN EVALUATING SEISMIC SITE-CONDITIONS IN DAMASCUS REGION	5777
<i>Raed Ahmad, National Earthquake Center; Ramesh P. Singh, Chapman University</i>	
TH4-L11.4: IMPROVING THE EXTRACTION OF CRISIS INFORMATION IN THE CONTEXT OF FLOOD, LANDSLIDE, AND FIRE RAPID MAPPING USING SAR AND OPTICAL REMOTE SENSING DATA	5781
<i>Claire Huber, Stephen Clandillon, ICube-SERTIT, UNISTRA; Sandro Martinis, André Twele, Simon Plank, German Aerospace Center (DLR); Jérôme Maxant, ICube-SERTIT, UNISTRA; Wenxi Cao, German Aerospace Center (DLR); Sadri Haouet, Hervé Yésou, ICube-SERTIT, UNISTRA; Stéphane May, CNES</i>	
TH4-L11.5: CRUSTAL DEFORMATION ON THE KOREA PENINSULA BASED ON GNSS DATA DURING 2004-2015	5785
<i>Hyojin Yang, Sun-Cheon Park, Won-Jin Lee, National Institute of Meteorological Science</i>	
TH1-L12: THE CHINA FRANCE OCEANOGRAPHY SATELLITE: A NEW MISSION FOR OCEAN WIND AND WAVE OBSERVATIONS I	
TH1-L12.1: OVERVIEW OF THE CFOSAT MISSION	5789
<i>Danièle Hauser, CNRS, UVSQ, UPMC; Xiaolong Dong, National Space Science Center, Chinese Academy of Sciences; Lotfi Aouf, Météo-France; Céline Tison, Patrick Castillan, CNES</i>	
TH1-L12.3: THE SWIM INSTRUMENT, A WAVE SCATTEROMETER ON CFOSAT MISSION	5793
<i>Thomas Grelier, Thierry Amiot, Céline Tison, CNES; Lauriane Delaye, Danièle Hauser, LATMOS, CNRS, UVSQ, UPMC; Patrick Castillan, CNES</i>	
TH1-L12.4: SIMULATION AND RETRIEVAL OF WIND OF CFOSAT ROTATING-FAN BEAM SCATTEROMETER	5797
<i>Risheng Yun, Xingou Xu, Xiaolong Dong, Di Zhu, National Space Science Center, Chinese Academy of Sciences</i>	
TH1-L12.5: RECENT ADVANCES IN DEVELOPING THE CFOSAT SCATTEROMETER	5801
<i>Di Zhu, Xiaolong Dong, Risheng Yun, Xingou Xu, National Space Science Center, Chinese Academy of Sciences</i>	
TH2-L12: THE CHINA FRANCE OCEANOGRAPHY SATELLITE: A NEW MISSION FOR OCEAN WIND AND WAVE OBSERVATIONS II	
TH2-L12.1: EXPECTED PERFORMANCE OF THE WIND RETRIEVAL FROM THE CFOSAT ROTATING FAN-BEAM SCATTEROMETER	5804
<i>Ad Stoffelen, Zhen Li, Jos de Kloe, Koninklijk Nederlands Meteorologisch Instituut</i>	
TH2-L12.2: SIMULATION AND RETRIEVAL OF CFOSAT AT WHITECAP SEA	5808
<i>Xiuzhong Li, Yijun He, Biao Zhang, Jiangsu Research Center for Ocean Survey Technology and School of Marine Sciences</i>	
TH2-L12.3: A SIMULATION STUDY ON REMOTE SENSING OF QUASI-GAUSSIAN SEA WAVE SLOPES BY THE WAVE SCATTEROMETER SWIM	5812
<i>Ping Chen, Huazhong University of Science and Technology; Danièle Hauser, Université de Versailles Saint-Quentin-en-Yvelines; Qihui Meng, Qiaohua Yin, Huazhong University of Science and Technology</i>	
TH2-L12.4: PERSPECTIVES FOR COMBINING AND EXPLOITING OCEAN WAVE SPECTRA MEASURED FROM DIFFERENT SPACE MISSIONS	5816
<i>Alexis Mouche, Bertrand Chapron, IFREMER; Harald Johnsen, Norut; Fabrice Collard, Ocean Data Lab; He Wang, NOTC; Gilles Guitton, Ocean Data Lab; Jinsong Yang, SIO; Romain Husson, CLS</i>	
TH2-L12.5: PERSPECTIVES FOR DIRECTIONAL SPECTRA ASSIMILATION : RESULTS FROM A STUDY BASED ON JOINT ASSIMILATION OF CFOSAT SYNTHETIC WAVE SPECTRA AND OBSERVED SAR SPECTRA FROM SENTINEL-1A	5820
<i>Lotfi Aouf, Météo-France; Danièle Hauser, IPSL/CNRS; Céline Tison, CNES; Alexis Mouche, IFREMER</i>	

TH3-L12: OCEAN ALTIMETRY

TH3-L12.1: VALIDATION OF COASTAL WAVE AND WIND MEASUREMENTS FROM SARAL/ALTIKA USING BUOYS IN TAIWAN STRAIT, CHINA 5823

He Wang, National Ocean Technology Center; Chaoying Shi, National Center of Ocean Standards and Metrology; Wanlin Zhai, Jianhua Zhu, Chuntao Chen, National Ocean Technology Center

TH3-L12.2: A NEW EDDY DETECTION METHOD WITH OBJECT SEGMENTATION STRATEGIES FOR SATELLITE ALTIMETRY 5827

Di Dong, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Peter Brandt, Florian Schütte, GEOMAR Helmholtz Centre for Ocean Research Kiel; Xiaofeng Yang, Ziwei Li, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences

TH3-L12.3: A PRELIMINARY IN SITU CALIBRATION FOR HY-2A SATELLITE ALTIMETER..... 5831

Yalong Liu, Yantai Marine Environmental Monitoring Center Station, State Oceanic Administration; Ke Xu, CAS Key Laboratory of Microwave Remote Sensing, National Space Science Center, Chinese Academy of Sciences; Yang Song, Yantai Marine Environmental Monitoring Center Station, State Oceanic Administration; Youguang Zhang, National Satellite Ocean Application Service

TH3-L12.4: MULTI-PARAMETER OCEAN SURFACE WIND SPEED RETRIEVAL BASED ON LEAST SQUARE METHOD 5835

Rongrong Zhang, Jiasheng Tian, Huazhong University of Science and Technology

TH3-L12.5: A FAST SWH RETRIEVAL ALGORITHM OF SATELLITE ALTIMETERS 5838

Xi-Yu Xu, Ke Xu, Shuang-Bao Yang, National Space Science Center, Chinese Academy of Sciences

TH4-L12: OCEAN BIOLOGY AND WATER QUALITY

TH4-L12.1: REMOTE SENSING OF SPATIAL-TEMPORAL VARIATIONS OF CHLOROPHYLL-A IN GALVESTON BAY, TEXAS 5841

Shuai Zhang, Huilin Gao, Texas A&M University; Antonietta Quigg, Texas A&M University at Galveston; Daniel Roelke, Texas A&M University

TH4-L12.2: COMPARISON BETWEEN PHOTOSYNTHETICALLY AVAILABLE RADIATION (PAR) ESTIMATED FROM MODIS AND GOES OVER THE GULF OF MEXICO 5845

Lin Qi, Xiamen University; Zhongping Lee, University of Massachusetts Boston

TH4-L12.3: VIIRS OCEAN COLOR PRODUCTS: A PROGRESS UPDATE..... 5848

Menghua Wang, Lide Jiang, Xiaoming Liu, Seunghyun Son, Junqiang Sun, Wei Shi, Liqin Tan, Karlis Mikelsons, Xiaolong Wang, Veronica Lance, NOAA/NESDIS/STAR

TH4-L12.4: NEURAL NETWORK TECHNOLOGY AND SEMI-ANALYTICAL APPROACH COMBINED MODEL FOR REMOTE SENSING CHLOROPHYLL-A CONCENTRATION 5852

Dacheng Wang, Yufei Li, Bo Gao, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences

TH4-L12.5: DETECTING RED TIDE USING SPECTRAL SHAPES..... 5856

Abdullah Rahman, Aslan Aslan, The University of Texas Rio Grande Valley

THP-P1: HYPERSPECTRAL TARGET DETECTION

THP-P1.1: A NOVEL HYPERSPECTRAL ANOMALY DETECTOR BASED ON LOW-RANK REPRESENTATION AND LEARNED DICTIONARY 5860

Yubin Niu, Bin Wang, Fudan University

THP-P1.2: ANOMALY DETECTION BASED ON QUADRATIC MODELING OF HYPERSPECTRAL IMAGERY 5864

Shengwei Zhong, Ye Zhang, Harbin Institute of Technology

THP-P1.3: FAST REAL-TIME TARGET DETECTION VIA TARGET-ORIENTED BAND SELECTION	5868
<i>Bo Peng, Lifu Zhang, Taixia Wu, Hongming Zhang, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
THP-P1.4: PARTICLE SWARM OPTIMIZATION-BASED BAND SELECTION FOR HYPERSPECTRAL TARGET DETECTION	5872
<i>Yan Xu, Qian Du, Nicolas Younan, Mississippi State University</i>	
THP-P1.5: USING SUPERPIXELS TO IMPROVE THE EFFICIENCY OF LAPLACIAN EIGENMAP BASED METHODS FOR TARGET DETECTION IN HYPERSPECTRAL IMAGERY	5876
<i>Xuewen Zhang, Rochester Institute of Technology; Yilong Liang, RIT; Nathan Cahill, Rochester Institute of Technology</i>	
THP-P1.6: PLANET MINERAL DISTRIBUTION DETECTION VIA CLUSTERING-AWARE NONNEGATIVE MATRIX FACTORIZATION	5880
<i>Jihao Yin, Chenyu Huang, Xiaoyan Luo, Hui Qv, Beihang University; Xiang Liu, Shanghai Institute of Spaceflight Control Technology; Bingnan Han, Beihang University</i>	
THP-P2: AGRICULTURAL PARAMETERS	
THP-P2.7: ESTIMATING SURFACE AIR TEMPERATURE AT A REGIONAL SCALE FOR NORTH CHINA BY REMOTE SENSING	5884
<i>Suhua Liu, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences; Hongbo Su, Florida Atlantic University; Renhua Zhang, Jing Tian, Shaohui Chen, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences; Weimin Wang, Lijun Yang, Hong Liang, Shenzhen Environmental Monitoring Center</i>	
THP-P2.8: THE POTENTIAL OF AIRBORNE HYPERSPECTRAL IMAGES TO DETECT LEAF NITROGEN CONTENT IN POTATO FIELDS	5888
<i>Feng Li, China Meteorological Administration; Victor Alchanatis, Volcani Center</i>	
THP-P2.9: IMPACT OF PLASTIC MULCH ON THE SURFACE SOIL HEAT FLUX ESTIMATION OVER COTTON IN NORTHWEST CHINA	5890
<i>Nana Li, Fuqiang Tian, Hongchang Hu, Tsinghua University</i>	
THP-P3: BIG DATA IN GEOSCIENCE	
THP-P3.10: BIG DATA PROCESSING USING HPC FOR REMOTE SENSING DISASTER DATA	5894
<i>Ujwala Bhangale, Kuldeep Kurte, Surya Durbha, Indian Institute of Technology, Bombay; Roger King, Nicolas Younan, Mississippi State University</i>	
THP-P3.13: VISUAL DATA MINING FOR FEATURE SPACE EXPLORATION USING IN-SITU DATA	5905
<i>Daniela Espinoza-Molina, Kevin Alonso, Mihai Datcu, German Aerospace Center (DLR)</i>	
THP-P3.14: DISTRIBUTED RETRIEVAL FOR MASSIVE REMOTE SENSING IMAGE METADATA ON SPARK	5909
<i>Fengyang Wang, Computer Network Information Center, Chinese Academy of Sciences, University of Chinese Academy of Sciences; Xuezi Wang, Wenjuan Cui, Xiao Xiao, Yuanchun Zhou, Jianhui Li, Computer Network Information Center, Chinese Academy of Sciences</i>	
THP-P3.15: A COST-EFFICIENT APPROACH FOR MEASURING MORAN'S INDEX OF SPATIAL AUTOCORRELATION IN GEOSTATIONARY SATELLITE DATA	5913
<i>Monidipa Das, Soumya K Ghosh, Indian Institute of Technology, Kharagpur</i>	

THP-P4: COMPUTATIONAL TECHNIQUES IN AGRICULTURE

THP-P4.17: BIAS ANALYSIS IN VALIDATION OF MODIS LAI PRODUCT: A CASE STUDY IN CROPLAND OF HUAILAI, NORTHERN CHINA 5921

Fu Lizhe, Qu Yonghua, Wang Jindi, Beijing Normal University

THP-P4.18: ASSIMILATION OF REMOTELY SENSED CANOPY VARIABLES INTO CROP MODELS FOR AN ASSESSMENT OF DROUGHT-RELATED YIELD LOSSESS: A COMPARSION OF MODELS OF DIFFERENT COMPLEXITY 5925

Raffaele Casa, Paolo Cosmo Silvestro, University of Tuscia; Hao Yang, Beijing Academy of Agriculture and Forestry Sciences; Stefano Pignatti, Simone Pascucci, CNR; Guijun Yang, Beijing Academy of Agriculture and Forestry Sciences

THP-P4.19: GLOBAL SENSITIVITY ANALYSIS OF WINTER WHEAT YIELD AND PROCESS-BASED VARIABLE WITH AQUACROP MODEL 5929

Huimin Xing, China University of Mining and Technology; Xingang Xu, Beijing Research Center for Information Technology in Agriculture; Fuqin Yang, China University of Mining and Technology; Haikuan Feng, Beijing Research Center for Information Technology in Agriculture; Guijun Yang, China University of Mining and Technology

THP-P4.20: POST STRATIFICATION ASSESSMENT OF THE NASS AUTOMATED STRATIFICATION METHOD BASED ON THE CROPLAND DATA LAYER 5933

Claire Boryan, Zhengwei Yang, Robert Seffrin, U.S. Department of Agriculture - National Agricultural Statistics Service

THP-P5: DIFFERENTIAL SAR INTERFEROMETRY I

THP-P5.22: USE OF DINSAR TECHNIQUES FOR THE ASSESSMENT OF TIDE GAUGE MEASUREMENTS FOR LONG TERM PAST SEA LEVEL EVOLUTION ESTIMATION RELIABILITY. 5941

Daniel Raucoules, BRGM - French Geological Survey; Cyril Poitevin, Université de la Rochelle and BRGM; Gonéri Le Cozannet, Guy Woppelmann, Marcello De Michele Marcello, BRGM - French Geological Survey

THP-P5.23: RESEARCH ON IONOSPHERIC EFFECTS AND ERROR CALIBRATION FOR L-BAND SPACEBORNE D-INSAR 5943

Siyao Du, Anxi Yu, Yongsheng Zhang, Qilei Zhang, Peng Wu, National University of Defense Technology; Qingsong Wang, Equipment Academy of the Rocket Force

THP-P5.24: ESTIMATION OF GROUND DEFORMATION IN MOUNTAIN AREAS WITH IMPROVED SAR INTERFEROMETRY 5947

Shengwei Wang, State Grid Sichuang Electric Power Company; Yan Chen, Hao Chen, Shiyu Luo, Lei He, Ling Tong, School of Automation Engineering, University of Electronic Science and Technology of China

THP-P5.25: PRELIMINARY RESEARCH ON LAND SUBSIDENCE PREDICTION METHOD IN BEIJING 5951

Zeng Deng, Student/Capital Normal University; Yinghai Ke, Huili Gong, Beibei Chen, Lin Zhu, Capital Normal University

THP-P5.26: PSINSAR TECHNIQUE TO MONITOR COASTAL LOWLAND SUBSIDENCE ALONG THE EASTERN COAST OF CHINA - A CASE STUDY IN ZHEJIANG COAST 5955

Man Li, Ling Zhang, Daqing Ge, Bin Liu, Yan Wang, Xiaofang Guo, China Aero Geophysical Survey and Remote Sensing Center for Land and Resources

THP-P6: DIFFERENTIAL SAR INTERFEROMETRY II

THP-P6.28: SURFACE DEFORMATION MONITORING USING TIME SERIES TERRASAR-X IMAGES OVER PERMAFROST OF QINGHAI-TIBET PLATEAU, CHINA 5963

Zhengjia Zhang, Chao Wang, Yixian Tang, Hong Zhang, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences

THP-P6.29: PHASE ESTIMATION OF DISTRIBUTED SCATTERER FOR HIGH RESOLUTION DATA STACKS IN NONURBAN AREAS	5967
<i>Huina Song, Yingfei Sun, University of Chinese Academy of Sciences; Robert Wang, Wenbo Fei, Yingjie Wang, Jili Wang, Institute of Electronics, Chinese Academy of Sciences</i>	
THP-P6.30: RIVER DIKE SUBCIDENCE ESTIMATION FROM SATLLITE-BORNE MULTI-TEMPORAL SAR INTERFEROMETRY	5971
<i>Takuma Anahara, Japan Aerospace Exploration Agency</i>	
THP-P6.31: X-BAND SAR INTERFEROMETRY FOR FOREST DYNAMICS DETECTION	5975
<i>Alexander Zakharov, Ludmila Zakharova, Kotelnikov IRE RAS; Tumen Chimitdorzhiev, IPMS SB RAS</i>	
THP-P6.32: MONITORING GROUND DEFORMATION IN HONG KONG INTERNATIONAL AIRPORT WITH NL-INSAR FILTERING	5978
<i>Qishi Sun, Liming Jiang, Yafei Sun, Lin Bai, Hansheng Wang, State Key Laboratory of Geodesy and Earth's Dynamics , Institute of Geodesy and Geophysics, CAS</i>	
THP-P7: DIFFERENTIAL SAR INTERFEROMETRY III	
THP-P7.33: LONG METAL CABLE SCATTERING FEATURES IN SPACE BORNE HIGH RESOLUTION SAR IMAGES	5982
<i>Zhiguo Chen, Tao Li, Xiaozhi Zhang, Sha Li, Ailin Hou, Wuhan University; Yan Liu, China Electric Power Research Institute</i>	
THP-P7.34: USING GB-SAR TECHNIQUE TO MONITOR DISPLACEMENT OF OPEN PIT SLOPE	5986
<i>Bin Liu, Daqing Ge, Man Li, Ling Zhang, Yan Wang, China Aero Geophysical Survey and Remote Sensing Center for Land and Resources; Xiaobo Zhang, China University of Mining and Technology / College of Geoscience and Surveying Engineering</i>	
THP-P7.35: COSEISMIC AND EARLY-POSTSEISMIC DISPLACEMENTS OF THE 2015 MW8.3 ILLAPEL (CHILE) EARTHQUAKE IMAGED BY SENTINEL-1A AND RADARSAT-2	5990
<i>Wanpeng Feng, Sergey V. Samsonov, Canada Center for Mapping and Earth Observations, Natural Resources Canada, Ottawa Canada; Peng Li, College of Marine Geosciences, Ocean University of China; Khalid Omari, Canada Center for Mapping and Earth Observations, Natural Resources Canada, Ottawa Canada</i>	
THP-P7.36: DETECTION OF GAPS BETWEEN LAND AND BUILDING SURFACE DISPLACEMENT BY PSINSAR AND SBAS ANALYSIS USING L-BAND PALSAR DATA	5994
<i>Naoyuki Maruo, Junichi Susaki, Kyoto University; Tirawat Boonyatee, Chulalongkorn University; Kiyoshi Kishida, Kyoto University</i>	
THP-P7.37: A GEOCODING METHOD FOR SAR IMAGE BASED ON TIN LOOKUP TABLE	5998
<i>Jiwei Chen, Qiming Zeng, Jian Jiao, Jianghui Huang, Junsong Huang, Peking University</i>	
THP-P8: DIFFERENTIAL SAR INTERFEROMETRY IV	
THP-P8.38: JOINT APPLICATION OF DINSAR AND GROUND MEASUREMENTS: A CASE STUDY ON DUMP STABILITY ANALYSIS	6002
<i>Lianhuan Wei, Shanjun Liu, Yachun Mao, Ru Wang, Lixin Wu, Northeastern University; Jinyan Xu, State Oceanic Administration</i>	
THP-P8.39: AN IMPROVED DINSAR METHOD FOR MONITORING THE INCLINATION DISPLACEMENT OF THE POWER TRANSMISSION TOWERS USING RADARSAT-2 SPOTLIGHT MODE IMAGES	6006
<i>Baolong Wu, Ling Tong, Yan Chen, Lei He, University of Electronic Science and Technology of China</i>	
THP-P8.40: STABILITY ASSESSMENT OF HIGH-SPEED RAILWAY USING ADVANCED INSAR TECHNIQUE	6010
<i>Xiaoqiong Qin, Mingsheng Liao, Xuguo Shi, Mengshi Yang, Wuhan University</i>	

