

# **3rd ISPRS IWIDF 2013**

**ISPRS Archives Volume XL-7/W1, 2013**

**Antu, Jilin Province, China  
20 - 22 August 2013**

**Editors:**

**J. Zhang  
Y. Zeng**

**Z. Lu**

**ISBN: 978-1-62993-512-6**

**Printed from e-media with permission by:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571



**Some format issues inherent in the e-media version may also appear in this print version.**

Copyright© (2013) by the International Society for  
Photogrammetry and Remote Sensing (ISPRS)  
All rights reserved.

Printed by Curran Associates, Inc. (2014)

For permission requests, please contact the International Society for  
Photogrammetry and Remote Sensing (ISPRS)  
at the address below.

International Society for Photogrammetry and Remote Sensing (ISPRS)  
Attn: Chen Jun  
National Geomatics Centre of China  
28 Lianhuachixi Road Haidian  
Beijing 100830 China

Phone: 86 10 63 88 1102

Fax: 86 10 68 42 4101

chenjun@nsdi.gov.cn

**Additional copies of this publication are available from:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571 USA  
Phone: 845-758-0400  
Fax: 845-758-2634  
Email: curran@proceedings.com  
Web: www.proceedings.com

A NOVEL IMAGE REGISTRATION ALGORITHM FOR SAR AND  
OPTICAL IMAGES BASED ON VIRTUAL POINTS

C. Ai, T. Feng, J. Wang, and S. Zhang

Page(s) 1-4

APPLICATION OF DATA FUSION IN THE PRODUCTION AND  
UPDATING OF SPATIAL DATA

H. Chen, Q. Sun, L. Xu, and Z. Xiong

Page(s) 5-10

CHANGE DETECTION OF MULTI-POLARIMETRIC SAR DATA BASED  
ON PRINCIPAL COMPONENT ANALYSIS

X. Chen, T. Wu, and N. Niu

Page(s) 11-13

MONITORING THE CHANGES OF LAKES IN THE SOURCE REGION OF  
THREE RIVERS WITH REMOTE SENSING DATA FROM 1976 TO 2009

L. Chengfeng, W. Yuan, J. Haoyan, and L. Zhengjun

Page(s) 15-18

Remote Sensing Image Fusion Based on Discrete Fractional Random Transform  
for Modified IHS

Q. Guo, A. Li, H. Q. Zhang, and Z. K. Feng

Page(s) 19-22

Data fusion of high-resolution satellite imagery and GIS data for automatic  
building extraction

Z. Guo, L. Luo, W. Wang, and S. Du

Page(s) 23-28

A ROBUST PCT METHOD BASED ON COMPLEX LEAST SQUARES  
ADJUSTMENT METHOD

F. Haiqiang, Z. Jianjun, W. Changcheng, X. Qinghua, and Z. Rong

Page(s) 29-32

IMAGE FUSION AND IMAGE QUALITY ASSESSMENT OF FUSED  
IMAGES

Z. Han, X. Tang, X. Gao, and F. Hu

Page(s) 33-36

THE DEVELOPMENT AND INDUSTRIALIZATION RECOMMENDATION  
OF CURRENT AERIAL REMOTE SENSING TECHNOLOGY

Z. Hong

Page(s) 37-39

A COMPARATIVE STUDY BETWEEN PAIR-POINT CLIQUE AND  
MULTI-POINT CLIQUE MARKOV RANDOM FIELD MODELS FOR  
LAND COVER CLASSIFICATION

B. Hu and P. Li

Page(s) 41-44

RESEARCH OF MULTI-BASELINE INSAR ELEVATION INVERSION  
BASED ON MLHE METHOD

F. Hua, J. Zhang, and G. Hunag

Page(s) 45-48

THE APPLICATION OF REMOTE SENSING AND AERO-GEOPHYSICS  
DATA FUSION ON METALLOGENIC PROGNOSIS IN QIMANTAGE OF  
EAST KUNLUN MOUNTAIN AREA