THP-P8.41: HIGH-PERFORMANCE ADAPTIVE LOCAL KRIGING APPLIED TO RECOVERING SURFACE DEFORMATION ASSOCIATED WITH THE FAULT ZONES	6014
<i>Meng-Che Wu, National Space Organization; Wen-Yen Chang, National Dong Hwa University; Yang-Lang Chang, Sheng-Yung Shih, National Taipei University of Technology; Chihyuan Chu, G-AVE Technology Corporation; Bormin Huang, University of Wisconsin, Madison</i>	
THP-P8.42: HIGHWAY DEFORMATION MONITORING BASED ON CRINSAR TECHNIQUE	6018
<i>Xing Xue Min, Wen De Bao, Yuan Zhihui, Chen Li Fu, Changsha University of Science and Technology</i>	
THP-P9: DIGITAL TERRAIN MODELS	
THP-P9.45: DOWN-SCALING SRTM SLOPE BASED ON HISTOGRAM MATCHING AND SLOPE DISTRIBUTION MODEL	6028
<i>Chunmei Wang, Qinke Yang, Jiaxin Wen, David L.B. Jupp, Northwest University</i>	
THP-P9.46: MODELING LANDSCAPE SPATIAL FREQUENCY CHARACTERISTICS --CASE STUDY IN LOESS HILLY AREA OF CHINA	6032
<i>Xiang Tu, Chunmei Wang, College of Urban and Environmental Science, Northwest University; Qinke Yang, College of Urban and Environmental Science, Northwest University / Institute of Soil and Water Conservation Chinese Academy of Sciences Ministry of Water Resources</i>	
THP-P9.47: ESTIMATION OF VERTICAL ACCURACY OF DIGITAL ELEVATION MODELS OVER COMPLEX TERRAINS OF INDIAN SUBCONTINENT	6036
<i>Siddharth Yadav, M.Tech Student; Indu J, Assistant Professor</i>	
THP-P9.48: GROUND-LEVEL DIGITAL TERRAIN MODEL (DTM) CONSTRUCTION FROM TANDEM-X INSAR DATA AND WORLDVIEW STEREO-PHOTOGRAMMETRIC IMAGES	6040
<i>Seung-Kuk Lee, Temilola Fatoyinbo, David Lagomasino, Batuhan Osmanoglu, Emanulle Feliciano, NASA Goddard Space Flight Center</i>	
THP-P10: GEOLOGICAL APPLICATIONS	
THP-P10.50: THE APPLICATION OF LANDSLIDE 3D MEASUREMENT BASED ON HIGH RESOLUTION SATELLITE STEREO PAIRS	6047
<i>Xia Li, Xiaoxia Huang, Hongga Li, Institute of Remote Sensing Applications, Chinese Academy of Science; Jinliang Han, Institute of Geomechanics, Chinese Academy of Geological Science</i>	
THP-P10.51: LAND DEFORMATION MAPPING WITH ALOS PALSAR DATA: A CASE STUDY OF TAIPEI CITY	6051
<i>Alex Hay-Man Ng, Linlin Ge, Xiaojing Li, University of New South Wales</i>	
THP-P10.52: ASSESS THE TOPOGRAPHIC RESOLUTION IMPACT ON SOIL LOSS	6055
<i>Qinggaozi Zhu, University of Technology Sydney; Xihua Yang, Office of Environment and Heritage, NSW; Qiang Yu, University of Technology Sydney</i>	
THP-P10.53: EVALUATION OF GEO-ECOLOGICAL ENVIRONMENT BEARING CAPACITY ALONG DUJIANGYAN-WENCHUAN HIGHWAY	6059
<i>Lei Wang, Sichuan No.3 Surveying and Mapping Engineering Institute; Guiyang Yu, Sichuan Road & Bridge(group)Co., Ltd; Yunhua Hu, Liang Li, Sichuan No.3 Surveying and Mapping Engineering Institute</i>	
THP-P10.54: IMPLICATION OF ACTIVE STRUCTURE IN EBINUR LAKE BASIN BY STREAM LENGTH-GRADIENT INDEX AND HACK PROFILE	6063
<i>Xiaoli Liu, Xue Li, Zhumei Liu, Xiaolin Chen, Shengle Li, Institute of Seismology, China Earthquake Administration</i>	
THP-P10.55: REMOTE SENSING ANALYSIS OF GEOLOGICAL STRUCTURES IN PENINSULAR MALAYSIA USING PALSAR DATA	6067
<i>Amin Beiranvand Pour, Mazlan Hashim, Geoscience and Digital Earth Centre (Geo-DEC) Research Institute for Sustainability and Environment (RISE) Universiti Teknologi Malaysia (UTM)</i>	

THP-P11: GLOBAL CHANGE STUDY

THP-P11.56: EFFECT OF CLIMATE CHANGE ON CALIFORNIA FISH SPECIES 6070

Allison Scavo, Ramesh P. Singh, Chapman University

**THP-P11.57: THE STUDY OF SUSTAINABLE DEVELOPMENT OF ALPINE PASTORAL 6074
REGION IN EASTERN TIBETAN PLATEAU BASED ON THE MODEL OF EMERGY ECOLOGICAL
FOOTPRINT**

Cui Yu, Wenlong Li, Di Chen, Lanzhou University; Jing Xu, Lanzhou Commercial College; Xulin Guo, University of Saskatchewan

**THP-P11.58: RETRIEVAL OF AOD OVER LAND SURFACE USING DIRECTIONAL 6078
MULTI-SPECTRAL POLARIZED DATA AND PRECISION ANALYSIS**

Qiongqiong Lan, Xiaobo Zhu, China center of Resources Satellite Data and Application

THP-P12: GROUND BASED GNSS AND OPTICAL SENSING

**THP-P12.60: SNOW DEPTH VARIATIONS ESTIMATED FROM THREE-FREQUENCY GPS 6086
INTERFEROMETRIC REFLECTOMETRY**

Xiaodong Qian, Shuanggen Jin, Xuerui Wu, Shanghai Astronomical Observatory, Chinese Academy of Sciences

**THP-P12.61: AN ENHANCED TECHNIQUE FOR GROUND-BASED OPTICAL SPACE DEBRIS 6090
EXTRACTION VIA RGA-BASED NEURAL NETWORKS ALGORITHM**

Peerapong Torteeka, Peng-Qi Gao, Ming Shen, Xiao-Zhang Guo, Da-Tao Yang, Huan-Huan Yu, Wei-Ping Zhou, Ming-Guo Sun, You Zhao, National Astronomical Observatories, Chinese Academy of Sciences

**THP-P12.62: NEW RADIOMETRIC CALIBRATION SITE LOCATED AT GOBABEB, NAMIB 6094
DESERT**

Agnieszka Bialek, National Physical Laboratory, University of Surrey; Claire Greenwell, National Physical Laboratory; Maxim Lamare, National Physical Laboratory, RHUL; Aimé Meygret, Sebastien Marcq, Sophie Lachérade, CNES; Emma Woolliams, National Physical Laboratory; Béatrice Berthelot, Magellium; Marc Bouvet, European Space Agency; Martin King, Royal Holloway University of London; Craig Underwood, University of Surrey; Nigel Fox, National Physical Laboratory

**THP-P12.63: A BISTATIC SAR SIMULATOR FOR GROUND-BASED FIXED-RECEIVER 6098
GEOMETRY**

Ovidiu-Marius Moaca, Anca-Andreea Popescu, Andrei Anghel, Mihai Datcu, University Politehnica of Bucharest

THP-P13: GROUND BASED RADAR AND OPTICAL SYSTEMS

THP-P13.64: FOLIAGE-PENETRATION HUMAN TRACKING BY MULTISTATIC RADAR..... 6102

Jun Zhang, Tian Jin, Yuan He, Lei Qiu, Zhimin Zhou, National University of Defense Technology

THP-P13.65: PERFORMANCE ANALYSIS FOR T-RN MULTISTATIC RADAR SYSTEM..... 6106

Jun Zhang, Tian Jin, Lei Qiu, Wenyan Liu, Zhimin Zhou, National University of Defense Technology

THP-P13.66: DOPPLER WALK RECTIFICATION BASED ON KWT IN PASSIVE RADAR.....6110

Xin Guan, Lihua Zhong, Donghui Hu, Chibiao Ding, Institute of Electronics, Chinese Academy of Sciences

**THP-P13.67: APPLICATION OF GROUND BASED RADAR SYSTEM IN STRUCTURAL6114
MONITORING**

Man Chung Chim, Daniele Perissin, Purdue University

**THP-P13.68: THE HETEROGENEITY ANALYSIS ON GROUND- BASED SITES FOR6117
EVALUATING SATELLITE-DERIVED LSTS**

Wenping Yu, Mingguo Ma, Southwest University; Junlei Tan, Cold and Arid Regions Environmental and Engineering Research Institute, Chinese Academy of Sciences

THP-P13.69: RESEARCH ON THE APPLICATION OF GROUND-BASED OPTICAL IMAGE FOR SLOPE RAPID MONITORING	6121
<i>Zhi Wang, Zhichao Chen, Yan Zhang, Huan Yang, Northeastern University; Jianmin Kang, Yaxin Sun, Meng Wang, Nian Li, Anshan Iron & Steel Group Mining Co.</i>	
THP-P13.70: IMPACT OF AMBIENT IRRADIANCE ON DETERMINATION OF SOIL EMISSIVITY FOR FIELD MEASUREMENTS	6125
<i>Chunlei Wang, Bo-Hui Tang, Hua Wu, Rong-Lin Tang, Zhao-Liang Li, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences</i>	
THP-P14: HYPERSPECTRAL DATA PROCESSING AND ANALYSIS	
THP-P14.71: HYPERSPECTRAL IMAGE SUPER RESOLUTION RECONSTRUCTION WITH A JOINT SPECTRAL-SPATIAL SUB-PIXEL MAPPING MODEL	6129
<i>Xiong Xu, Xiaohua Tong, Tongji University; Jie Li, Wuhan University; Huan Xie, Tongji University; Yanfei Zhong, Liangpei Zhang, Wuhan University; Dongmei Song, China university of Petroleum</i>	
THP-P14.72: UNCERTAINTY PROPAGATION FROM ATMOSPHERIC PARAMETERS TO SPARSE HYPERSPECTRAL UNMIXING	6133
<i>Marian-Daniel Iordache, Nitin Bhatia, Flemish Institute for Technological Research (VITO-TAP); Jose Bioucas-Dias, Universidade de Lisboa; Antonio Plaza, Universidad de Extremadura</i>	
THP-P14.73: PARALLEL ADAPTIVE SPARSITY-CONSTRAINED NMF ALGORITHM FOR HYPERSPECTRAL UNMIXING	6137
<i>Wenhong Wang, Yuntao Qian, Zhejiang University</i>	
THP-P14.75: CLASSIFICATION AND CLUSTERING PERSPECTIVE TOWARDS SPECTRAL UNMIXING	6145
<i>Arun P V, Krishna Mohan Buddhiraju, Indian Institute of Technology, Bombay</i>	
THP-P14.76: CONSTRAINED MULTIPLE BAND SELECTION FOR HYPERSPECTRAL IMAGERY	6149
<i>Hsiao-Chi Li, Chein-I Chang, University of Maryland, Baltimore County; Lin Wang, Xidian University; Yao Li, University of Maryland, Baltimore County</i>	
THP-P14.77: PARALLEL IMPLEMENTATION OF THE SIMPLEX GROWING ALGORITHM FOR HYPERSPECTRAL UNMIXING USING OPENCV	6153
<i>Sergio Bernabe, Guillermo Botella, Jose M. R. Navarro, Carlos Orueta, Manuel Prieto-Matias, Complutense University; Antonio Plaza, University of Extremadura</i>	
THP-P14.78: SIMULATION OF THE HYPERSPECTRAL DATA USING MULTISPECTRAL DATA	6157
<i>Varun Tiwari, Vinay Kumar, Kamal Pandey, Rigved Ranade, Shefali Agrawal, Indian Institute of Remote Sensing/ISRO, Dehradun</i>	
THP-P14.79: A NEW K-NEAREST NEIGHBOR DENSITY-BASED CLUSTERING METHOD AND ITS APPLICATION TO HYPERSPECTRAL IMAGES	6161
<i>Claude Cariou, Kacem Chehdi, University of Rennes 1</i>	
THP-P15: ICE SHEETS AND GLACIERS I	
THP-P15.81: MASS CHANGE OF GANGOTRI GLACIER BASED ON TANDEM-X MEASUREMENTS	6168
<i>Pratima Pandey, IIRS, Dehradun; Surendar Manickam, Avik Bhattacharya, Gulab Singh, Gopalan Venkataraman, Indian Institute of Technology, Bombay; P. K. Champati Ray, IIRS, Dehradun</i>	
THP-P15.82: AN ALGORITHM FOR THE DETECTION OF CALVING GLACIERS FRONTAL POSITION FROM TERRASAR-X IMAGERY	6171
<i>Lina Han, Technical University of Munich, Wuhan University; Dana Floricioiu, Michael Baessler, German Aerospace Center (DLR) IMF; Michael Eineder, German Aerospace Center (DLR) IMF, Technical University of Munich</i>	

THP-P16: ICE SHEETS AND GLACIERS II

THP-P16.84: GLACIAL SURFACE TOPOGRAPHY AND ITS CHANGES IN THE WESTERN QILIAN MOUNTAINS DERIVED FROM TANDEM-X BI-STATIC INSAR 6178

Yafei Sun, Liming Jiang, Qishi Sun, Lin Liu, Zhimin Zhang, Yongling Sun, Lin Bai, Hansheng Wang, State Key Laboratory of Geodesy and Earth's Dynamics, Institute of Geodesy and Geophysics, CAS

THP-P16.85: A LEAST-SQUARES ADJUSTED GROUNDING LINE FOR THE AMERY ICE SHELF USING ICESAT AND LANDSAT 8 OLI DATA 6181

Lei Chen, Huan Xie, Shuang Liu, Yanmin Jin, Jun Liu, Xiaohua Tong, Tongji University

THP-P16.86: ESTIMATIONS OF GLACIER MELTING IN GREENLAND FROM COMBINED SATELLITE GRAVIMETRY AND ICESAT 6185

Fang Zou, Shuanggen Jin, Shanghai Astronomical Observatory, Chinese Academy of Sciences

THP-P16.87: UNCERTAINTY OF GRACE-ESTIMATED LAND WATER AND GLACIERS CONTRIBUTIONS TO SEA LEVEL CHANGE DURING 2003-2012 6189

Shuanggen Jin, Shanghai Astronomical Observatory, Chinese Academy of Sciences; Guiping Feng, Shanghai Ocean University

THP-P17: INFORMATION EXTRACTION

THP-P17.88: ROBUST SPARSE UNMIXING OF HYPERSPECTRAL DATA 6193

Yong Ma, Wuhan University; Chang Li, Huazhong University of Science and Technology; Jiayi Ma, Wuhan University

THP-P17.89: AUTOMATED EXTRACTION OF IMAGE-BASED ENDMEMBER BUNDLES OF IMPERVIOUS LAYER USING ITERATIVE CLASSIFICATION STRATEGY 6197

Fei Xu, Xin Cao, Xuehong Chen, Jin Chen, State Key Laboratory of Earth Surface Processes and Resource Ecology, Beijing Normal University

THP-P17.90: COAST DOCK EXTRACTION METHOD BASED ON WATERLINE AND PERCEPTUAL ORGANIZATION 6201

Jintao Yu, Haitao Guo, Zhengzhou Institute of Surveying and Mapping; Chuanguang Li, Aerospace TITAN technology co.,LTD,Beijing; Jun Lu, Zhengzhou Institute of Surveying and Mapping

THP-P17.91: RANGE RESOLUTION IMPROVEMENT OF RANGE GATED LIDAR SYSTEM BY PHASE CODED METHOD 6205

Long Wu, Jijia Xu, Xiaocheng Yang, Wentao Lv, Qingheng Zhang, Jindi Yan, Zhejiang Sci-Tech University; Yong Zhang, Yuan Zhao, Harbin Institute of Technology

THP-P17.93: CHANGE DETECTION UNDER THE FOREST IN MULTITEMPORAL FULL-POLARIMETRIC P-BAND SAR IMAGES USING PAULI DECOMPOSITION 6213

Rafael Antonio da Silva Rosa, Bradar Indústria S/A; David Fernandes, Instituto Tecnológico de Aeronáutica; Thiago Barreto, Christian Wimmer, Bradar Indústria S/A; João Bosco Nogueira Júnior, Santo Antônio Energia S/A

THP-P18: INLAND WATERS

THP-P18.95: A HIERARCHICAL PROCESSING METHOD FOR SUBPIXEL SURFACE WATER MAPPING FROM HIGHLY HETEROGENEOUS URBAN ENVIRONMENTS USING LANDSAT OLI DATA 6221

Xin Luo, Huan Xie, Xiong Xu, Haiyan Pan, Xiaohua Tong, Tongji University

THP-P18.96: A RESEARCH ON TERRESTRIAL WATER STORAGE VARIATIONS WITH GRACE SATELLITE DATA IN THE JING-JIN-JI REGION 6225

Le Li, Lajiao Chen, Lizhe Wang, Institute for Remote Sensing and Digital Earth, Chinese Academy of Sciences

THP-P18.97: WATER BODY EXTRACTION AND CHANGE ANALYSIS BASED ON LANDSAT IMAGE IN XINJIANG COAL-MINING REGIONS	6229
<i>Sisi Yu, Shandong University of Science and Technology; Key Laboratory of Digital Earth Science, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Lin Sun, Shandong University of Science and Technology; Zhongchang Sun, Key Laboratory of Digital Earth Science, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Hainan Key Laboratory Earth Observation, Sanya Hainan; Mengfan Wu, Key Laboratory of Digital Earth Science, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Hunan Normal University</i>	
THP-P18.98: WATER AREA ANNUAL VARIATIONS OF NINE PLATEAU LAKES IN YUNNAN PROVINCE, CHINA: A BRIEF SPATIOTEMPORAL ANALYSIS WITH LANDSAT TIME SERIES	6233
<i>Wu Penghai, Cai Ning, Chen Qi, Jiang Changsheng, Wu Yanlan, Anhui University; Li Junli, Anhui Agricultural University</i>	
THP-P19: INTERDISCIPLINARY TOPICS I	
THP-P19.104: SIMULATION OF MOON-BASED OBSERVATION FOR LARGE-SCALE EARTH SCIENCE PHENOMENA	6253
<i>Yuanzhen Ren, Huadong Guo, Guang Liu, Hanlin Ye, Yixing Ding, Daowei Zhang, Zhixing Ruan, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Mingyang Lv, Nanjing University</i>	
THP-P20: INTERDISCIPLINARY TOPICS II	
THP-P20.106: A SIMULATION METHOD FOR THERMAL INFRARED IRRADIANCE OF LAND SURFACE FROM THE LUNAR	6259
<i>Chenwei Nie, Jingjuan Liao, Guozhuang Shen, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
THP-P20.108: SAR INFORMATION INTEGRATED PROCESSING AND ITS APPLICATION METHOD STUDY	6266
<i>Huadong Guo, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Jie Chen, Beihang University; Xinwu Li, Chunming Han, Lu Zhang, Guozhuang Shen, Junjie Zhu, Guang Liu, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Zhuo Li, Beihang University; Wenjin Wu, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Kai Wang, Beihang University; Huiying Liu, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
THP-P20.109: A BABY STEP FOR CHINA BUT A GIANT LEAP FOR HUMANS: THREE BASIC ISSUES WITH CHINESE INITIATIVE OF MOON-BASED EARTH OBSERVATION SAR SYSTEM	6270
<i>Yong Wang, Taoli Yang, Jiang Qian, University of Electronic Science and Technology of China</i>	
THP-P21: REMOTE SENSING FOR AGRICULTURAL HYDROLOGY	
THP-P21.110: THE MOISTURE CHARACTERISTICS FROM 1981 TO 2010 IN LONGDONG LOESS PLATEAU	6273
<i>Yaling Lu, Ni Guo, Institute of Arid Meteorology, CMA / Key Laboratory of Arid Climatic Change and Reducing Disaster of Gansu Province/ Key Laboratory of Arid Climatic Change and Disaster Reduction of CMA</i>	
THP-P21.112: STUDY ON CROP WATER REQUIREMENT IN THE MIDDLE REACHES OF HEIHE RIVER BASIN BASED ON SEBS MODEL	6281
<i>Yao Wang, Qi Li, Pengfei Wu, Aqiao Li, Changji Meteorological Bureau</i>	
THP-P21.113: MONITORING LEAF AREA INDEX AFTER HEADING STAGE USING HYPERSPECTRAL REMOTE SENSING DATA IN RICE	6284
<i>Jiaoyang He, Yehui Qin, Caili Guo, Liyun Zhao, Xiang Zhou, Xia Yao, Tao Cheng, Yongchao Tian, Nanjing Agricultural University</i>	
THP-P21.114: DROUGHT IMPACT ON WHEAT YIELD IN OKLAHOMA AND NEBRASKA: A REMOTE SENSING PERSPECTIVE	6288
<i>Jie Zhang, Inbal Becker-Reshef, University of Maryland</i>	

THP-P21.115: FAST EXTRACTION OF PLASTIC GREENHOUSES USING WORLDVIEW-2 IMAGES	6292
<i>Esma Pala, Kadim Tasdemir, Antalya International University</i>	
 THP-P22: REMOTE SENSING FOR CROP YIELD AND CLASSIFICATION	
THP-P22.116: CLIMATE IMPACTS ON WHEAT PHENOLOGY AND PRODUCTION USING MUTI-SOURCE DATA IN NSW, AUSTRALIA	6296
<i>Jianxiu Shen, Nguyen Ngoc Tran, Rakesh Devadas, Alfredo Huete, University of Technology Sydney; Hanzhi Zhang, Shenyang Academy of Environmental Sciences; Qiang Yu, University of Technology Sydney</i>	
THP-P22.117: EVALUATION OF LANDSAT 8 TIME SERIES IMAGE STACKS FOR PREDICITNG YIELD AND YIELD COMPONENTS OF WINTER WHEAT	6300
<i>Renzhong Song, Tao Cheng, Xia Yao, Yongchao Tian, Yan Zhu, Weixing Cao, Nanjing Agricultural University</i>	
THP-P22.119: MONITORING OF VARIABILITY IN CROP GROWTH ON RECONSTRUCTED AGRICULUTURAL LAND AFTER THE 2011 GREAT EAST JAPAN EARTHQUAKE	6308
<i>Chinatsu Yonezawa, Tohoku University; Manabu Watanabe, Tokyo Denki University</i>	
THP-P22.120: SPECTRAL SEPARABILITY ANALYSIS OF FIVE SOYBEAN CULTIVARS WITH DIFFERENT OZONE TOLERANCE USING HYPERSPECTRAL FIELD SPECTROSCOPY	6312
<i>Abduwasit Ghulam, Jack Fishman, Matthew Maimaitiyiming, Saint Louis University</i>	
THP-P22.121: USING HISTORICAL NDVI TIME SERIES TO CLASSIFY CROPS AT 30M SPATIAL RESOLUTION: A CASE IN SOUTHEAST KANSAS	6316
<i>Pengyu Hao, Li Wang, Yulin Zhan, Zheng Niu, Mingquan Wu, Chinese Academy of Sciences</i>	
 THP-P23: REMOTE SENSING IMAGE SEGMENTATION I	
THP-P23.122: A SELF-ADAPTED THRESHOLD-BASED REGION MERGING METHOD FOR REMOTE SENSING IMAGE SEGMENTATION	6320
<i>Jian Yang, Yuhong He, John Caspersen, University of Toronto</i>	
THP-P23.123: SUPERPIXEL SEGMENTATION OF POLARIMETRIC SAR IMAGE USING GENERALIZED MEAN SHIFT	6324
<i>Fengkai Lang, China University of Mining and Technology; Jie Yang, Wuhan University; Lixin Wu, China University of Mining and Technology; Jinyan Xu, State Oceanic Administration</i>	
THP-P23.124: MIMICK CAPACITY OF GENERALIZED GAMMA DISTRIBUTION FOR HIGH RESOLUTION SAR IMAGE STATISTICAL MODELING	6328
<i>Helene Sportouche, Jean-Marie Nicolas, Florence Tupin, Télécom ParisTech</i>	
THP-P23.125: OBJECT ORIENTED LAND COVER CLASSIFICATION COMBINING SCALE PARAMETER PREESTIMATION AND MEAN-SHIFT SEGMENTATION	6332
<i>Yufang Qiu, Dongping Ming, Xian Zhang, China University of Geosciences</i>	
THP-P23.126: A FAST AUTOMATIC U-DISTRIBUTION SEGMENTATION ALGORITHM FOR POLSAR IMAGES	6336
<i>Dingsheng Hu, Institute of Electronics, Chinese Academy of Sciences; Anthony Paul Doulgeris, University of Tromsø; Xiaolan Qiu, Bin Lei, Institute of Electronics, Chinese Academy of Sciences</i>	
 THP-P24: REMOTE SENSING IMAGE SEGMENTATION II	
THP-P24.127: REMOTE SENSING IMAGE SEGMENTATION BASED ON WILCOXON RANK SUM TEST AND MEAN ABSOLUTE DEVIATION	6340
<i>Libao Zhang, Shuang Wang, Qiaoyue Sun, Aoxue Li, Beijing Normal University</i>	

THP-P24.128: CLASSIFICATION OF MULTI-LOOK POLARIMETRIC SAR IMAGERY BASED ON THE AUTOMATED EM GAUSSIAN CLUSTERING ALGORITHM USING THE COMPLEX WISHART DISTRIBUTION	6344
<i>Boularbah Souissi, Mounira Ouarzeddine, University of Science and Technology Houari Boumedienne</i>	
THP-P24.129: PARALLEL PROCESSING FOR ACCELERATED MEAN SHIFT ALGORITHM BASED ON TBB	6348
<i>Ling Ding, Institute of Earthquake Science, China Earthquake Administration; Hongyi Li, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
THP-P24.130: HYPERSPECTRAL OIL SPILL IMAGE SEGMENTATION USING IMPROVED REGION-BASED ACTIVE CONTOUR MODEL	6352
<i>Meiping Song, Liufen Cai, Bin Lin, Jubai An, Chein-I Chang, Dalian Maritime University</i>	
 THP-P25: REMOTE SENSING IN MINING	
THP-P25.131: REGIONAL LITHOLOGICAL MAPPING IN THE TIBETAN PLATEAU AND SURROUNDING AREA USING ASTER DATA	6356
<i>Yoshiki Ninomiya, Geological Survey of Japan / AIST; Bihong Fu, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
THP-P25.135: APPLICATION OF RADAR AND OPTICAL REMOTE SENSING DATA IN LITHOLOGIC CLASSIFICATION AND IDENTIFICATION	6370
<i>Weilin Yuan, China Aero Geophysical Survey and Remote Sensing Center for Land and Resources; Yan Ma, Aviation Accident Investigation Center Civil Aviation Administration of China; Shengwei Liu, China Aero Geophysical Survey and Remote Sensing Center for Land and Resources</i>	
THP-P25.136: REMOTE SENSING DETECTION FOR SURFACE ANOMALIES RELATED TO HYDRACARBON IN BASHIBULAKE URANIUM ORE, SOUTHERN TIANSHAN	6374
<i>Pilong Shi, Bihong Fu, Yuanxu Ma, Qiang Guo, Huan Xu, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
 THP-P26: REMOTE SENSING OF CROP DISEASES AND NUTRIENTS	
THP-P26.137: CITRUS GUMMOSIS DISEASE SEVERITY CLASSIFICATION USING PARTICIPATORY SENSING, REMOTE SENSING AND WEATHER DATA	6378
<i>Jayantrao Mohite, Bhushan Jagyasi, Sonali Kulkarni, Srinivasu Pappula, Tata Consultancy Services</i>	
THP-P26.139: DIAGNOSIS THE DUST STRESS OF WHEAT LEAVES WITH HYPERSPECTRAL INDICES AND RANDOM FOREST ALGORITHM	6385
<i>Liang Liang, Xiang Luo, Qin Sun, Jia Rui, Jialing Li, Jingmin Liang, Hui Lin, Jiangsu Normal University</i>	
THP-P26.140: SOYBEAN CANOPY NITROGEN MONITORING AND PREDICTION USING GROUND BASED MULTISPECTRAL REMOTE SENSORS	6389
<i>Yang Song, Jinfei Wang, University of Western Ontario</i>	
THP-P26.141: MONITORING AVAILABLE PHOSPHORUS CONTENT IN SOIL OF CULTIVATED LAND BASED ON HYPERSPECTRAL TECHNOLOGY	6393
<i>Xiaohe Gu, Lei Wang, Lizhi Wang, Youbo Fan, Hao Yang, Huiling Long, Beijing Research Center for Information Technology in Agriculture</i>	
THP-P26.142: CHLOROPHYLL CHANGE AND SPECTRAL RESPONSE OF MAIZE SEEDLING UNDER IRON STRESS	6397
<i>Baodong Ma, Ao Xu, Xuanxuan Zhang, Lixin Wu, Northeastern University</i>	

THP-P27: SAR DATA PROCESSING AND TARGET DETECTION

THP-P27.143: CLUTTER SUPPRESSION FOR HIGH-RESOLUTION WIDE-SWATH SAR SYSTEM 6401

Lili Hou, Mingjie Zheng, Hongjun Song, Wei Wang, Institute of Electronics, Chinese Academy of Sciences

THP-P27.144: AUTOMATIC EXTRACTION OF LINEAR ARRANGED TARGETS FROM POLARIMETRIC SAR IMAGERY 6405

Wei Guo, Kaimin Fu, Wuhan University; Pingping Huang, Inner Mongolia University of Technology; Wen Yang, Wuhan University

THP-P27.145: TARGET DETECTION WITH SINGLE SURVEILLANCE CHANNEL FOR PBR..... 6409

Yuping Zhang, Yunjie Li, Wenjing Li, Yuyu Wei, Beijing Institute of Technology

THP-P27.146: PRESCREENING AND DISCRIMINATION OF MARITIME TARGETS IN SINGLE-CHANNEL SAR IMAGES 6413

Alfredo Renga, University of Naples "Federico II"; Maria Daniela Graziano, Antonio Moccia, University of Naples

THP-P27.147: GROUND MOVING TARGET INDICATION AND PARAMETER ESTIMATION WITH SINGLE CHANNEL FOR SAR SYSTEM 6417

Yan Huang, Guisheng Liao, Jie Li, Jingwei Xu, Xidian University

THP-P27.148: A SPEED-UP SEED POINT OTSU METHOD FOR SHIP DETECTION IN VARIOUS SCENARIOS 6421

Qiang Li, Weihai Li, Huiling Wu, Liang Xu, Tonghuan Yu, University of Science and Technology of China

THP-P28: SAR INTERFEROMETRY I

THP-P28.149: A NONLOCAL INTERFEROMETRIC PHASE FILTERING STRATEGY FOR PRACTICAL INSAR SYSTEM 6425

Xue Lin, University of Jinan; Dongsheng Fang, University of Chinese Academy of Sciences; Fang-Fang Li, Chinese Academy of Sciences; Ke Wang, Henan University of Technology

THP-P28.150: A NOVEL INSAR PHASE DENOISING METHOD VIA NONLOCAL WAVELET SHRINKAGE 6429

Dongsheng Fang, Xiaolei Lv, Bin Lei, Institute of Electronics, Chinese Academy of Sciences

THP-P28.152: INSAR PHASE OFFSET ESTIMATION FOR DEM GENERATION: IMPROVEMENT OF THE PERFORMANCES OF THE STOPBE AND IPBE ALGORITHMS 6437

Antonio Pauciullo, Carmen Esposito, IREA-CNR; Stefano Perna, DI University

THP-P28.153: ACCELERATING PHASE UNWRAPPING BASED ON INTEGER LINEAR PROGRAMMING BY PROCESSING OF SUBGRAPHS 6441

Markus Even, Fraunhofer Institute of Optronics, System Technologies and Image Exploitation

THP-P28.154: A NOVEL FAST PHASE UNWRAPPING METHOD FOR LARGE INTERFEROMETRIC DATASETS 6445

Zhibin Wang, National Laboratory of Radar Signal Processing, Xidian University; Yanyang Liu, Shanghai Institute of Satellite Engineering; Zhenfang Li, Jinwei Li, National Laboratory of Radar Signal Processing, Xidian University; Junli Chen, Shanghai Institute of Satellite Engineering

THP-P28.155: UNWRAPPED PHASE ESTIMATION VIA MAXIMUM LIKELIHOOD PRINCIPLE FOR MULTI-BASELINE SAR INTERFEROMETRY 6449

Yanan You, Huaping Xu, Chunsheng Li, Beihang University

THP-P29: SAR INTERFEROMETRY II

THP-P29.156: A FAST ESTIMATING METHOD OF INITIAL PHASE OFFSET FOR AIRBORNE 6452 DUAL-ANTENNA INSAR SYSTEM

Lifu Chen, School of Electronic and Information Engineering, Changsha University of Science & Technology; Zhihui Yuan, Electronic and Information Engineering Academy, Changsha University of Science & Technology; Yinwei Li, Shanghai Radio Equipment Research Institute; Xuemin Xing, School of Traffic and Transportation Engineering, Changsha University of Science & Technology; Siyu Wang, School of Electronic and Information Engineering, Changsha University of Science & Technology

THP-P29.157: ECHO PHASE CHARACTERISTICS OF INTERFEROMETRIC ALTIMETER FOR 6456 CASE OF RANDOM SURFACE PLUS ONE STRONG POINT SCATTER

Xi-Yu Xu, He-Guang Liu, Shuang-Bao Yang, National Space Science Center, Chinese Academy of Sciences

THP-P29.158: BASELINE ESTIMATION WITH BLOCK ADJUSTMENT CONSIDERING 6460 GROUND CONTROL POINT ERRORS FOR MULTI-PASS DUAL-ANTENNA AIRBORNE INSAR

Xin Xiong, Guowang Jin, Hongmin Zhang, Zechao Bai, Zhengzhou Institute of Surveying and Mapping

THP-P29.159: INTERFACE PROPAGATION METHOD IN PHASE UNWRAPPING..... 6464

Jian Gao, Jun Li, Lei Shi, Nanjing University of Posts and Telecommunications

THP-P29.160: JOINT CALIBRATION FOR THREE-DIMENSIONAL LOCATION AND 6468 BACKSCATTER DISTORTION DURING SAR INTERFEROMETRY MAPPING

Yongfei Mao, Wenjun Gao, Yunzhong Han, Beijing Institute of Spacecraft System Engineering

THP-P29.161: BLOCK ADJUSTMENT WITH AIRBORNE INSAR FOR HIGH-PRECISION DEM 6472 EXTRACTION

Qianfu Chen, Tao Li, Xiaoming Gao, Satellite Surveying and Mapping Application Center, National Administration of Surveying, Mapping and Geoinformation of China; Weinan Chen, Xi'an University of Science and Technology; Danqin Wu, Southwest Jiaotong University

THP-P30: SAR INTERFEROMETRY III

THP-P30.162: A LARGE WIDTH SAR IMAGE REGISTRATION METHOD BASED ON THE 6476 COMPELEX CORRELATION FUNCTION

Zhichun Zhang, Hui Liu, Lei Zhang, Su Wang, Zhizhe Li, Jianjiang Wu, Beijing University of Civil Engineering and Architecture

THP-P30.163: A NOVEL INTERFEROGRAM QUALITY ASSESSMENT INDEX BASED ON 6480 CONNECTED AREA

Tao Zhang, Xiaolei Lv, Jun Hong, Institute of Electronics, Chinese Academy of Sciences

THP-P30.164: COMPARISON OF TANDEM-X AND CARTOSAT-1 STEREO DEMS OVER 6484 DIFFERENT TERRAINS OF INDIA

Rinki Deo, Minal Jain, Y. S. Rao, Indian Institute of Technology, Bombay

THP-P30.165: BISTATIC FORWARD-LOOKING SAR INTERFEROMETRY..... 6488

Shunjun Wei, Xiaoling Zhang, Xinxin Tang, University of Electronic Science and Technology of China

THP-P30.166: PLELIMINARY RESULTS ON REPEAT PASS INTERFEROMETRY OF THE 6492 X-BAND AIRBORNE SAR SYSTEM (PI-SAR2) OF NICT

Tatsuharu Kobayashi, Shoichiro Kojima, Toshihiko Umehara, Jyunpei Uemoto, Takeshi Matsuoka, Akitsugu Nadai, Seiho Uratsuka, NICT

THP-P30.167: INTERFEROMETRIC COSMO-SKYMED SPOTLIGHT DEM GENERATION 6495

Nunzia Lombardi, Rino Lorusso, Italian Space Agency, University of Basilicata; Luca Fasano, Giovanni Milillo, Italian Space Agency

THP-P30.168: A COMBINED ESTIMATOR FOR INTERFEROMETRIC SAR IONOSPHERE 6499 CORRECTION

Heming Liao, Franz Meyer, Geophysical Institute, University of Alaska Fairbanks

THP-P30.169: IONOSPHERIC EFFECT CORRECTION OF ICE MOTION MAPPING USING INTERFEROMETRIC SYNTHETIC APERTURE RADAR	6502
<i>Heming Liao, Franz Meyer, Geophysical Institute, University of Alaska Fairbanks</i>	
 THP-P31: SAR PROCESSING AND APPLICATIONS	
THP-P31.170: MULTICHANNEL SAR-GMTI BASED ON THE ASYMMETRY OF THE SPATIAL SPECTRUM	6505
<i>Hongchao Zheng, Junfeng Wang, Xingzhao Liu, Shanghai Jiao Tong University</i>	
THP-P31.171: RADAR VIDEO GENERATED FROM SYNTHETIC APERTURE RADAR IMAGE	6509
<i>Tomoya Yamaoka, Kei Suwa, Teruyuki Hara, Yosuke Nakano, Mitsubishi Electric Corporation</i>	
THP-P31.172: A SEGMENTATION BASED GLOBAL ITERATIVE CENSORING SCHEME FOR SHIP DETECTION IN SYNTHETIC APERTURE RADAR IMAGE	6513
<i>Sirui Tian, Nanjing University of Science and Technology; Chao Wang, Hong Zhang, Chinese Academy of Sciences</i>	
THP-P31.173: A MODIFIED KCCA FOR CLUTTER SEPARATION IN AIRBORNE MIMO SAR	6517
<i>Yuguan Hou, Fuqiang Zhang, Harbin Institute of Technology; Yulong Fan, Heilongjiang Province Administration of Surveying, Mapping and Geoinformation</i>	
THP-P31.174: A DISPLAY METHOD ALLOCATING SAR IMAGE AND ATI PHASE MAP TO VALUE AND SATURATION, RESPECTIVELY	6521
<i>Tomoya Yamaoka, Teruyuki Hara, Mitsubishi Electric Corporation</i>	
THP-P31.175: CIRCULAR-SHIFT TRANSMISSION MIMO GMTI RADAR	6525
<i>Fuyou Li, Feng He, Zhen Dong, Manqing Wu, National University of Defense Technology</i>	
 THP-P32: SPECTRAL PROCESSING AND APPLICATIONS	
THP-P32.176: SPECTRA DENOISING OF HYPERSPECTRAL THERMAL INFRARED EMISSIVITY PRODUCT VIA SPARSE REPRESENTATION OVER LEARNED DICTIONARIES	6529
<i>Chengyi Li, Shufang Tian, China University of Geosciences</i>	
THP-P32.177: A DEEP LEARNING BASED SPATIAL DEPENDENCY MODELLING APPROACH TOWARDS SUPER-RESOLUTION	6533
<i>Arun P V, Krishna Mohan Buddhiraju, Indian Institute of Technology, Bombay</i>	
THP-P32.178: REAL-TIME CLOUD DETECTION IN HIGH RESOLUTION IMAGES USING MAXIMUM RESPONSE FILTER AND PRINCIPLE COMPONENT ANALYSIS	6537
<i>Yihua Tan, Ji Qi, Feifei Ren, Huazhong University of Science and Technology</i>	
THP-P32.179: ON THE OPTIMIZATION OF MEMORY ACCESS TO INCREASE THE PERFORMANCE OF SPATIAL PREPROCESSING TECHNIQUES ON GRAPHICS PROCESSING UNITS	6541
<i>Jaime Delgado, University of Extremadura; Gabriel Martín, Instituto de Telecomunicações; Javier Plaza, Luis Ignacio Jiménez, Antonio Plaza, University of Extremadura</i>	
THP-P32.180: FUSION DETECTION OF SHIP TARGETS IN LOW RESOLUTION MULTI-SPECTRAL IMAGES	6545
<i>Yong Liu, National University of Defense Technology; Libo Yao, Wei Xiong, Naval Aeronautical Engineering Institute; Zhimin Zhou, National University of Defense Technology</i>	

THP-P33: SPECTRAL UNMIXING TECHNIQUES I

THP-P33.181: GEOMETRIC SIMPLEX GROWING ALGORITHM FOR FINDING ENDMEMBERS IN HYPERSPECTRAL IMAGERY 6549

Hsiao-Chi Li, Chein-I Chang, University of Maryland, Baltimore County

THP-P33.182: UNSUPERVISED NONLINEAR HYPERSPECTRAL UNMIXING BASED ON THE GENERALIZED BILINEAR MODEL 6553

Jing Li, Xiaorun Li, Zhejiang University; Liaoying Zhao, Hangzhou Dianzi University

THP-P33.183: BILATERAL FILTERING ABUNDANCE FEATURES FOR MULTILAYER UNMIXING 6557

Genping Zhao, Chunhui Zhao, Harbin Institute of Technology

THP-P33.184: SPECTRAL LIBRARY PRUNING METHOD IN HYPERSPECTRAL SPARSE UNMIXING 6561

Honglei Lin, Xia Zhang, Weichao Sun, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences

THP-P33.185: BILINEAR MATRIX FACTORIZATION USING A GRADIENT METHOD FOR HYPERSPECTRAL ENDMEMBER SPECTRA EXTRACTION 6565

Fatima Zohra Benhalouche, Yannick Deville, IRAP, Université de Toulouse, UPS-OMP, CNRS; Moussa Sofiane Karoui, Centre des Techniques Spatiales; Abdelaziz Ouamri, Université des Sciences et de la Technologie

THP-P33.186: INCREMENTAL KERNEL NON-NEGATIVE MATRIX FACTORIZATION FOR HYPERSPECTRAL UNMIXING 6569

Risheng Huang, Xiaorun Li, Zhejiang University; Liaoying Zhao, Hangzhou Dianzi University

THP-P34: SPECTRAL UNMIXING TECHNIQUES II

THP-P34.187: ENDMEMBER EXTRACTION FOR HYPERSPECTRAL IMAGE BASED ON INTEGRATION OF SPATIAL-SPECTRAL INFORMATION 6573

Xiangbing Kong, Yellow River Institute of Hydraulic Research; Zui Tao, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Er Yang, Zhihui Wang, Chunxia Yang, Yellow River Institute of Hydraulic Research

THP-P34.188: ESTIMATING THE NUMBER OF ENDMEMBERS FROM HYPERSPECTRAL IMAGE USING NONCENTRAL CHI-SQUARED DISTRIBUTION MODEL 6577

Zhiyong Li, Jibei Li, Gang Wang, National University of Defense Technology

THP-P34.189: COMPLETE DICTIONARY ONLINE LEARNING FOR SPARSE UNMIXING 6581

Ruyi Feng, Yanfei Zhong, Liangpei Zhang, Wuhan University

THP-P34.190: SUBSPACE MATCHING PURSUIT WITH DICE COEFFICIENT FOR SPARSE UNMIXING OF HYPERSPECTRAL DATA 6585

Dan Li, Chunmei Zhang, Qianqi Zhou, Junyan Wang, Guodong Xu, Beifang University of Nationalities

THP-P34.191: PURE ENDMEMBER EXTRACTION USING SSR FOR HYPERSPECTRAL IMAGERY 6589

Weiwei Sun, Man Jiang, Ningbo University; Liangpei Zhang, Wuhan University

THP-P35: SUBSURFACE SENSING

THP-P35.192: FEEDBACK FOR ELECTROMAGNETIC INDUCTION SENSOR ARRAYS 6593

Waymond Scott, Jr., Georgia Institute of Technology

THP-P35.193: AN ITERATIVE SINGULAR VECTOR DECOMPOSITION BASED MICRO-MOTION TARGET INDICATION IN THROUGH-THE-WALL RADAR 6597

Lei Qiu, Tian Jin, Jun Zhang, Biyang Lu, Zhimin Zhou, National University of Defense Technology

THP-P35.194: TDR MEASUREMENTS TO DISCRIMINATE POSSIBLE MAGNETIC PROPERTIES OF MATERIALS: PRELIMINARY CONSIDERATIONS	6601
<i>Raffaele Persico, IBAM-CNR; Massimiliano Pieraccini, University of Florence</i>	
THP-P35.196: NON-METALLIC PIPE DETECTION USING SF-GPR: A NEW APPROACH USING NEURAL NETWORK	6609
<i>Prabhat Sharma, Instrument Research and Development Establishment; Bambam Kumar, Dharmendra Singh, Indian Institute of Technology, Roorkee; S P Gaba, Instrument Research and Development Establishment</i>	
THP-P35.197: DESIGN AND TESTING OF A PSEUDO RANDOM CODED GPR FOR DEEP INVESTIGATION	6613
<i>Qunying Zhang, Shengbo Ye, Guangyou Fang, Institute of Electronics, Chinese Academy of Science; Zhaofa Zeng, Jilin University</i>	
 THP-P36: TARGET DETECTION FROM SAR	
THP-P36.198: WAVEFORM DESIGN BASED MULTI-TARGET HYPOTHESIS TESTING UNDER UNKNOWN CLUTTER PARAMETERS	6617
<i>Bingqi Zhu, Yesheng Gao, Hui Sheng, Kaizhi Wang, Xingzhao Liu, Shanghai Jiao Tong University</i>	
THP-P36.199: OPTIMAL RADAR WAVEFORM DESIGN FOR MOVING TARGET	6621
<i>Bingqi Zhu, Hui Sheng, Yesheng Gao, Kaizhi Wang, Xingzhao Liu, Shanghai Jiao Tong University</i>	
THP-P36.200: MULTI-APERTURE ANOMALY DETECTOR FOR CLUTTER BACKGROUND	6625
<i>Min Li, Xinnan Fan, Xuewu Zhang, Puhuang Li, Hohai University</i>	
THP-P36.201: RANGE-ANGLE DEPENDENT DETECTION FOR FDA-MIMO RADAR	6629
<i>Shengyuan Li, Linrang Zhang, Nan Liu, Shiyang Tang, Shanshan Zhao, Xidian University</i>	
THP-P36.202: VESSEL DETECTION AND ANALYSIS COMBINING SAR IMAGES AND AIS INFORMATION	6633
<i>Fan Wu, Chao Wang, Hong Zhang, Bo Zhang, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
THP-P36.203: AN IMPROVED NONPARAMETRIC CFAR METHOD FOR SHIP DETECTION IN SINGLE POLARIZATION SYNTHETIC APERTURE RADAR IMAGERY	6637
<i>Sirui Tian, Nanjing University of Science and Technology; Chao Wang, Hong Zhang, Chinese Academy of Sciences</i>	
 THP-P37: TOMOGRAPHY AND 3D MAPPING I	
THP-P37.204: MULTI-SIGNAL COMPRESSED SENSING FOR TOMOGRAPHIC INVERSION OF BUILDING STRUCTURE WITH PRIOR INFORMATION	6641
<i>Xiao Wang, Feng Xu, Ya-Qiu Jin, Fudan University</i>	
THP-P37.205: ORBITAL-ANGULAR-MOMENTUM-BASED ELECTROMAGNETIC VORTEX IMAGING BY LEAST-SQUARES METHOD	6645
<i>Tiezhu Yuan, Hongyan Liu, Yongqiang Cheng, Yuliang Qin, Hongqiang Wang, National University of Defense Technology</i>	
THP-P37.206: A NOVEL 3D IMAGING METHOD BASED ON ORTHOGONAL-TRACK SAR	6649
<i>Ji Guo, Shanghai Jiao Tong University; Nan Zhang, China Academy of Space Technology; Yuhao Wang, Kaizhi Wang, Xingzhao Liu, Shanghai Jiao Tong University</i>	
THP-P37.207: 3D SUPER RESOLUTION SCENE DEPTH RECONSTRUCTION BASED ON SKYSAT VIDEO IMAGE SEQUENCES	6653
<i>Xue Wan, Jianguo Liu, Imperial College London; Hongshi Yan, Jaguar Land Rover Limited; Gareth L.K. Morgan, Imperial College London; Tao Sun, Wuhan University</i>	
THP-P37.208: 3D MAPPING OF ACTIVE FAULT DETECTION IN MAIN CITY	6657
<i>Tian Tian, Shimin Zhang, Jingfa Zhang, Wenliang Jiang, Key Laboratory of Crustal Dynamics</i>	

THP-P37.209: 3-D TARGET HEIGHT EXTRACTION VIA HIGH SQUINT AIRBORNE SAR.....	6661
<i>Tonghuan Yu, Weihai Li, University of Science and Technology of China</i>	
THP-P37.210: SAR TOMOGRAPHY IMAGING BASED ON GENERALIZED ORTHOGONAL MATCHING PURSUIT—THE CASE STUDY OF PANGU 7 STAR HOTEL IN BEIJING	6665
<i>Shuguang He, Lei Pang, Xuedong Zhang, Hui Liu, Beijing University of Civil Engineering and Architecture; Hui Bi, Institute of Electronics, Chinese Academy of Sciences; Liping Ai, Mengxin Sun, Yong Wang, Beijing University of Civil Engineering and Architecture</i>	
THP-P38: TOMOGRAPHY AND 3D MAPPING II	
THP-P38.211: VOLCANIC ERUPTIVE-COLUMN (PLUME) ELEVATION MODEL AND ITS VELOCITY DERIVED FROM LANDSAT 8	6669
<i>Marcello de Michele, Daniel Raucoules, French Geological Survey; Þórður Arason, Icelandic Meteorological Office</i>	
THP-P38.212: RANGE CALIBRATION OF AIRBORNE PROFILING RADAR USED IN FOREST INVENTORY	6672
<i>Ziyi Feng, Aalto University; Yuwei Chen, Teemu Hakala, Juha Hyyppä, Finnish Geospatial Research Institute</i>	
THP-P38.213: A MODIFIED STATISTICAL TEST BASED ON SUPPORT ESTIMATION FOR MULTIPLE SCATTERERS DETECTION IN SAR TOMOGRAPHY	6676
<i>Alessandra Budillon, Angel Caroline Johnsy, Gilda Schirinzi, University Parthenope</i>	
THP-P38.214: GLOBAL LOCALIZATION IN 3D MAPS FOR STRUCTURED ENVIRONMENT.....	6680
<i>Yanxin Ma, Yulan Guo, Min Lu, Jian Zhao, Jun Zhang, National University of Defense Technology</i>	
THP-P38.215: RPC ESTIMATION VIA FEATURE POINTS FOR URBAN AREAS.....	6684
<i>Yiran Wang, Ye Zhang, Nan Su, Harbin Institute of Technology</i>	
THP-P39: UAV SYSTEMS AND SENSORS	
THP-P39.217: GEOMETRIC CORRECTION ALGORITHM OF UAV REMOTE SENSING IMAGE FOR THE EMERGENCY DISASTER	6691
<i>Yuxia Li, Lei He, Xuehui Ye, Dong Guo, University of Electronic Science and Technology of China</i>	
THP-P39.218: REMOTE SENSING ARCHEOLOGICAL SITES THROUGH UNMANNED AERIAL VEHICLE (UAV) IMAGING	6695
<i>Cornelius Holness, Tatyana Matthews, Khaliq Satchell, Edward Clay Swindell, Elizabeth City State University</i>	
THP-P39.219: DEM GENERATION OF INTERTIDAL ZONE IN KOREA USING UNMANNED AERIAL VEHICLE	6699
<i>Bum-Jun Kim, Yoon-Kyung Lee, Joo-Hyung Ryu, Korea Ocean Satellite Center, Korea Institute of Ocean Science and Technology; Seung-Kuk Lee, NASA Goddard Space Flight Center; Kye-Lim Kim, Korea Ocean Satellite Center, Korea Institute of Ocean Science and Technology</i>	
THP-P39.220: X-BAND MINI SAR RADAR ON EIGHT-ROTOR MINI-UAV.....	6702
<i>Jiali Yan, Ji Guo, Qianrong Lu, Kaizhi Wang, Xingzhao Liu, Shanghai Jiao Tong University</i>	
THP-P39.221: UAV IMAGE REGISTRATION ALGORITHM BASED ON OVERLAPPING REGION DETECTION	6706
<i>Li Tang, Yuxia Li, Ling Tong, Lei He, Tianren Luo, Dong Guo, University of Electronic Science and Technology of China</i>	
THP-P39.222: EFFICIENT SKY SEGMENTATION APPROACH FOR SMALL UAV AUTONOMOUS OBSTACLES AVOIDANCE IN CLUTTERED ENVIRONMENT	6710
<i>Ahmed Mashaly, Yunhong Wang, Qingjie Liu, Beihang University</i>	
THP-P39.224: ESTIMATING DISTRIBUTION OF PRECISION SOLAR RADIATION USING UNMANNED AERIAL VEHICLE	6718
<i>Jin Ki Park, Amrita Das, Jong Hwa Park, Chungbuk National University</i>	

THP-P40: URBAN APPLICATIONS I

THP-P40.226: MULTI-PERSPECTIVE TERRESTRIAL LIDAR POINT CLOUD REGISTRATION 6722 USING PLANAR PRIMITIVES

Hongping Wang, Xiuguo Liu, Xiaohui Yuan, Dong Liang, China University of Geosciences

THP-P40.227: RESEARCH ON THE INCOMPLETE POINT CLOUD DATA REPAIRING OF THE 6726 LARGE-SCALE SCENE BUILDINGS

Yongqiang Li, Lixue Li, Lubiao Niu, Tengda Huang, Youpeng Li, Henan Polytechnic University

THP-P40.228: RAYSAR - 3D SAR SIMULATOR: NOW OPEN SOURCE 6730

Stefan Auer, Richard Bamler, Peter Reinartz, German Aerospace Center (DLR)

THP-P40.229: ESTIMATING COOLING EFFECTS OF URBAN TREES USING AIRBORNE 6734 LIDAR AND RADIATIVE TRANSFER SIMULATION

Haruki Oshio, Takashi Asawa, Tokyo Institute of Technology

THP-P40.230: 3D MODELING OF RADIATIVE TRANSFER AND ENERGY BALANCE IN URBAN 6738 CANOPIES COMBINED TO REMOTE SENSING ACQUISITIONS

Lucas Landier, Ahmad Al Bitar, Nicolas Lauret, Jean-Philippe Gastellu-Etchegorry, Centre d'Études Spatiales de la Biosphère (CESBIO); Sylvain Aubert, Météo-France; Zina Mitraka, Foundation for Research and Technology Hellas (FORTH); Christian Feigenwinter, Eberhard Parlow, Basel University; Wieke Heldens, German Aerospace Center (DLR); Simone Kotthaus, Sue Grimmond, University of Reading; Fredrik Lindberg, University of Gothenburg; Nektarios Chrysoulakis, Foundation for Research and Technology Hellas (FORTH)

THP-P40.231: RELATIONSHIP BETWEEN SURFACE NET RADIATION AND LANDCOVER 6742 PATTERN IN AN URBAN AREA

Xiaofeng Zhao, Jiahui Liu, Lele Liu, Institute of Urban Environment, Chinese Academy of Sciences; Xiuguang Liu, China University of Geosciences; Yanchuang Zhao, Institute of Urban Environment, Chinese Academy of Sciences

THP-P41: URBAN APPLICATIONS II

THP-P41.232: ANALYSIS OF SPATIAL-TEMPORAL DYNAMICS PATTERN OF URBANIZATION IN 6746 XINJIANG OASIS, USING GLCNMO AND DCW DATA

Alimujiang Kasimu, Xinjiang Normal University

THP-P41.233: MAPPING IMPACT OF URBANIZATION IN THE CONTINENTAL U.S. FROM 6750 2001-2020

Lahouari Bounoua, Joseph Nigro, Ping Zhang, Kurtis Thome, NASA Goddard Space Flight Center

THP-P41.234: LONG-TERM URBAN IMPERVIOUS SURFACE MONITORING USING 6754 SPECTRAL MIXTURE ANALYSIS: A CASE STUDY OF WUHAN CITY IN CHINA

Yao Shen, Huanfeng Shen, Huifang Li, Qing Cheng, Wuhan University

THP-P41.235: MODELING IMPACT OF URBANIZATION IN US CITIES USING SIMPLE 6758 BIOSPHERE MODEL SIB2

Ping Zhang, Lahouari Bounoua, Kurtis Thome, Robert Wolfe, NASA

THP-P42: URBAN APPLICATIONS III

THP-P42.236: COMPARATIVE ASSESSMENT OF TWO SOURCE OF LANDSAT TM 6762 VEGETATIVE FRACTION COVERAGE FOR MODELING URBAN LATENT HEAT FLUXES

Kai Liu, Institute of Geographic Sciences and Natural Resources, Chinese Academy of Sciences; Hongbo Su, Florida Atlantic University; Weimin Wang, Lijun Yang, Hong Liang, Shenzhen Environmental Monitoring Center; Xueke Li, University of Connecticut

THP-P42.238: AN ALTERNATIVE METHOD OF URBAN BUILT-UP AREA EXTRACTION USING LANDSAT TIME SERIES DATA	6770
<i>Jun Zhang, National Geomatics Center of China; Peijun Li, Institute of Remote Sensing and GIS, Peking University; Hongwei Zhang, Shu Peng, Ming Li, National Geomatics Center of China; Ye Zhi, Road Traffic Safety Research Center of the Ministry of Public Security</i>	
THP-P42.239: A NOVEL APPROACH FOR ANTHROPOGENIC HEAT FLUX ESTIMATION FROM SPACE	6774
<i>Nektarios Chrysoulakis, Foundation for Research and Technology Hellas (FORTH); Wieke Heldens, German Aerospace Center (DLR); Jean-Philippe Gastellu-Etchegorry, Centre d'Études Spatiales de la Biosphère (CESBIO); Sue Grimmond, University of Reading; Christian Feigenwinter, University of Basel; Fredrik Lindberg, University of Goeteborgs; Fabio Del Frate, GEO-K s.r.l.; Judith Klostermann, ALTERRA; Zina Mitraka, Foundation for Research and Technology Hellas (FORTH); Thomas Esch, German Aerospace Center (DLR); Ahmad Albitar, Centre d'Études Spatiales de la Biosphère (CESBIO); Andrew Gabey, University of Reading; Eberhard Parlow, University of Basel; Frans Olofson, University of Goeteborgs</i>	
THP-P42.240: AUTOMATICALLY TEXTURE EXTRACTION, MAPPING AND 3D VISUALIZATION OF BUILDINGS FACADES BASED ON HIGH RESOLUTION AERIAL PHOTOS	6778
<i>Qingli Luo, Tianjin University; Guoqing Zhou, Guilin University of Technology</i>	
THP-P42.241: CONTEXTURAL FEATURE EVALUATION OF MULTI-RESOLUTION IMAGERY	6782
<i>Qin Yu, Ryan Engstrom, The George Washington University; Jordan Graesser, McGill University</i>	
THP-P43: WETLAND AND INLAND WATER	
THP-P43.244: CARBON FLUX AND EVAPOTRANSPIRATION IN AN OASIS-DESERT WETLAND	6794
<i>Qiang Zhang, Rui Sun, Beijing Normal University; Lei Zhang, Beijing Normal University, Taiyuan Normal University</i>	
THP-P43.245: MONITORING PEAT SUBSIDENCE AND CARBON EMISSION IN INDONESIA PEATLANDS USING INSAR TIME SERIES	6797
<i>Zhiwei Zhou, Wuhan University; Zhenhong Li, Newcastle University; Susan Waldron, Glasgow University; Akiko Tanaka, Geological Survey of Japan</i>	
THP-P43.246: ESTIMATE THE FLUCTUATION OF POYANG LAKE WATER LEVEL USING CRYOSAT-2 DATA	6799
<i>Guozhuang Shen, Jingjuan Liao, Yun Zhao, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
THP-P43.247: ECOLOGICAL BENEFITS ASSESSMENT OF RIVER FLOW DIVERSION FOR EJINA OASIS IN HEIHE RIVER BASIN USING REMOTE SENSING	6803
<i>Zhiguo Pang, Tianjie Lei, Jingxuan Lu, Jun Deng, Hongquan Sun, June Fu, Lin Li, China Institute of Water Resources and Hydropower Research</i>	
THP-P43.248: DYNAMIC ANALYSIS OF WATER LEVEL AND AREA OF TYPICAL LAKES IN QINGHAI-TIBET PLATEAU	6807
<i>Hui Yue, Ying Liu, Haoren Wang, Wei Zhang, Xi'an University of Science and Technology</i>	
FR1-L1: SAR IMAGING TECHNIQUES VII	
FR1-L1.1: A SPARSE OPTIMIZATION METHOD FOR MASKING EFFECT REMOVAL IN NOISE SYNTHETIC APERTURE RADAR	6811
<i>Xiao Dong, Yunhua Zhang, Wenshuai Zhai, National Space Science Center, Chinese Academy of Sciences</i>	
FR1-L1.2: OPTIMAL DATA PROCESSING SOLUTIONS FOR FUTURE BISTATIC SAR MISSIONS	6815
<i>Davide D'Aria, Riccardo Piantanida, Antonio Valentino, Simone Mancon, ARESYS S.r.l.</i>	
FR1-L1.3: A VELOCITY ESTIMATION METHOD OF MOVING TARGET FOR SAR HIGH-RESOLUTION WIDE-SWATH MODE	6819
<i>Xiangyu Wang, Robert Wang, Ning Li, Chunhui Zhou, Institute of Electronics, Chinese Academy of Sciences</i>	

FR1-L1.4: A PDF-BASED SLIC SUPERPIXEL ALGORITHM FOR SAR IMAGES 6823
Huanxin Zou, College of Electronic Science and Engineering, National University of Defense Technology; Xianxiang Qin, School of Information and Navigation, Air Force Engineering University; Hongyan Kang, Shilin Zhou, Kefeng Ji, College of Electronic Science and Engineering, National University of Defense Technology

FR1-L1.5: IMPLEMENTATION METHOD OF MOSAIC MODE BASED ON SATELLITE 6827
ATTITUDE MANEUVER
Xiaolei Han, Qingjun Zhang, Jie Liu, Bingji Zhao, Tengfei Li, Beijing Institute of Spacecraft System Engineering; Running Zhang, DongFang Hong Satellite Co. Ltd

FR2-L1: DEFORMATION APPLICATION

FR2-L1.1: GROUND DEFORMATION INVESTIGATION OVER TAIYUAN BASIN (CHINA) BY 6831
INSAR TECHNOLOGY
Chengsheng Yang, Qin Zhang, Chaoying Zhao, Chang'an University

FR2-L1.2: DEFORMATION TIME-SERIES DERIVED FROM TERRESTRIAL RADAR 6835
OBSERVATIONS USING PERSISTENT SCATTERER INTERFEROMETRY IN SEATTLE, WASHINGTON
Charles L. Werner, Gamma Remote Sensing; Ben Lowry, Solid Ground Geospatial; Urs Wegmüller, Gamma Remote Sensing; Nathan Pugh, Trimble Navigation Inc; Gavin Schrock, Seattle Public Utilities; Wendy Zhou, Colorado School of Mines

FR2-L1.3: TIME SERIES INSAR TECHNIQUES TO ESTIMATE DEFORMATION IN A 6839
LANDSLIDE-PRONE AREA IN HARIDWAR REGION, INDIA
Manoj Kuri, Govt. Engineering College Bikaner; Atanu Bhattacharya, Technical University Dresden; Manoj K. Arora, PEC University of Technology; M. L. Sharma, Indian Institute of Technology, Roorkee

FR2-L1.5: GROUND DEFORMATIONS AND BUILDING STABILITY MONITORING BY 6847
COSMO-SKYMED PSP SAR INTERFEROMETRY: RESULTS AND VALIDATION WITH FIELD MEASUREMENTS AND SURVEYS
Mario Costantini, e-GEOS - ASI/Telespazio; Jie Bai, Wuhan Geomatic Institute; Fabio Malvarosa, Federico Minati, Francesco Vecchioli, e-GEOS - ASI/Telespazio; Ruili Wang, Wuhan Geomatic Institute; Qiong Hu, Vastitude Technology; Jianhua Xiao, Wuhan Geomatic Institute; Jiping Li, Vastitude Technology

FR3-L1: DIFFERENTIAL SAR INTERFEROMETRY I

FR3-L1.1: QUANTITATIVE ANALYSIS OF THE WATER VAOPR EFFECTS ON THE 6851
INTERFEROMETRIC MEASUREMENTS
Xi' Ai Cui, Peking University / China Meteorological Administration; Qiming Zeng, Cunren Liang, Jian Jiao, Peking University

FR3-L1.2: A REFINED SPLIT-SPECTRUM ALGORITHM FOR CORRECTING IONOSPHERIC 6855
EFFECTS ON INTERFEROGRAMS OF SPACEBORN D-INSAR AT LONGER WAVELENGTH
Kamel Hasni, Jie Chen, Li Zhuo, Beijing University of Aeronautics and Astronautics

FR3-L1.3: SEQUENTIAL ESTIMATOR FOR DISTRIBUTED SCATTERER INTERFEROMETRY 6859
Homa Ansari, Francesco De Zan, Nico Adam, Kanika Goel, Richard Bamler; German Aerospace Center (DLR)

FR3-L1.4: COHERENCE MODEL ESTIMATION IN SUPPORT OF EFFICIENT RECURSIVE 6863
INSAR TIME-SERIES PROCESSING
Franz Meyer, Wenyu Gong, University of Alaska Fairbanks

FR3-L1.5: INSAR DATUM CONNECTION USING GNSS-AUGMENTED RADAR 6867
TRANSPONDERS
P. Mahapatra, H. van der Marel, F.J. van Leijen, S. Samiei-Esfahany, R. Klees, Ramon Hanssen, Delft University of Technology

FR4-L1: DIFFERENTIAL SAR INTERFEROMETRY II

FR4-L1.1: OBJECT-BASED INSAR DEFORMATION RECONSTRUCTION WITH APPLICATION TO BRIDGE MONITORING 6871

Jian Kang, Yuanyuan Wang, Marco Körner, Technische Universität München; Xiao Xiang Zhu, Technical University of Munich, Germany Aerospace Center

FR4-L1.2: GROUND-BASED INTERFEROMETRIC RADAR FOR DYNAMIC DEFORMATION MONITORING OF THE TING KAU BRIDGE IN HONG KONG 6875

Bo-Chen Zhang, Xiaoli Ding, The Hong Kong Polytechnic University; Mi Jiang, Hohai University; Bin Zhang, Songbo Wu, Hongyu Liang, The Hong Kong Polytechnic University

FR4-L1.3: SPATIAL-TEMPORAL DEFORMATION CHARACTERISTICS IN THE URBAN AREA OF BEIJING USING HIGH RESOLUTION X-BAND IMAGES 6879

Xiaobo Zhang, Xuesheng Zhao, China University of Mining and Technology; Daqing Ge, Bin Liu, China Aero Geophysical Survey and Remote Sensing Center for Land and Resources

FR4-L1.4: BEIJING SUBWAY TUNNELINGS AND HIGH-SPEED RAILWAY SUBSIDENCE MONITORING WITH PSINSAR AND TERRASAR-X DATA 6883

Daqing Ge, Ling Zhang, Man Li, Bin Liu, Yan Wang, China Aero Geophysical Survey and Remote Sensing Center for Land and Resources

FR4-L1.5: ATMOSPHERIC WATER VAPOR MAPPING BY COMBINING INTERFEROMETRIC SYNTHETIC APERTURE RADAR AND GPS OBSERVATIONS 6887

Wei Tang, Mingsheng Liao, Lu Zhang, Li Zhang, Wuhan University

FR1-L2: IMAGE SEGMENTATION

FR1-L2.1: CRF LEARNING WITH CNN FEATURES FOR HYPERSPECTRAL IMAGE SEGMENTATION 6890

Fahim Alam, Jun Zhou, Alan Liew, Griffith University; Xiuping Jia, University of New South Wales

FR1-L2.2: FAST TOPOLOGY PRESERVING POLSAR IMAGE SUPERPIXEL SEGMENTATION 6894

Weiwei Guo, Zenghui Zhang, Juanping Zhao, Wenxian Yu, Shanghai Jiao Tong University

FR1-L2.3: SHIPS AS SALIENT OBJECTS IN SYNTHETIC APERTURE RADAR IMAGERY 6898

Colin Peter Schwegmann, Waldo Kleynhans, Council for Scientific and Industrial Research; Brian Salmon, University of Tasmania; Lizwe Mdakane, Rory Meyer, Council for Scientific and Industrial Research

FR1-L2.4: A TILING PROCEDURE FOR SECOND-ORDER VARIATIONAL SEGMENTATION OF LARGE SIZE REMOTE SENSING IMAGES 6902

Massimo Zanetti, University of Trento; Riccardo Zanella, University of Ferrara; Lorenzo Bruzzone, University of Trento

FR1-L2.5: DEM-BASED SHADOW DETECTION AND REMOVAL FOR LUNAR CRATERS 6906

Hongmei Zhu, Jihao Yin, Ding Yuan, Beihang University; Xiang Liu, Shanghai Institute of Spaceflight Control Technology; Guangyun Zhang, Tianjin University

FR2-L2: ESTIMATION AND REGRESSION TECHNIQUES

FR2-L2.1: WAVELET-BASED PROSPECT INVERSION FOR RETRIEVING LEAF MASS PER AREA (LMA) AND EQUIVALENT WATER THICKNESS (EWT) FROM LEAF REFLECTANCE 6910

Dong Li, Tao Cheng, Xia Yao, Nanjing Agricultural University; Zhaoying Zhang, University of Birmingham; Yongchao Tian, Yan Zhu, Weixing Cao, Nanjing Agricultural University

FR2-L2.2: OPTICAL LEAF PARAMETER ESTIMATION BASED ON DIRECTIONAL CHARACTERISTICS OF LEAF-SCALE HYPERSPECTRAL IMAGES 6914

Kuniaki Uto, Yukio Kosugi, Genya Saito, Tokyo Institute of Technology

FR2-L2.3: A DATA-DRIVEN IDENTIFICATION OF GROWTH-MODEL CLASSES FOR THE ADAPTIVE ESTIMATION OF SINGLE-TREE STEM DIAMETER IN LIDAR DATA	6918
<i>Claudia Paris, Lorenzo Bruzzone, University of Trento</i>	
FR2-L2.4: GROUND VALIDATION AND UNCERTAINTY ESTIMATION OF VIIRS LAND SURFACE TEMPERATURE PRODUCT	6922
<i>Yuling Liu, University of Maryland, College Park; Yunyue Yu, Center for Satellite Applications and Research, NOAA/NESDIS; Peng Yu, Heshun Wang, University of Maryland, College Park</i>	
FR2-L2.5: GAUSSIAN DESCRIPTION ON THE ROUGHNESS DISTRIBUTION OF SAND-COVERED SURFACE FOR IEM WITH THE HELP OF INVERSION METHOD	6926
<i>Yan Ming Zhang, Hui Chen, Tie Jun Cui, State Key Laboratory of Millimeter Waves, Southeast University</i>	
 FR3-L2: ESTIMATION AND REGRESSION APPLICATIONS	
FR3-L2.1: RETRIEVAL OF LEAF WATER CONTENT FOR MAIZE SEEDLINGS IN VISIBLE NEAR INFRARED AND THERMAL INFRARED SPECTRA	6930
<i>Baodong Ma, Ao Xu, Song Zhang, Lixin Wu, Northeastern University</i>	
FR3-L2.2: VALIDATION OF LANDSAT-8 TIRS LAND SURFACE TEMPERATURE RETRIEVED FROM MULTIPLE ALGORITHMS IN AN EXTREMELY ARID REGION	6934
<i>Yujia Wang, Ji Zhou, Mingsong Li, Xiaodong Zhang, University of Electronic Science and Technology of China</i>	
FR3-L2.3: APPLIED ANALYSIS FOR CANOPY NITROGEN RETRIEVAL OF WINTER WHEAT USING HYPERSPECTRAL VEGETATION INDEX	6938
<i>Xiaoyuan Zhang, Shudong Wang, Lifu Zhang, Jingguo Tian, Xia Zhang, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
FR3-L2.4: IMAGE-BASED PATH RADIANCE ESTIMATION GUIDED BY PHYSICAL MODEL	6942
<i>Eiji Kaneko, Hirofumi Aoki, Masato Tsukada, NEC Corporation</i>	
FR3-L2.5: ESTIMATION OF DRIFT OF EQUATORIAL IONOSPHERE OF POST SUNSET-SECTOR BY MEANS OF LOW FREQUENCY SPACE-BORNE SAR	6946
<i>Jun-Su Kim, Hiroatsu Sato, Konstantinos Papathanassiou, German Aerospace Center (DLR)</i>	
 FR4-L2: IMAGE DENOISING AND COMPRESSION	
FR4-L2.1: A UNIVERSAL REMOTE SENSING IMAGE QUALITY IMPROVEMENT METHOD WITH DEEP LEARNING	6950
<i>Yancong Wei, Qiangqiang Yuan, Huanfeng Shen, Liangpei Zhang, Wuhan University</i>	
FR4-L2.2: HYPERSPECTRAL IMAGERY DENOISING USING COVARIANCE MATRIX ESTIMATION BASED STRUCTURED SPARSE CODING AND INTRA-CLUSTER FILTERING	6954
<i>Lei Zhang, Wei Wei, Yanning Zhang, Cong Wang, Northwestern Polytechnical University</i>	
FR4-L2.3: GROUP SPARSE NONNEGATIVE MATRIX FACTORIZATION FOR HYPERSPECTRAL IMAGE DENOISING	6958
<i>Yangyang Xu, Yuntao Qian, Zhejiang University</i>	
FR4-L2.4: SUPER-RESOLUTION RECONSTRUCTION OF HYPERSPECTRAL IMAGES VIA LOW RANK TENSOR MODELING AND TOTAL VARIATION REGULARIZATION	6962
<i>Shiyang He, Haiwei Zhou, Yao Wang, Xi'an Jiaotong University; Wenfei Cao, Shaanxi Normal University; Zhi Han, Shenyang Institute of Automation</i>	
FR4-L2.5: IMPROVED COMPRESSION RATIO PREDICTION IN DCT-BASED LOSSY COMPRESSION OF REMOTE SENSING IMAGES	6966
<i>Alexander N. Zemliachenko, Sergey K. Abramov, Vladimir V. Lukin, National Aerospace University; Benoit Vozel, University of Rennes 1 - Enssat; Kacem Chehdi, University of Rennes 1</i>	

FR1-L3: SPECTRAL UNMIXING TECHNIQUES I

FR1-L3.1: KERNEL BASED SPARSE NMF ALGORITHM FOR HYPERSPECTRAL UNMIXING 6970
Wenhong Wang, Yuntao Qian, Zhejiang University

FR1-L3.2: ALTERNATING ANGLE MINIMIZATION BASED UNMIXING WITH ENDMEMBER 6974
VARIABILITY
Rob Heylen, Paul Scheunders, University of Antwerp; Alina Zare, University of Missouri; Paul Gader, University of Florida

FR1-L3.3: COLLABORATIVE SPARSE UNMIXING OF HYPERSPECTRAL DATA USING L2,P 6978
NORM
Dan Wang, Zhenwei Shi, Wei Tang, Beihang University

FR1-L3.4: HYPERSPECTRAL UNMIXING ALGORITHM BASED ON NONNEGATIVE MATRIX 6982
FACTORIZATION
Wenxing Bao, Qin Li, Liping Xin, Kewen Qu, Beifang University of Nationalities

FR1-L3.5: DOUBLE REWEIGHTED SPARSE REGRESSION FOR HYPERSPECTRAL 6986
UNMIXING
Rui Wang, Ghent University; Heng-Chao Li, Southwest Jiaotong University; Wenzhi Liao, Aleksandra Pizurica, Ghent University

FR2-L3: SPECTRAL UNMIXING TECHNIQUES II

FR2-L3.1: ON THE DETECTION OF LINEAR MIXTURES IN HYPERSPECTRAL IMAGES 6990
Andrea Marinoni, University of Pavia; Antonio Plaza, University of Extremadura; Paolo Gamba, University of Pavia

FR2-L3.2: SPARSE DISTRIBUTED HYPERSPECTRAL UNMIXING..... 6994
Jakob Sigurdsson, Magnus Ulfarsson, Johannes Sveinsson, University of Iceland; Jose Bioucas-Dias, University of Lisbon

FR2-L3.3: HYPERSPECTRAL UNMIXING BASED VEGETATION DETECTION WITH 6998
SEGMENTATION
Okan Bilge Özdemir, Hilal Soydan, Yasemin Yardimci Çetin, H. Sebnem Düzgün, Middle East Technical University

FR2-L3.4: ROBUST NONLINEAR UNMIXING OF HYPERSPECTRAL IMAGES WITH A 7002
LINEAR-MIXTURE/NONLINEAR-FLUCTUATION MODEL
Jie Chen, Northwestern Polytechnical University; Cedric Richard, University of Nice Sophia-Antipolis

FR2-L3.5: SPARSE UNMIXING BASED DENOISING FOR HYPERSPECTRAL IMAGES 7006
Alp Ertürk, Kocaeli University

FR3-L3: TARGET DETECTION TECHNIQUES

FR3-L3.1: SUPERPIXEL BASED HYPERSPECTRAL TARGET DETECTION..... 7010
Akin Caliskan, Emrehan Bati, Alper Koz, A. Aydin Alatan, Middle East Technical University

FR3-L3.2: MAPPING THE URBAN SURFACE IN A SUB-PIXEL LEVEL WITH 7014
MULTISPECTRAL HIGH RESOLUTION SATELLITE IMAGERY
Zina Mitraka, Fabio Del Frate, Giovanni Schiavon, University of Rome Tor Vergata

FR3-L3.3: SUBPIXEL TARGET DETECTION IN HYPERSPECTRAL IMAGES FROM 7018
SUPERPIXEL BACKGROUND STATISTICS
Yilong Liang, Panos Markopoulos, Eli Saber, Rochester Institute of Technology

FR3-L3.4: MULTIPLE BAND SELECTION FOR ANOMALY DETECTION IN 7022
HYPERSPECTRAL IMAGERY
Lin Wang, Xidian University; Chein-I Chang, University of Maryland, Baltimore County

FR3-L3.5: SPARSE REPRESENTATION BASED SUBPIXEL INFORMATION EXTRACTION	7026
FRAMEWORK FOR HYPERSPECTRAL REMOTE SENSING IMAGERY	
<i>Ruyi Feng, Da He, Yanfei Zhong, Liangpei Zhang, Wuhan University</i>	
FR4-L3: SPECTRAL UNMIXING TECHNIQUES III	
FR4-L3.1: A QUANTUM-BEHAVED PARTICLE SWARM OPTIMIZATION FOR	7030
HYPERSPECTRAL ENDMEMBER EXTRACTION	
<i>Mingming Xu, Liangpei Zhang, Bo Du, Lefei Zhang, Yuxiang Zhang, Wuhan University</i>	
FR4-L3.2: HYPERSPECTRAL UNMIXING USING TOTAL VARIATION REGULARIZED	7034
REWEIGHTED SPARSE NON-NEGATIVE MATRIX FACTORIZATION	
<i>Wei He, Hongyan Zhang, Liangpei Zhang, Wuhan University</i>	
FR4-L3.3: FAST SPATIAL-SPECTRAL PREPROCESSING FOR ENDMEMBER EXTRACTION	7038
AND SPECTRAL UNMIXING USING GRAPHIC PROCESSING UNITS	
<i>Luis Ignacio Jiménez, University of Extremadura; Gabriel Martín, Instituto de Telecomunicações; Sergio Sánchez, Javier Plaza, Antonio Plaza, University of Extremadura</i>	
FR4-L3.4: ON THE PERFORMANCE OF SPARSE UNMIXING ON NON-LINEAR MIXTURES	7042
<i>Yuki Itoh, Mario Parente, University of Massachusetts Amherst</i>	
FR4-L3.5: VEGETATION SUPPRESSION FOR UNVEILING OF SURFACE LITHOLOGY	7046
FROM HYPERSPECTRAL IMAGES USING LINEAR SPECTRAL UNMIXING APPROACH	
<i>Mahendra Pal, A Porwal, Indian Institute of Technology, Bombay</i>	
FR1-L4: ACTIVE/PASSIVE MICROWAVE REMOTE SENSING OF TERRESTRIAL SNOW I	
FR1-L4.1: SCATTERING AND EMISSION MODELS FOR MICROWAVE REMOTE SENSING	7050
OF SNOW USING NUMERICAL SOLUTIONS OF MAXWELL EQUATIONS	
<i>Leung Tsang, Shurun Tan, University of Michigan; Xiaolan Xu, Jet Propulsion Laboratory; Kung-Hau Ding, Wright Patterson Airforce Laboratory</i>	
FR1-L4.3: SENTINEL-1 AND COSMO-SKYMED IMAGE COMPARISON ON ALPINE	7053
ENVIRONMENT FOR SNOW FEATURE INVESTIGATION	
<i>Simonetta Paloscia, Simone Pettinato, Emanuele Santi, Enrico Palchetti, CNR-IFAC</i>	
FR1-L4.4: MAPPING OF SNOW PARAMETERS WITH POLARIMETRIC AND	7057
MULTIFREQUENCY SAR DATA IN A SUBARCTIC ENVIRONMENT	
<i>Monique Bernier, Yannick Duguay, Institut National de la Recherche Scientifique; Florent Domine, Takuvik joint International Laboratory</i>	
FR1-L4.5: DEVELOPMENT OF SNOW RETRIEVAL ALGORITHM BASED ON THE	7060
MICROWAVE RADIATIVE TRANSFER MODEL FOR MULTIPLE SNOW LAYERS AND VARIOUS LAND SURFACE PARAMETERS	
<i>Hiroyuki Tsutsui, Japan Aerospace Exploration Agency</i>	
FR2-L4: ACTIVE/PASSIVE MICROWAVE REMOTE SENSING OF TERRESTRIAL SNOW II	
FR2-L4.1: SNOW WATER EQUIVALENT RETRIEVAL USING P-BAND SIGNALS OF	7064
OPPORTUNITY	
<i>Rashmi Shah, Simon Yueh, Xiaolan Xu, Chun Sik Chae, Marc Simard, NASA Jet Propulsion Laboratory; Kelly Elder, United States Forest Service</i>	

FR2-L4.2: RETRIEVAL OF SNOW PARAMETERS FROM L-BAND OBSERVATIONS - APPLICATION FOR SMOS AND SMAP	7067
<i>Juha Lemmetyinen, Finnish Meteorological Institute; Mike Schwank, GAMMA Remote Sensing Research and Consulting AG; Chris Derksen, Environment Canada; Alexandre Roy, University of Sherbrooke; Andreas Colliander, Jet Propulsion Laboratory; Kimmo Rautiainen, Jouni Pulliainen, Finnish Meteorological Institute</i>	
FR2-L4.3: MICROWAVE BRIGHTNESS TEMPERATURE OF SNOW: OBSERVATIONS AND SIMULATIONS	7071
<i>Martti Hallikainen, Aalto University; Juha Lemmetyinen, Finnish Meteorological Institute</i>	
FR2-L4.5: ULTRA-WIDEBAND RADARS OPERATING OVER THE FREQUENCY RANGE OF 2-18 GHZ FOR MEASUREMENTS ON TERRESTRIAL SNOW AND ICE	7078
<i>Jie-Bang Yan, Sivaprasad Gogineni, David Braaten, University of Kansas; John Brozena, U.S. Naval Research Laboratory; Fernando Rodriguez-Morales, Emily Arnold, University of Kansas</i>	
 FR3-L4: ICE SHEETS AND GLACIERS I	
FR3-L4.1: A PARTIALLY COHERENT MICROWAVE EMISSION MODEL FOR POLAR ICE SHEETS WITH DENSITY FLUCTUATIONS AND MULTILAYER ROUGH INTERFACES FROM 0.5 TO 2 GHZ	7082
<i>Leung Tsang, Tian-Lin Wang, University of Michigan; Joel Johnson, Kenneth Jezek, The Ohio State University; Shurun Tan, University of Michigan</i>	
FR3-L4.2: THE ULTRA-WIDEBAND SOFTWARE-DEFINED RADIOMETER (UWBRAD) FOR ICE SHEET INTERNAL TEMPERATURE SENSING: RESULTS FROM RECENT OBSERVATIONS	7085
<i>Joel Johnson, Kenneth Jezek, Mustafa Aksoy, Alexandra Bringer, Caglar Yardim, Mark Andrews, Chi-Chih Chen, Domenic Belgiovane, The Ohio State University; Vladimir Leuski, Consultant; Michael Durand, Yuna Duan, The Ohio State University; Giovanni Macelloni, Marco Brogioni, IFAC; Shurun Tan, Tian-Lin Wang, Leung Tsang, University of Michigan</i>	
FR3-L4.3: A BACKSCATTERING AND PROPAGATION MODEL FOR RADAR SOUNDING OF ICE SHEETS	7088
<i>Jorgen Dall, Technical University of Denmark</i>	
FR3-L4.4: TESTING THE FEASIBILITY OF A BAYESIAN RETRIEVAL OF GREENLAND ICE SHEET INTERNAL TEMPERATURE FROM ULTRA-WIDEBAND SOFTWARE-DEFINED MICROWAVE RADIOMETER (UWBRAD) MEASUREMENTS	7092
<i>Yuna Duan, Michael Durand, Kenneth Jezek, Caglar Yardim, Alexandra Bringer, Mustafa Aksoy, Joel Johnson, The Ohio State University</i>	
FR3-L4.5: REAL-TIME SAR PROCESSING OF ICE-SOUNDING DATA INTEGRATED WITH MITIGATION OF RFI SIGNALS	7094
<i>Shinan Lang, Qiang Wu, Beijing University of Technology; Xiaojun Liu, Bo Zhao, Xiuwei Chen, Institute of Electronics, Chinese Academy of Sciences</i>	
 FR4-L4: ICE SHEETS AND GLACIERS II	
FR4-L4.1: THE RECOVERY ICE STREAM: SYNERGY OF SATELLITE AND AIRBORNE REMOTE SENSING FOR FLOW DYNAMICS	7098
<i>Dana Floricioiu, Wael Abdel Jaber, Michael Baessler, German Aerospace Center (DLR); Veit Helm, Alfred Wegener Institute; Kenneth Jezek, The Ohio State University</i>	
FR4-L4.2: SURFACE CHANGES AT THE NORTHWEST VATNAJÖKULL GLACIER, ICELAND, DURING THE 2014-2015 BARDARBUNGA ERUPTION	7101
<i>Cristian Rossi, Christian Minet, German Aerospace Center (DLR); Eyjólfur Magnússon, University of Iceland</i>	
FR4-L4.3: UPDATED GROUNDING LINE OF THWAITES GLACIER USING HIGH RESOLUTION TANDEM-X DIGITAL ELEVATION MODEL	7105
<i>Seung Hee Kim, Duk-Jin Kim, Seoul National University</i>	

FR4-L4.4: AN IMPROVED METHOD OF USING ICESAT ALTIMETRY DATA TO EXTRACT TIBETAN PLATEAU GLACIER THICKNESS CHANGE RATE	7109
<i>Tianjin Huang, Li Jia, Jing Lu, Jie Zhou, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
FR4-L4.5: MASS BALANCE PROCESSES ON GLACIERS IN THE KHUMBU-HIMAL (NEPAL) BASED ON PLÉIADES TRI-STEREO DATA	7113
<i>Lorenzo Rieg, Christoph Klug, Lindsey Nicholson, Rudolf Sailer, Anna Wirbel, University of Innsbruck</i>	
 FR1-L5: RADAR AND HYPERSPECTRAL REMOTE SENSING FOR CROP PARAMETERS	
FR1-L5.1: SAR ALGORITHMS FOR CROP HEIGHT ESTIMATION: THE PADDY-RICE CASE STUDY	7117
<i>Esra Erten, Istanbul Technical University; Onur Yuzugullu, ETH Zürich; Juan M. Lopez-Sanchez, University of Alicante; Irena Hajnsek, German Aerospace Center (DLR)</i>	
FR1-L5.2: MORPHOLOGY ESTIMATION OF RICE FIELDS USING X-BAND POLSAR DATA	7121
<i>Onur Yuzugullu, ETH Zürich; Esra Erten, ITU; Irena Hajnsek, German Aerospace Center (DLR)</i>	
FR1-L5.3: SENTINEL1 RESPONSE TO CEREAL LEAF AREA INDEX (LAI): STUDY CASE FOR CENTRAL TUNISIA	7125
<i>Meriem Barbouchi, National Institute of Agronomy of Tunisia; Riadh Abdelfattah, Higher School of Communications of Tunis; Karem Chokmani, National Institute for Scientific Research; Nadhira Ben Aissa, Hatem Cheikh Mhammed, National Institute of Agronomy of Tunisia</i>	
FR1-L5.4: HYPERSPECTRAL CHLOROPHYLL INDICES SENSITIVITY ANALYSIS TO SOIL BACKGROUNDS IN AGRICULTURAL APPLICATIONS USING FIELD, PROBE-1 AND HYPERION DATA	7129
<i>Abderrazak Bannari, Arabian Gulf University; Kark Staenz, Lethbridge University</i>	
FR1-L5.5: ANALYSIS OF THE INTERACTION BETWEEN ELECTROMAGNETIC WAVE AND CEREAL PARAMETERS AT ROW AND COLUMN DIRECTIONS	7133
<i>Lei He, Ling Tong, Yuxia Li, Yan Chen, University of Electronic Science and Technology of China</i>	
 FR2-L5: COMPUTATIONAL TECHNIQUES FOR CROP MONITORING AND CLASSIFICATION	
FR2-L5.1: COMBINING CROP PROPORTION PHENOLOGY INDEX MODELS WITH MACHINE LEARNING ALGORITHMS FOR ESTIMATING WINTER WHEAT AREAS	7137
<i>Le Li, Yaozhong Pan, Beijing Normal University; Qinchuan Xin, Sun Yat-sen University</i>	
FR2-L5.2: SUGARCANE GROWTH MONITORING THROUGH SPATIAL CLUSTER AND TEMPORAL TREND ANALYSIS OF RADAR AND OPTICAL REMOTE SENSING IMAGES	7141
<i>Ramses Molijn, Lorenzo Iannini, Ramon Hanssen, Delft University of Technology; Jansle Vieira Rocha, UniCamp</i>	
FR2-L5.3: ALONG THE SEASON CROP CLASSIFICATION IN UKRAINE BASED ON TIME SERIES OF OPTICAL AND SAR IMAGES USING ENSEMBLE OF NEURAL NETWORK CLASSIFIERS	7145
<i>Nataliia Kussul, Mykola Lavreniuk, Andrii Shelestov, Bohdan Yailymov, Space Research Institute NASU-SSAU</i>	
FR2-L5.4: INTEGRATION OF REMOTE SENSING DERIVED PARAMETERS IN A CROP MODEL: CASE OF HAY	7149
<i>Mohammad El Hajj, Nicolas Baghdadi, Bruno Cheviron, Irstea (National Research Institute of Science and Technology for Environment and Agriculture); Gilles Belaud, SupAgro; Mehrez Zribi, CNRS, CESBIO (Centre National d'Etude Spatiale, Centre d'Etudes Spatiales de la Biosphère)</i>	
FR2-L5.5: CHARACTERIZATION OF THE PERIODIC SURFACE IN AGRICULTURE BY THE USE OF POLARIMETRIC SIGNATURES	7153
<i>Lingli Zhao, Jie Yang, Pingxiang Li, Jinqi Zhao, Wuhan University; Jing Zhang, 92857</i>	

FR3-L5: REMOTE SENSING FOR CROP WATER AND YIELD ESTIMATION

FR3-L5.1: DAILY MAPPING OF LANDSAT-LIKE LAI AND CORRELATION TO GRAPE YIELD..... 7157

Liang Sun, Feng Gao, Martha Anderson, Wayne Dulaney, Lynn McKee, Alex White, William Kustas, Joe Alfieri, John Prueger, U.S. Department of Agriculture

FR3-L5.2: ESTIMATION OF CROP YIELD IN REGIONS WITH MIXED CROPS USING 7161 DIFFERENT CROPLAND MASKS AND TIME-SERIES MODIS DATA

Jiangui Liu, Ted Huffman, Jiali Shang, Budong Qian, Taifeng Dong, Yinsuo Zhang, Qi Jing, Agriculture and Agri-Food Canada

FR3-L5.3: INCORPORATING YEARLY DERIVED WINTER WHEAT MAPS INTO WINTER 7164 WHEAT YIELD FORECASTING MODEL

Sergii Skakun, Belen Franch, Jean-Claude Roger, University of Maryland; Eric Vermote, NASA; Inbal Becker-Reshef, Christopher Justice, Andres Santamaria Artigas, University of Maryland

FR3-L5.4: LEAF RELATIVE WATER CONTENT ESTIMATED FROM LEAF REFLECTANCE AND 7168 TRANSMITTANCE

Vern C Vanderbilt, NASA; Craig S.T. Daughtry, United States Department of Agriculture - Agricultural Research Service; Robert P Dahlgren, California State University Monterey Bay / National Aeronautics and Space Administration

FR3-L5.5: STUDY OF WATER USE IN AGRICULTURAL LANDSCAPES AT HIGH 7172 SPATIOTEMPORAL RESOLUTION

Yang Yang, Martha Anderson, Feng Gao, Yun Yang, Liang Sun, U.S. Department of Agriculture - ARS

FR4-L5: WETLANDS AND INLAND WATER

FR4-L5.1: CONSTRUCTION AND APPLICATION OF THE DIAGNOSTIC INDICATOR SYSTEM 7176 OF WETLAND HEALTH BASED ON REMOTE SENSING

Chunying Wu, Chunxiang Cao, Wei Chen, Rong Tian, Di Liu, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences

FR4-L5.2: MONITORING SEASONAL CHANGES IN THE WATER SURFACE AREAS OF 7180 POYANG LAKE USING COSMO-SKYMED TIME SERIES DATA IN PR CHINA

Yayong Sun, Shifeng Huang, Jiren Li, Xiaotao Li, Jianwei Ma, Hui Wang, Tianjie Lei, Institute of Water Resources and Hydropower Research

FR4-L5.3: WETLAND MAPPING AND MEASUREMENT OF FLOOD INUNDATED AREA USING 7184 GROUND-REFLECTED GNSS SIGNALS IN A BISTATIC RADAR SYSTEM

Clara Chew, Rashmi Shah, Cinzia Zuffada, Anthony Mannucci, Jet Propulsion Laboratory

FR4-L5.4: SPATIAL VARIABILITY OF REED BED SPECTRA IN OLKILUOTO ISLAND 7188

Jyrki Tuominen, Tarmo Lipping, Tampere University of Technology

FR4-L5.5: GRASSLAND FRACTIONAL VEGETATION COVER MONITORING USING THE 7192 COMPOSITED HJ-1A/B TIME SERIES IMAGES AND UNMANNED AERIAL VEHICLES: A CASE STUDY IN ZOIGE WETLAND, CHINA

Jinhu Bian, Ainong Li, Zhengjian Zhang, Wei Zhao, Guangbin Lei, Haoming Xia, Jianbo Tan, Institute of Mountain Hazards and Environment, Chinese Academy of Sciences

FR1-L6: DATA FUSION TECHNIQUES

FR1-L6.1: AIRBORNE SAR AND OPTICAL IMAGE FUSION BASED ON IHS TRANSFORM AND 7196 JOINT NON-NEGATIVE SPARSE REPRESENTATION

Chunhui Liu, Yue Qi, Wenrui Ding, Beihang University

FR1-L6.2: FUSION OF MULTISPECTRAL AND SAR IMAGES USING SPARSE 7200 REPRESENTATION

Hai Zhang, Huanfeng Shen, Liangpei Zhang, Wuhan University

FR1-L6.3: OBJECT DETECTION USING OPTICAL AND LIDAR DATA FUSION	7204
<i>Onur Tasar, Selim Aksoy, Bilkent University</i>	
FR1-L6.4: HIGH-ORDER MARKOV RANDOM FIELDS-BASED COMPRESSED SENSING FOR MULTISPECTRAL RECONSTRUCTION	7208
<i>Yukun Huang, Jiangxi University of Finance and Economics; Jingbo Wei, Nanchang University; Shasha Yue, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
FR1-L6.5: HYPERSPECTRAL AND MULTISPECTRAL IMAGE FUSION USING COLLABORATIVE REPRESENTATION WITH LOCAL ADAPTIVE DICTIONARY PAIR	7212
<i>Tuo Zhao, Yifan Zhang, Xiaoqin Xue, Mingyi He, Northwestern Polytechnical University</i>	
FR2-L6: HYPERSPECTRAL PANSHARPENING	
FR2-L6.1: SUPERRESOLUTION OF HYPERSPECTRAL IMAGES USING SPECTRAL UNMIXING AND SPARSE REGULARIZATION	7216
<i>Zahra Hashemi Nezhad, Department of Electrical Engineering, Shahid Bahonar University of Kerman; Azam Karami, Rob Heylen, Paul Scheunders, iMinds- Visionlab, University of Antwerp, Belgium</i>	
FR2-L6.2: PANSHARPENING OF HYPERSPECTRAL IMAGES: EXPLOITING DATA ACQUIRED BY MULTIPLE PLATFORMS	7220
<i>Daniele Picone, Rocco Restaino, University of Salerno; Gemine Vivone, North Atlantic Treaty Organization (NATO); Paolo Addesso, University of Salerno; Jocelyn Chanussot, Grenoble Institute of Technology</i>	
FR2-L6.3: HYPERSPECTRAL IMAGE SUPER-RESOLUTION USING SPARSE SPECTRAL UNMIXING AND LOW-RANK CONSTRAINTS	7224
<i>Zeyu Li, Chao Li, Cheng Deng, Jie Li, Xidian University</i>	
FR2-L6.4: A HYPERSPECTRAL SPATIAL-SPECTRAL ENHANCEMENT ALGORITHM.....	7228
<i>Chen Yi, Yongqiang Zhao, Jingxiang Yang, Northwestern Polytechnical University</i>	
FR2-L6.5: SUBSPACE SELECTION FOR HYPERSPECTRAL PANSHARPENING USING SPARSE UNMIXING	7232
<i>Chiru Ge, Yunsong Li, JiaoJiao Li, Keyan Wang, Xidian University</i>	
FR3-L6: REGISTRATION OF MULTISENSOR IMAGES AND RECONSTRUCTION	
FR3-L6.1: ESTIMATION OF SOLAR IRRADIANCE USING GROUND-BASED WHOLE SKY IMAGERS	7236
<i>Soumyabrata Dev, Nanyang Technological University; Florian M. Savoy, University of Illinois at Urbana-Champaign; Yee Hui Lee, Nanyang Technological University; Stefan Winkler, University of Illinois at Urbana-Champaign</i>	
FR3-L6.2: CLOUD FILTERING FOR LANDSAT TM SATELLITE IMAGES USING MULTIPLE TEMPORAL MOSAICING	7240
<i>Yi Guo, Western Sydney University; Feng Li, Qian Xuesen Laboratory of Space Technology; Peter Caccetta, Drew Devereux, Mark Berman, CSIRO</i>	
FR3-L6.3: SUPER-RESOLUTION RECONSTRUCTION OF HYPERSPECTRAL IMAGES VIA AN IMPROVED MAP-BASED APPROACH	7244
<i>Hasan Irmak, ASELSAN INC.; Gözde Bozdogi Akar, Middle East Technical University; SenIha Esen Yüksel, Hacettepe University; Hakan Aytaylan, ASELSAN INC.</i>	
FR3-L6.4: BLIND DECONVOLUTION OF REMOTE SENSING IMAGE BASED ON PRIORS OF REFERENCE IMAGE AND SPARSE REPRESENTATION	7248
<i>Peng Liu, Jabin Zhang, Jingbo Wei, Jining Yan, Lizhe Wang, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	

FR3-L6.5: PERFORMANCE ANALYSIS OF SPACE TARGET 3D RECONSTRUCTION FROM ISAR IMAGES WITH DIFFERENT ORBIT CHARACTERISTIC	7252
<i>Peng Yang, Zhuang Wang, Libing Jiang, National University of Defense Technology</i>	
 FR4-L6: SUPER-RESOLUTION	
FR4-L6.1: SATELLITE REMOTE SENSING IMAGE SUPER RESOLUTION BASED ON MARKOV RANDOM FIELDS	7256
<i>Zhi-Zhong Wang, Qing-Jun Zhang, Xiaolei Han, China Academy of Space Technology</i>	
FR4-L6.2: THERMAL SHARPENING OF VIIRS DATA	7260
<i>Giuseppe Picaro, Paolo Addesso, Rocco Restaino, University of Salerno; Gemine Vivone, North Atlantic Treaty Organization, Science and Technology Organization, La Spezia; Daniele Picone, University of Salerno; Mauro Dalla Mura, Grenoble Institute of Technology</i>	
FR4-L6.3: ROBUST SUPERRESOLUTION OF MULTIANGLE-MULTISPECTRAL REMOTE SENSING IMAGES BASED ON RANK MINIMIZATION	7264
<i>Hang Chen, Hongyan Zhang, Liangpei Zhang, The State Key Laboratory of Information Engineering in Surveying, Mapping, and Remote Sensing, Wuhan University</i>	
FR4-L6.4: AN IMPROVED DARK-PIXEL SUBTRACTION METHOD AND ITS APPLICATION IN A PANSHARPENING METHOD TAKING INTO ACCOUNT HAZE	7268
<i>Hui Li, Linhai Jing, Zhongchang Sun, Liming Wang, Qi Yan, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
FR4-L6.5: A GUIDED FILTERING AND HCT INTEGRATED PANSHARPENING METHOD FOR WORLDVIEW-2 SATELLITE IMAGES	7272
<i>Weifeng Qi, Xu Li, Northwestern Polytechnical University; Shigang Yue, University of Lincoln</i>	
 FR1-L7: URBANIZATION AND ENVIRONMENTAL CHANGE I	
FR1-L7.1: THE GLOBAL HUMAN SETTLEMENT LAYER FROM LANDSAT IMAGERY	7276
<i>Martino Pesaresi, Daniele Ehrlich, A. J. Florczyk, S. Freire, A. Julea, T. Kemper, V. Syrri, Joint Research Centre, Institute for the Protection and Security of the Citizen</i>	
FR1-L7.3: MONITORING URBANIZATION DYNAMICS IN THE SOUTHEAST U.S. USING DMSP/OLS NIGHTLIGHT TIME SERIES	7280
<i>Linlin Lu, Key Laboratory of Digital Earth Science, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
FR1-L7.4: IMPACTS OF SOCIO-ECONOMIC DEVELOPMENT AND URBANIZATION ON NATURAL RESOURCES – CASE STUDIES FROM AFRICA	7283
<i>Ursula Gessner, Kim Knauer, German Aerospace Center (DLR); Miriam Machwitz, Luxembourg Institute of Science and Technology; Stefan Dech, Claudia Kuenzer, German Aerospace Center (DLR)</i>	
FR1-L7.5: ASSESSMENT OF THE ECOLOGICAL SECURITY BASED ON THE ECOLOGICAL CARRYING CAPACITY	7285
<i>Guangzhen Cao, China Meteorological Administration; Peng Hou, Ministry of Environmental Protection, China</i>	
 FR2-L7: URBANIZATION AND ENVIRONMENTAL CHANGE II	
FR2-L7.1: 500-YEAR CLIMATE CYCLES STACKING OF RECENT CENTENNIAL WARMING DOCUMENTED IN AN EAST ASIAN POLLEN RECORD	7289
<i>Deke Xu, Houyuan Lu, Guoqiang Chu, Naiqin Wu, Institute of Geology and Geophysics Chinese Academy of Sciences</i>	

FR2-L7.2: URBANIZATION AND FOREST DEGRADATION IN EAST AFRICA - A CASE STUDY AROUND DAR ES SALAAM, TANZANIA	7293
<i>Lorena Hojas, University of Valencia; Hugh Eva, Daniele Ehrlich, Martino Pesaresi, Frédéric Achard, JRC; Javier Garcia, University of Valencia</i>	
FR2-L7.3: INTERANNUAL VARIATION OF VEGETATION GREENNESS AND WATER BODY SURFACE AREA AND THEIR RELATIONSHIP WITH SETTLEMENT DEVELOPMENT IN XINJIANG, CHINA	7296
<i>Qingting Li, Key Laboratory of Digital Earth Science, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
FR2-L7.4: DIGITAL BEIJING CONSTRUCTION AND APPLICATION BASED ON THE URBAN THREE-DIMENSIONAL MODELLING AND REMOTE SENSING MONITORING TECHNOLOGY	7299
<i>Li Guan, Yanjie Ding, Xuebing Feng, Hui Zhang, Beijing Key Laboratory of City Spatial Information Engineering, Beijing Institute of Surveying and Mapping</i>	
FR2-L7.5: MONITORING AND ANALYSIS OF LAND USE CHANGE IN XIAMEN HARBOR AREA BASED ON MULTI-SOURCE REMOTE SENSING IMAGES	7303
<i>Jing Li, Satellite Environmental Center Ministry of Environmental Protection of the People's Republic of China; Lingyao Bai, School of Land Science and Technique, China University of Geosciences; Jingrong Li, Yihuang Nie, Satellite Environmental Center Ministry of Environmental Protection of the People's Republic of China; Peiguo Yang, National Disaster Reduction Center of China, Ministry of Civil Affairs; Jianhui Qin, Institute of geographic sciences and natural resources research, Chinese Academy of Science; Ran Qu, Satellite Environmental Center Ministry of Environmental Protection of the People's Republic of China</i>	
 FR3-L7: OPTICAL URBAN REMOTE SENSING	
FR3-L7.1: IMPROVING URBAN EXTENT EXTRACTION FROM VHR OPTICAL DATA BY MEANS OF CLOUD DETECTION AND IMAGE RECONSTRUCTION	7307
<i>Iannelli Gianni Cristian, Paolo Gamba, University of Pavia; Xinghua Li, Huanfeng Shen, Wuhan University</i>	
FR3-L7.2: A SEMANTIC SCENE MODEL FOR MULTITEMPORAL DETECTION OF URBAN VILLAGES IN MEGA CITY REGIONS OF CHINA	7310
<i>Hui Liu, Xin Huang, Liangpei Zhang, Wuhan University</i>	
FR3-L7.3: URBAN EXPANSION EXTRACTION AND ANALYSIS USING LANDSAT TIME SERIES DATA--A CASE STUDY OF TIANJIN	7314
<i>Baohui Chai, Peijun Li, Peking University</i>	
FR3-L7.4: EVALUATING THE USE OF MULTIPLE IMAGERY- DERIVED SPATIAL FEATURES TO PREDICT CENSUS DEMOGRAPHIC VARIABLES IN ACCRA, GHANA	7318
<i>Ryan Engstrom, Andrew Copenhaver, Yang Qi, George Washington University</i>	
FR3-L7.5: SUITABILITY OF REMOTE SENSING BASED SURFACE INFORMATION FOR A THREE-DIMENSIONAL URBAN MICROCLIMATE MODEL	7322
<i>Wieke Heldens, Uta Heiden, Thomas Esch, Andreas Müller, German Aerospace Center (DLR) Oberpfaffenhofen; Stefan Dech, German Aerospace Center (DLR) Oberpfaffenhofen; University of Wuerzburg</i>	
 FR4-L7: SAR URBAN REMOTE SENSING	
FR4-L7.1: DETECTION OF BUILDING RADAR FOOTPRINTS FROM SINGLE VHR SAR IMAGES	7326
<i>Jinxing Chen, Fan Wu, Chao Wang, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Wanming Lei, Nanjing Research Institute of Electronics Technology</i>	
FR4-L7.2: HIGH RESOLUTION THROUGH-WALL RADAR IMAGING USING HYPERPARAMETER-FREE LIKES METHOD	7330
<i>Chundi Zheng, Naval Marine Academy; Gang Li, Tsinghua University</i>	

FR4-L7.3: RISK OF BUILDING DAMAGE BY MODELING INTERFEROMETRIC TIME SERIES	7334
<i>Vania Cerchiello, IUSS; Giulia Tessari, University of Padua; Emma Velterop, University College London; Paolo Riccardi, Marco Defilippi, Paolo Pasquali, Sarmap S.A</i>	
FR4-L7.4: BUILDING DAMAGE INFORMATION INVESTIGATION AFTER EARTHQUAKE USING SINGLE POST-EVENT POLSAR IMAGE	7338
<i>Wei Zhai, Gansu Earthquake Administration; Huanfeng Shen, Wuhan University; Chunlin Huang, Wansheng Pei, Chinese Academy of Sciences</i>	
FR4-L7.5: TWO-STEP APPROACH BASED ON STATISTICAL MODELLING TO MAP BUILDINGS AT GLOBAL SCALE USING SENTINEL-1 SAR DATA	7342
<i>Marco Chini, Patrick Matgen, Luxembourg Institute of Science and Technology</i>	
 FR1-L8: UAV SYSTEMS AND SENSORS	
FR1-L8.1: A LIGHT-WEIGHT SAR SYSTEM FOR MULTI-ROTOR UAV PLATFORM USING LFM QUASI-CW WAVEFORM	7346
<i>Xiaoyu Yan, Jie Chen, Biman Liyanage, Pengbo Wang, Wei Yang, Beihang University</i>	
FR1-L8.2: EVALUATION OF A UAV-BASED HYPERSPECTRAL FRAME CAMERA FOR MONITORING THE LEAF NITROGEN CONCENTRATION IN RICE	7350
<i>Hengbiao Zheng, Xiang Zhou, Tao Cheng, Xia Yao, Yongchao Tian, Weixing Cao, Yan Zhu, Nanjing Agricultural University</i>	
FR1-L8.3: MULTI-PURPOSES RADAR FOR IMAGING, NAVIGATION, SENSE-AND-AVOID ONBOARD MINI AND MICRO UNMANNED AERIAL VEHICLES	7354
<i>Antonio Fulvio Scannapieco, Alfredo Renga, Antonio Moccia, University of Naples</i>	
FR1-L8.4: A SUB-PIXEL REGISTRATION METHOD OF UAV OBLIQUE IMAGES	7358
<i>Chengyi Wang, Jingbo Chen, Dongxu He, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences</i>	
FR1-L8.5: COMPARATIVE ANALYSIS OF VEGETATION INDICES, NON-PARAMETRIC AND PHYSICAL RETRIEVAL METHODS FOR MONITORING NITROGEN IN WHEAT USING UAV-BASED MULTISPECTRAL IMAGERY	7362
<i>Yong Liu, Tao Cheng, Yan Zhu, Yongchao Tian, Weixing Cao, Xia Yao, Ni Wang, Nanjing Agricultural University</i>	
 FR2-L8: RADAR REMOTE SENSING MISSIONS	
FR2-L8.1: METOP-SG SCA WIND SCATTEROMETER DESIGN AND PERFORMANCE	7366
<i>Friedhelm Rostan, Dieter Ulrich, Sebastian Riegger, Airbus DS GmbH; Allan Østergaard, European Space Agency - ESTEC</i>	
FR2-L8.2: FMCW RADAR IN THE DIGITAL AGE	7370
<i>Dirk Klugmann, STFC / RAL Space</i>	
FR2-L8.3: SMAP RADAR PROCESSING AND RESULTS FROM CALIBRATION AND VALIDATION	7374
<i>Richard West, Sermsak Jaruwatanadilok, Mario Chaubell, Michael Spencer, Samuel Chan, Adam Freedman, Alexander Fore, Curtis Chen, Jet Propulsion Laboratory, California Institute of Technology</i>	
FR2-L8.4: PHASE SYNCHRONIZATION METHOD FOR DISTRIBUTED SPACEBORNE FMCW SAR SYSTEM	7376
<i>Zhihua He, Guanghu Jin, Feng He, Qilei Zhang, Zhen Dong, Haifeng Huang, NUDT; Guozhong Chen, Shanghai Institute of Satellite Engineering</i>	
FR2-L8.5: NUMERICAL AND EXPERIMENTAL EVALUATION OF POLARIMETRIC CALIBRATION USING HYBIRD CORNER REFLECTORS	7380
<i>Suyun Wang, China University of Geosciences; Kun-Shan Chen, Chinese Academy of Sciences</i>	

FR3-L8: SATELLITE MISSIONS

FR3-L8.1: THE CAPABILITY AND DEVELOPMENT OF CHINESE OCEAN DYNAMICAL ENVIRONMENT SATELLITES 7384

Huan Zhang, Qingjun Zhang, Beijing Institute of Spacecraft System Engineering; Yongjun Jia, National Satellite Ocean Application Service

FR3-L8.2: TERRA AND AQUA MODIS INSTRUMENT PERFORMANCE 7388

Xiaoxiong Xiong, NASA Goddard Space Flight Center; Amit Angal, Aisheng Wu, SSAI; William Barnes, UMBC; Vincent Salomonson, University of Utah

FR3-L8.3: WINDS AND CURRENTS MISSION: ABILITY TO OBSERVE MESOSCALE AIR/SEA COUPLING 7392

Mark Bourassa, Florida State University; Ernesto Rodriguez, NASA Jet Propulsion Laboratory, California Institute of Technology; Dudley Chelton, Oregon State University

FR3-L8.4: GLOBAL MAPPING OF SNOW WATER EQUIVALENT WITH THE WATER CYCLE OBSERVATION MISSION (WCOM) 7396

Chuan Xiong, Jiancheng Shi, State Key Laboratory of Remote Sensing Science, Institute of Remote Sensing and Digital Earth, CAS; Lingmei Jiang, State Key Laboratory of Remote Sensing Science, Beijing Normal University; Yurong Cui, State Key Laboratory of Remote Sensing Science, Institute of Remote Sensing and Digital Earth, CAS

FR3-L8.5: TESTING AND INTEGRATION OF JPSS VIIRS AEROSOL EDR ALGORITHMS AND EVALUATION OF UPSTREAM/DOWNSTREAM EFFECTS USING THE ALGORITHM DEVELOPMENT LIBRARY (ADL) 7400

Bigyani Das, Weizhong Chen, Qiang Zhao, NOAA/NESDIS/STAR/MSG; Walter Wolf, NOAA/NESDIS/STAR; Jingfeng Huang, NOAA/NESDIS/STAR/UMD; Hai Zhang, NOAA/NESDIS/STAR/MSG; Istvan Laszlo, NOAA/NESDIS/STAR

FR4-L8: TOMOGRAPHY AND 3D MAPPING

FR4-L8.1: FIRST STUDY ON HOLOGRAPHIC SAR TOMOGRAPHY OVER AGRICULTURAL CROPS AT C-/X-BAND 7403

Octavio Ponce, Hannah Joerg, Rolf Scheiber, Pau Prats-Iraola, Irena Hajnsek, Andreas Reigber, German Aerospace Center (DLR)

FR4-L8.2: SUPPORT-DETECTION 5-D SAR TOMOGRAPHY 7407

Alessandra Budillon, Angel Caroline Johnsy, Gilda Schirinzi, University Parthenope

FR4-L8.3: MICROWAVE THREE-DIMENSIONAL IMAGING UNDER SPARSE SAMPLING BASED ON MURA CODE7411

He Tian, Daojing Li, Xuan Hu, Institute of Electronics, Chinese Academy of Sciences

FR4-L8.4: PRECISE AND AUTOMATIC 3D ABSOLUTE GEOLOCATION OF TARGETS USING ONLY TWO LONG-APERTURE SAR ACQUISITIONS 7415

Sergi Duque, Alessandro Parizzi, Francesco De Zan, Michael Eineder, German Aerospace Center (DLR)

FR4-L8.5: VIRTUAL BANDWIDTH SAR (VB-SAR) FOR CENTIMETER-SCALE VERTICAL PROFILING THROUGH A SOIL AT C-BAND FROM SPACE 7419

Keith Morrison, Alexander Edwards-Smith, Cranfield University; Simon Zwieback, Irena Hajnsek, ETH Zürich

FR1-L9: ADVANCED GROUND PENETRATING RADAR I

FR1-L9.1: THE STATE OF THE ART IN GROUND PENETRATING RADAR AND THE REGULATION OF ELECTROMAGNETIC WAVE 7423

Motoyuki Sato, Tohoku University

FR1-L9.3: ANTENNA PERFORMANCE UNDER GEO-PROPERTY VARIATIONS FOR REAL-TIME UNDERGROUND TOMOGRAPHY	7426
<i>Taian Fan, Tian Xia, University of Vermont; Liang Cheng, Lehigh University</i>	
FR1-L9.4: DESIGN OF A CW-SF GROUND PENETRATING RADAR	7430
<i>Massimiliano Pieraccini, Federico Papi, University of Florence</i>	
FR1-L9.5: MICROWAVE TOMOGRAPHY AND UNCONVENTIONAL GPR MEASUREMENT CONFIGURATIONS: REVIEW OF THE PERFORMANCE ANALYSIS AND EXAMPLES	7434
<i>Ilaria Catapano, Gianluca Gennarelli, Francesco Soldovieri, Institute for Electromagnetic Sensing of the Environment, National Research Council of Italy</i>	
 FR2-L9: ADVANCED GROUND PENETRATING RADAR II	
FR2-L9.1: APPLICATION OF ENTROPY CLASSIFICATION METHOD TO THE DETECTION OF SUBSURFACE LINEAR TARGETS IN POLARIMETRIC GPR DATA	7438
<i>Yue Yu, Jilin University; Chi-Chih Chen, The Ohio State University; Xuan Feng, Cai Liu, Jilin University</i>	
FR2-L9.2: SIGNAL PROCESSING FOR LANDMINE DETECTION USING GROUND PENETRATING RADAR	7442
<i>Iraklis Giannakis, Shengzhi Xu, Pascal Aubry, Alexander Yarovoy, Delft University of Technology; Jacopo Sala, 3D-Radar</i>	
FR2-L9.3: REVERSE-TIME MIGRATION AND FULL WAVEFORM INVERSION APPLIED TO A STATIONARY MIMO GPR SYSTEM	7446
<i>Hai Liu, Yuxian Zhang, Qiu Chen, Feng Han, Xiamen University; Qing Huo Liu, Duke University</i>	
FR2-L9.4: COMBINING WAVELET TRANSFORM AND COMPRESSIVE SENSING FOR SUBSURFACE IMAGING OF NON-SPARSE TARGETS	7450
<i>Michele Ambrosanio, Vito Pascazio, University of Napoli Parthenope</i>	
FR2-L9.5: SYNTHETIC APERTURE RADAR FOR AN AUTONOMOUS CRYOBOT FOR SUBSURFACE EXPLORATION OF EUROPA	7454
<i>Omkar Pradhan, Srikumar Sandeep, Albin J. Gasiewski, University of Colorado; Vickie Seigel, Bill Stone, Stone Aerospace</i>	
 FR3-L9: GROUND BASED SENSING	
FR3-L9.1: BOREALSCAT: A TOWER-BASED TOMOGRAPHIC AND POLARIMETRIC RADAR EXPERIMENT IN THE BOREAL FOREST AT P-, L- AND C-BAND	7458
<i>Albert R. Monteith, Maciej J. Soja, Lars M. H. Ulander, Leif E. B. Eriksson, Chalmers University of Technology</i>	
FR3-L9.2: DEVELOPMENT AND EXPERIMENTS OF MULTI-ASPECT GROUND-BASED SAR FOR DEFORMATION MONITORING	7462
<i>Pingping Huang, Weixian Tan, Yanping Wang, Inner Mongolian Key Laboratory of Radar Technology and Application, Inner Mongolia University of Technology</i>	
FR3-L9.3: COMPARISON OF THE MULTI-PATH EFFECT BETWEEN TRIMBLE R7 AND TOPCON NET-G3A	7465
<i>Zhige Jia, Zhengsong Chen, Pengfei Yu, Mu Lin, Xiaoli Liu, Institute of Seismology, China Earthquake Administration</i>	
FR3-L9.4: ANALYSIS OF GULLY EROSION HAZARD USING HIGH RESOLUTION TERRESTRIAL LIDAR	7469
<i>Qiuling Wang, Jun Liu, Institute of Disaster Prevention; Lixin Wu, China University of Mining and Technology; Zhihua Xu, Beijing Normal University; Songtao Fan, China University of Mining and Technology; An Qian, Institute of Disaster Prevention</i>	
FR3-L9.5: GEO-REFERENCING AND STEREO CALIBRATION OF GROUND-BASED WHOLE SKY IMAGERS USING THE SUN TRAJECTORY	7473
<i>Florian M. Savoy, University of Illinois at Urbana-Champaign; Soumyabrata Dev, Yee Hui Lee, Nanyang Technological University; Stefan Winkler, University of Illinois at Urbana-Champaign</i>	

FR4-L9: SUBSURFACE SENSING

FR4-L9.1: FULL POLARIMETRIC GPR DATA DECOMPOSITION AND IMAGING 7477
Xuan Feng, Enhedelilai Nilot, Minghe Zhang, Shuaishuai Liang, Jilin University

FR4-L9.2: MCA BASED CLUTTER REDUCTION FROM MIGRATED GPR DATA 7481
Yanhui Zhou, Wenchao Chen, Xi'an Jiaotong University

FR4-L9.3: SOURCE WAVELET INDEPENDENT TIME-DOMAIN FULL WAVEFORM INVERSION(FWI) OF CROSS-HOLE RADAR DATA 7485
Sixin Liu, Xu Meng, Lei Fu, Jilin University

FR4-L9.4: IMPROVED METHOD FOR THE OPTIMIZATION OF COILS IN THE PRESENCE OF MAGNETIC SOIL 7489
Mark Reed, Waymond Scott, Jr., Georgia Institute of Technology

FR4-L9.5: MODAL ANALYSIS OF THE EDDY CURRENT PROBLEM USING NULL-SPACE-FREE JACOBI-DAVIDSON 7493
Jonathan Gabbay, Waymond Scott, Jr., Georgia Institute of Technology

FR1-L10: POLSAR AND POLINSAR INFORMATION EXTRACTION I

FR1-L10.1: RETRIEVAL OF PADDY RICE VARIABLES DURING THE GROWTH SEASON WITH A MODIFIED WATER CLOUD MODEL ON POLARIMETRIC RADAR IMAGES 7497
Zhi Yang, Kun Li, Yun Shao, Chinese Academy of Sciences; Brian Brisco, Canada Centre for Remote Sensing; Long Liu, Chinese Academy of Sciences

FR1-L10.2: A THREE-COMPONENT DECOMPOSITION ALGORITHM FOR POLARIMETRIC SAR WITH THE HELIX ANGLE COMPENSATION 7501
Wentao An, Chunhua Xie, Mingsen Lin, National Satellite Ocean Application Service

FR1-L10.3: POLARIMETRIC-ANISOTROPIC DECOMPOSITION OF SYNTHETIC APERTURE RADAR 7505
Feng Xu, Yongchen Li, Ya-Qiu Jin, Fudan University

FR1-L10.4: POLARIMETRIC COHERENCE PATTERN: A VISUALIZATION TOOL FOR POLSAR DATA INVESTIGATION 7509
Si-Wei Chen, Xue-Song Wang, National University of Defense Technology

FR1-L10.5: AERODYNAMIC ROUGHNESS RETRIEVAL FROM POLARIMETRIC ALOS-2 DATA IN URBAN AREAS 7513
Fengli Zhang, Minmin Sha, Guojun Wang, Zhikun Li, Yun Shao, Chinese Academy of Sciences

FR2-L10: POLSAR AND POLINSAR INFORMATION EXTRACTION II

FR2-L10.1: UAVSAR POLINSAR AND TOMOGRAPHIC EXPERIMENTS IN GERMANY 7517
Scott Hensley, Yunling Lou, Thierry Michel, Ron Muellerschoen, Brian Hawkins, Marco Lavalle, Naiara Pinto, Jet Propulsion Laboratory; Andreas Reigber, Matteo Pardini, German Aerospace Center (DLR)

FR2-L10.2: SAR IMAGING OF TROPICAL AFRICAN FORESTS WITH P-BAND MULTIBASELINE ACQUISITIONS: RESULTS FROM THE AFRISAR CAMPAIGN 7521
Irena Hajnsek, Matteo Pardini, Ralf Horn, Rolf Scheiber, Konstantinos Papathanassiou, German Aerospace Center (DLR); Pascale Dubois Fernandez, Remi Baque, Xavier Dupuis, ONERA; Tania Casal, European Space Agency

FR2-L10.3: IMPROVING SOIL MOISTURE ESTIMATION FROM POLARIMETRIC RADAR OBSERVATIONS: A STUDY OF SCENE HETEROGENEITY, LAND COVER, AND VEGETATION SEASONALITY 7524
Mariko Burgin, Jakob Van Zyl, NASA Jet Propulsion Laboratory

FR2-L10.4: SIMULTANEOUS L- AND X- BAND FULLY POLARIMETRIC AND INTERFEROMETRIC AIRBORNE SAR CAMPAIGNS IN CHINA	7527
<i>Adriano Meta, MetaSensing BV; Yong Huang, Five Star Electronic Technology co, ltd; Yanjing Liu, Five Star Electronic Technology Co, ltd</i>	
FR2-L10.5: VOLUME STRUCTURE CHARACTERISATION BY MEANS OF MULTI-BASELINE POL-INSAR: STATUS AND CHALLENGES	7531
<i>Konstantinos Papathanassiou, Matteo Pardini, Irena Hajnsek, German Aerospace Center (DLR)</i>	
 FR3-L10: SAR POLARIMETRY I	
FR3-L10.1: POLARIMETRIC SAR SPECKLE FILTERING BASED ON STOCHASTIC SAMPLING	7533
<i>Tianheng Yan, Xueke Yin, Wen Yang, Wuhan University; Carlos López-Martínez, Universitat Politècnica de Catalunya</i>	
FR3-L10.2: MITIGATION OF REFLECTION SYMMETRY ASSUMPTION AND NEGATIVE POWER PROBLEMS FOR THE MODEL BASED DECOMPOSITION	7537
<i>Hongzhong Li, Qingquan Li, Guofeng Wu, Key Laboratory for Geo-Environmental Monitoring of Coastal Zone of the national Administration of Surveying, Mapping and GeoInformation & Shenzhen key Laboratory of Spatial Smart Sensing and Services, Shenzhen University; Jinsong Chen, Shenzhen Institute of Advanced Technology, CAS</i>	
FR3-L10.3: HIGHER ORDER LOG-CUMULANTS FOR TEXTURE ANALYSIS OF POLSAR DATA	7541
<i>Xinping Deng, Carlos López-Martínez, Universitat Politècnica de Catalunya</i>	
FR3-L10.4: A CONVOLUTIONAL DEEP BELIEF NETWORK FOR POLARIMETRIC SAR DATA FEATURE EXTRACTION	7545
<i>Radu Tanase, University Politehnica of Bucharest; Mihai Datcu, German Aerospace Center (DLR); Dan Raducanu, Military Technical Academy</i>	
FR3-L10.5: THREE-STAGE TERRAIN CORRECTION METHOD FOR POLARIMETRIC SAR DATA	7549
<i>Lei Zhao, Erxue Chen, Zengyuan Li, Lan Li, Xinzhi Gu, Chinese Academy of Forestry</i>	
 FR4-L10: SAR POLARIMETRY II	
FR4-L10.1: DECOMPOSING SOIL AND VEGETATION CONTRIBUTIONS IN POLARIMETRIC L- AND P- BAND SAR OBSERVATIONS	7553
<i>Sayed Hamed Alemohammad, Massachusetts Institute of Technology; Thomas Jagdhuber, German Aerospace Center (DLR); Mahta Moghaddam, University of Southern California; Dara Entekhabi, Massachusetts Institute of Technology</i>	
FR4-L10.2: PROPOSAL OF ADAPTIVE LAND CLASSIFICATION USING QUATERNION NEURAL NETWORK WITH ISOTROPIC ACTIVATION FUNCTION	7557
<i>Kazutaka Kinugawa, The University of Tokyo; Fang Shang, Univeristy of Electro-Communications; Naoto Usami, The Univeristy of Tokyo; Akira Hirose, The University of Tokyo</i>	
FR4-L10.3: SUPERVISED LOCALLY LINEAR EMBEDDING FOR POLARIMETRIC SAR IMAGE CLASSIFICATION	7561
<i>Han Cao, Hong Zhang, Chao Wang, Meng Liu, Institute of Remote Sensing and Digital Earth, Chinese Academ</i>	
FR4-L10.4: POLARIMETRIC ANGLE COMPENSATION TO QUAD-POL SAR DATA FOR DETECTING DEFORMED BUILDINGS	7565
<i>Ryoichi Sato, Motoki Masaka, Yoshio Yamaguchi, Hiroyoshi Yamada, Niigata University</i>	
FR4-L10.5: POLARIMETRIC ORIENTATION ANGLE SHIFTS INDUCED BY BUILDING ORIENTATION FOR MULTI-LOOK POLARIMETRIC SAR DATA AND ITS IMPACTS ON MODEL-BASED DECOMPOSITIONS	7569
<i>Hongzhong Li, Key Laboratory for Geo-Environmental Monitoring of Coastal Zone of the national Administration of Surveying, Mapping and GeoInformation & Shenzhen key Laboratory of Spatial Smart Sensing and Services, Shenzhen University; Qingquan Li, Guofeng Wu, Shenzhen University; Jinsong Chen, Shenzhen Institute of Advanced Technology, CAS</i>	

FR1-L11: FLOODS

FR1-L11.1: NEAR-REAL TIME SIMULATION AND GEO-VISUALIZATION OF FLOODING IN THE PHILIPPINES' DEEPEST LAKE 7573

Jojene Santillan, Meriam Makinano-Santillan, Arthur Amora, Edsel Matt Morales, Linbert Cutamora, Lorie Cris Asube, Caraga State University

FR1-L11.2: SAR COHERENCE AND POLARIMETRIC INFORMATION FOR IMPROVING FLOOD MAPPING 7577

Marco Chini, Luxembourg Institute of Science and Technology; Asterios Papastergios, Harokopio University; Luca Pulvirenti, CIMA Research Foundation; Nazzareno Pierdicca, Sapienza University of Rome; Patrick Matgen, Luxembourg Institute of Science and Technology; Issaak Parcharidis, Harokopio University

FR1-L11.3: CHARACTERISTICS AND TRENDS OF METEOROLOGICAL DROUGHT OVER CHINA FROM REMOTE SENSING PRECIPITATION DATASETS 7581

Jing Lu, Li Jia, Chaolei Zheng, Jie Zhou, Mattijn van Hoek, Kun Wang, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences

FR1-L11.4: INTEGRATING LIDAR AND FLOOD SIMULATION MODELS IN DETERMINING EXPOSURE AND VULNERABILITY OF BUILDINGS TO EXTREME RAINFALL-INDUCED FLOOD HAZARDS 7585

Jojene Santillan, Meriam Makinano-Santillan, Linbert Cutamora, Caraga State University

FR1-L11.5: POLARIMETRIC SAR DATA FOR IMPROVING FLOOD MAPPING: AN INVESTIGATION OVER RICE FLOODED FIELDS 7589

Luca Pulvirenti, CIMA Research Foundation; Nazzareno Pierdicca, Sapienza University of Rome - DIET; Giuseppe Squicciarino, Giorgio Boni, CIMA Research Foundation; Marco Chini, Luxembourg Institute of Science and Technology, ERIN; Catia Benedetto, Italian Space Agency

FR2-L11: BIG DATA IN GEOSCIENCE

FR2-L11.1: BIG DATA ISSUES FOR REMOTE SENSING: VARIETY..... 7593

Leland Pierce, The University of Michigan

FR2-L11.2: ACCELERATING BIG DATA PROCESSING CHAIN IN IMAGE INFORMATION MINING USING A HYBRID HPC APPROACH 7597

Kuldeep Kurte, Ujwala Bhangale, Surya Durbha, Indian Institute of Technology, Bombay; Roger King, Nicolas Younan, Mississippi State University

FR2-L11.3: USE OF GEO-ONTOLOGY MATCHING TO MEASURE THE DEGREE OF INTEROPERABILITY 7601

Ujwala Bharambe, Surya Durbha, Indian Institute of Technology, Bombay; Roger King, Nicolas Younan, Mississippi State University; Kuldeep Kurte, Indian Institute of Technology, Bombay

FR2-L11.4: IMPLICATIONS OF DATA PLACEMENT STRATEGY TO BIG DATA TECHNOLOGIES BASED ON SHARED-NOTHING ARCHITECTURE FOR GEOSCIENCES 7605

Kwo-Sen Kuo, NASA Goddard Space Flight Center / Bayesics LLC; Amidu Oloso, NASA Goddard Space Flight Center / SSAL; Khoa Doan, ESSIC University of Maryland; Michael Rilee, Rilee Systems Technologies LLC; Thomas Clune, NASA Goddard Space Flight Center; Hongfeng Yu, University of Nebraska-Lincoln

FR2-L11.5: GPU-BASED NONLOCAL FILTERING FOR LARGE SCALE SAR PROCESSING 7608

Gerald Baier, German Aerospace Center (DLR); Xiao Xiang Zhu, German Aerospace Center (DLR) and Technical University of Munich (TUM)

FR3-L11: INTERDISCIPLINARY TOPICS

FR3-L11.1: AUTOMATIC CLOUD AND CLOUD SHADOW DETECTION IN GF-1 WFV IMAGERY USING MULTIPLE FEATURES 7612

Zhiwei Li, Huanfeng Shen, Huifang Li, Liangpei Zhang, Wuhan University

FR3-L11.2: RESEARCH ON MICROWAVE THERMAL EMISSION AT TYCHO AREA AND ITS GEOLOGICAL SIGNIFICANCE 7616

Zhiguo Meng, Rui Zhao, Jilin Univeristy; Zhanchuan Cai, Macau University of Science and Technology; Jinsong Ping, Chinese Academy of Sciences; Zesheng Tang, Macau University of Science and Technology; Si Chen, Jilin Univeristy

FR3-L11.3: USING MULTIBEAM ACOUSTIC REMOTELY SENSED DATA TO INVESTIGATE SEABED SEDIMENT GRAIN SIZE CHARACTERISTICS 7620

Zhi Huang, Justy Siwabessy, Geoscience Australia; Heqin Cheng, State Key Laboratory of Estuarine and Coastal Research, East China Normal University; Scott Nichol, Geoscience Australia

FR3-L11.4: REMOTE SENSING PRODUCTS VALIDATION ACTIVITY AND OBSERVATION NETWORK IN CHINA 7623

Rui Jin, Xin Li, Cold and Arid Regions Environmental and Engineering Research Institute, Chinese Academy of Sciences; Mingguo Ma, Southwest University; Yong Ge, Institute of Geographic Sciences and National Resources Research, Chinese Academy of Sciences; Tao Che, Cold and Arid Regions Environmental and Engineering Research Institute, Chinese Academy of Sciences; Qing Xiao, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Kai Zhao, Northeast Institute of Geography and Agroecology, Chinese Academy of Sciences; Xiaoping Xin, Hulunber Grassland Ecosystem Observation and Research Station, Institute of Agricultural Resources and Regional Planning, Chinese Academy of Agricultural Sciences

FR3-L11.5: ORGANIZATIONAL BARRIERS TO ABSORPTIVE CAPACITY BUILDING FOR INTERNATIONAL TECHNOLOGY TRANSFER TO MALAYSIA 7627

Patrick Van Der Heiden, MVI International B.V.; Christine Pohl, Universiti Teknologi Malaysia

FR4-L11: INLAND WATERS

FR4-L11.1: SAR/OPTICAL DATA FUSION FOR FLOOD DETECTION..... 7631

Annarita D'Addabbo, Alberto Refice, Guido Pasquariello, Francesco Paolo Lovergine, CNR - ISSIA

FR4-L11.2: CREATING A WATER DEPTH MAP FROM SAR FLOOD EXTENT AND TOPOGRAPHY DATA 7635

Patrick Matgen, Laura Giustarini, Marco Chini, Renaud Hostache, Melissa Wood, Luxembourg Institute of Science and Technology; Stefan Schlaffer, Vienna University of Technology

FR4-L11.3: COMPARISON OF IN SITU AND GRACE ESTIMATED GROUNDWATER IN THE CANADIAN PRAIRIES 7639

Mohamed Y. A. Touré, Kalifa Goïta, Ramata Magagi, Université de Sherbrooke; Ally M. Touré, NASA Goddard Space Flight Center

FR4-L11.4: COMPARISON OF MODIS AND LANDSAT-8 RETRIEVALS OF CHLOROPHYLL-A AND WATER TEMPERATURE OVER LAKE TITICACA 7643

Antonio Ruiz-Verdú, Juan Carlos Jiménez, University of Valencia; Xavier Lazzaro, IRD, UMR 207 BOREA, CP 53; Carolina Tenjo, Jesús Delegido, Marcela Pereira, José Antonio Sobrino, José Moreno, University of Valencia

FR4-L11.5: DETECTION OF INLAND WATER BODIES WITH HIGH TEMPORAL RESOLUTION – ASSESSING DYNAMIC THRESHOLD APPROACHES 7647

Igor Klein, Ursula Gessner, Andreas Dietz, Patrick Leinenkugel, Stefan Dech, Claudia Kuenzer, German Aerospace Center (DLR) - German Remote Sensing Data Center

FR1-L12: COASTAL ZONES

FR1-L12.1: MONITORING WATERLINE CHANGES IN COASTAL WETLANDS IN THE YELLOW RIVER DELTA FROM LONG PERIOD REMOTE SENSING DATA 7651

Kun Shang, China Aero Geophysical Survey and Remote Sensing Center for Land and Resources; Dong Zhao, Yisong Xie, State Key Laboratory of Remote Sensing Sciences, Institute of Remote Sensing and Digital Earth, CAS

FR1-L12.2: MEASUREMENTS OF INTERTIDAL FLAT TOPOGRAPHY USING A LONG-BASELINE AIRBORNE INTERFEROMETRIC SAR 7655

Duk-Jin Kim, Changhyun Choi, Jungkyo Jung, Ki-mook Kang, Seung Hee Kim, Ji-Hwan Hwang, Seoul National University

FR1-L12.3: MONITORING OF THERMAL PLUME DISCHARGED FROM THERMAL AND NUCLEAR POWER PLANTS IN EASTERN CHINA USING SATELLITE IMAGES 7659

Xiaoyan Dai, Fudan University; Zhongyang Guo, Yihui Chen, Pin Ma, East China Normal University; Chen Chen, Fudan University

FR1-L12.4: MAPPING SEAGRASS COVERAGE AND SPATIAL PATTERNS WITH HIGH SPATIAL RESOLUTION IKONOS IMAGERY 7663

Ruilang Pu, Susan Bell, University of South Florida

FR1-L12.5: CORRECTION OF SMOS DATA IN COASTAL AREA OF SOUTH CHINA SEA BASED ON LAND CONTAMINATION ANALYSIS 7667

Li Yan, Li Qingxia, Lang Liang, Jin Rong, Zhiwei Chen, Huazhong University of Science and Technology

FR2-L12: SEA ICE

FR2-L12.1: CLOUD FILTERING WITH MERIS AND AATSR FOR MELT POND DETECTION ON ARCTIC SEA ICE 7671

Henrik Marks, Georg Heygster, Larysa Istomina, University of Bremen

FR2-L12.2: SEA ICE CONCENTRATION ESTIMATION FROM SENTINEL-1 SYNTHETIC APERTURE RADAR IMAGES OVER THE FRAM STRAIT 7675

Wiebke Aldenhoff, Anders Berg, Leif E. B. Eriksson, Chalmers University of Technology

FR2-L12.3: RETRIEVAL OF SEA ICE THICKNESS DURING MELT SEASON FROM IN SITU, AIRBORNE AND SATELLITE IMAGERY 7678

Larysa Istomina, Christian Melsheimer, Marcus Huntemann, Institute of Environmental Physics, University of Bremen; Marcel Nicolaus, Alfred Wegener Institute, Helmholtz Centre for Polar and Marine Research; Georg Heygster, Institute of Environmental Physics, University of Bremen

FR2-L12.4: ANTARCTIC SEA-ICE FREEBOARD AND ESTIMATED THICKNESS FROM NASA'S ICESAT AND ICEBRIDGE OBSERVATIONS 7682

Donghui Yi, SGT Inc., Cryospheric Sciences Laboratory, Code 615, NASA Goddard Space Flight Center; Nathan Kurtz, Cryospheric Sciences Laboratory, Code 615, NASA Goddard Space Flight Center; Jeremy Harbeck, ADNET Systems Inc., Cryospheric Sciences Laboratory, Code 615, NASA Goddard Space Flight Center; Serdar Manizade, URS Corporation, Cryospheric Sciences Laboratory, Code 615, NASA Wallops Flight Facility; Michelle Hofton, University of Maryland; Helen Cornejo, SGT Inc., Cryospheric Sciences Laboratory, Code 615, NASA Goddard Space Flight Center; Jay Zwally, Cryospheric Sciences Laboratory, Code 615, NASA Goddard Space Flight Center; John Robbins, Craig Technologies, Cryospheric Sciences Laboratory, Code 615, NASA Goddard Space Flight Center

FR2-L12.5: NUMERICAL SIMULATION OF AMSR2 HIGH FREQUENCY CHANNEL MEASUREMENTS OVER SEA ICE AND SEA WATER SURFACES 7686

Elizaveta Zabolotskikh, Russian State Hydrometeorological University

FR3-L12: MARINE POLLUTION AND DISASTERS

FR3-L12.1: REMOTE SENSING OF MARINE DEBRIS..... 7690

Delwyn Moller, Yi Chao, Remote Sensing Solutions; Nikolai Maximenko, University of Hawaii at Manoa

FR3-L12.2: HAZARDOUS AND NOXIOUS SUBSTANCE DETECTION BY HYPERSPECTRAL IMAGERY FOR MARINE POLLUTION APPLICATION	7694
<i>Pierre-Yves Foucher, Laurent Poutier, Philippe Deliot, ONERA - The French Aerospace Lab; Eldon Puckrin, Defence Research and Development Canada; Sophie Chataing, CEDRE - Centre de documentation, de recherche et d'expérimentations sur les pollutions accidentelles des eaux</i>	
FR3-L12.3: SUBSIDENCE AND SEA LEVEL RISE MEASUREMENTS FOR HOUSTON AND GALVESTON, TEXAS	7698
<i>Jonathan Epps, Texas A&M University; Shuhab Khan, University of Houston</i>	
FR3-L12.4: TRIAL OF VOLCANIC ASH DETECTION USING L-BAND SYNTHETIC APERTURE RADAR (SAR)	7701
<i>Manabu Watanabe, Tokyo Denki University; Masashi Sonobe, PASCO; Ryo Natsuaki, Shinichi Suzuki, Japan Aerospace Exploration Agency</i>	
FR3-L12.5: DETECTION AND STUDY OF THE POLAR LOWS OVER THE ARCTIC SEA ICE EDGE	7705
<i>Elizaveta Zabolotskikh, RSHU; Irina Gurvich, POI DVO RAS; Alexander Myasoedov, Bertrand Chapron, RSHU</i>	
FR4-L12: OIL SPILL	
FR4-L12.1: STUDY ON OIL SPILLS IN THE NORTH SEA FORTIES FIELD OBSERVED IN TERRASAR-X AND TANDEM-X IMAGERY	7708
<i>Tong Jia, University of Chinese Academy of Sciences; Xiaoming Li, Key Laboratory of Digital Earth Science, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences; Domenico Velotto, German Aerospace Center (DLR) - Remote Sensing Technology Institute</i>	
FR4-L12.2: MODEL-BASED SEA SURFACE SCATTERING ANALYSIS FOR THE DWH OIL SPILL ACCIDENT CASE	7711
<i>Yu Li, Shenzhen Research Institute, The Chinese University of Hong Kong; Yuanzhi Zhang, University of Information Science and Technology; Jie Chen, Beihang University; Maurizio Migliaccio, Andrea Buono, Università di Napoli Parthenope</i>	
FR4-L12.3: OIL SPILL MONITORING ON WATER SURFACES BY RADAR L, C AND X BAND SAR IMAGERY: A COMPARISON OF RELEVANT CHARACTERISTICS	7715
<i>Pablo Marzialetti, Giovanni Laneve, Università di Roma 'La Sapienza'</i>	
FR4-L12.4: A MULTITEMPORAL CHANGE DETECTION SOLUTION TO OIL SPILL MONITORING	7718
<i>Sicong Liu, Tongji University; Mingmin Chi, Yangxiu Zou, Fudan University; Alim Samat, Chinese Academy of Sciences</i>	
FR4-L12.5: ACTIVE LEARNING FOR IDENTIFYING MARINE OIL SPILLS USING 10-YEAR RADARSAT DATA	7722
<i>Yongfeng Cao, Guizhou Normal University; Linlin Xu, David Clausi, University of Waterloo</i>	