W. Jia, H. Zhang, J. Lin, and H. Zhao

Page(s) 49-53

RESEARCH ON ESTIMATION CROP PLANTING AREA BY  
INTEGRATING THE OPTICAL AND MICROWAVE REMOTE SENSING  
DATA

Y. Jia and F. Yu

Page(s) 55-60

STUDY ON THE TECHNOLOGY AND METHOD OF LAND COVER  
CLASSIFICATION FOR GEOGRAPHIC NATIONAL CONDITIONS  
SURVEYING

Y. Jia, H. T. Li, H. Y. Gu, and Y. S. Han

Page(s) 61-66

HIGH RESOLUTION POLSAR IMAGE CLASSIFICATION BASED ON  
GENETIC ALGORITHM AND SUPPORT VECTOR MACHINE

P. X. Li, W. D. Sun, J. Yang, L. Shi, F. K. Lang, and W. Jiang

Page(s) 67-71

A MODIFIED METHOD FOR POLARIMETRIC SAR CALIBRATION  
ALGORITHM

L. Liao, P. Li, and J. Yang

Page(s) 73-76

EXPERIMENTAL RESEARCH ON ACCURACY OF  
AEROTRIANGULATION FOR UAV IMAGERY

L. Ling, L. Ying-Cheng, and D. Xiao-Bo

Page(s) 77-80

INTEGRATING MULTI-SOURCE IMAGERY DATA IN A GIS SYSTEM

Q. Liu

Page(s) 81-85

A New Calibration Method of Airborne Interferometric SAR

W. Mengmeng and H. Guoman

Page(s) 87-90

RESEARCHES ON THE LAND-USE CHANGE DETECTION OF MINE  
AREA BASED ON TM/ETM IMAGES

Y. Qin, H. Liling, Y. Min, and L. Yi

Page(s) 91-101

COMPARISON OF TWO FUSION BASED BUILDING CHANGE  
DETECTION METHODS USING SATELLITE STEREO IMAGERY AND  
DSMS

J. Tian and P. Reinartz

Page(s) 103-108

MULTI-SOURCE REMOTE SENSING IMAGES MATCHING BASED ON  
IMPROVED KAZE ALGORITHM

Z.-W. Wang, H. B. Wang, G.-H. Wang, C.-H. Li, and H.C. Yang

Page(s) 109-113

SIMULATION STUDY ON THE EFFECT OF SAND DIGGING AND  
HEAPING ON SAR IMAGING IN THE PEARL RIVER ESTUARY

X. Wang, H. Zhang, B. Fu, W. Guan, and A. Shi

Page(s) 115-119

ANALYSIS ON THE CHANGE OF VEGETATION COVERAGE IN  
QINGHAI PROVINCE FROM 2000 TO 2012

J. Wang, Q. Yan, Z. Liu, and C. Luo

Page(s) 121-126

URBAN BUILDING COLLAPSE DETECTION USING VERY HIGH  
RESOLUTION IMAGERY AND AIRBORNE LIDAR DATA

X. Wang and P. Li

Page(s) 127-132

URBAN EMERGENCY EVACUATION DATA FUSION BASED ON "ONE  
MAP"

B. Wen, Q. Sun, and H. Chen

Page(s) 133-136

COMPARISON OF TWO PHASE UNWRAPPING METHODS FOR PSP  
TIME SERIES ANALYSIS

J. Wu, L. Zhang, J. Zhao, and A. Sowter

Page(s) 137-143

CLASSIFICATION OF POLARIMETRIC SAR IMAGE BASED ON THE  
SUBSPACE METHOD

J. Xu, Z. Li, B. Tian, Q. Chen, and P. Zhang

Page(s) 145-148

A HIGH-EFFICIENCY FUSION METHOD OF MULTI-SPECTRAL IMAGE  
AND PANCHROMATIC IMAGE

X. Xue, J. P. Wang, H. Wang, and F. Xiang

Page(s) 149-152

PIXEL LEVEL DATA FUSION OF MARS EXPRESS HRSC LINEAR  
PUSHBROOM IMAGERY BASED ON THE RIGOROUS GEOMETRIC  
MODEL

G. Xun, X. Qing, L. Yuange, H. Yifan, X. Shuai, and L. Chaozhen

Page(s) 153-156

A HIERARCHICAL IMAGE MATCHING METHOD FOR STEREO  
SATELLITE IMAGERY

F. Yan, W. Wang, S. Liu, and W. Chen

Page(s) 157-162

ANALYSING THE LAW OF DYNAMIC SUBSIDENCE IN MINING AREA  
BY FUSING INSAR AND LEVELING MEASUREMENTS

Z. F. Yang, Z. W. Li, J. J. Zhu, J. Hu, Y. J. Wang, and G. L. Chen

Page(s) 163-166

THE MULTI-LEVEL AND MULTI-SCALE FACTOR ANALYSIS FOR  
SOIL MOISTURE INFORMATION EXTRACTION BY MULTI-SOURCE  
REMOTE SENSING DATA

F. Yu, H. T. Li, Y. Jia, Y. S. Han, and H. Y. Gu

Page(s) 167-171

ADAPTIVE SPATIAL FILTERING OF INTERFEROMETRIC DATA  
STACK ORIENTED TO DISTRIBUTED SCATTERERS

Y. Zhang, C. Xie, Y. Shao, and M. Yuan

Page(s) 173-178

Additional Papers

REMOTE SENSING CLASSIFICATION METHOD OF WETLAND BASED  
ON AN IMPROVED SVM

Y. Lin, M. Shen, B. Liu, and Q. Ye

Page(s) 179-183

CHANGE DETECTION AND DYNAMIC ANALYSIS BASED ON  
REMOTE SENSING IMAGES

G. Luzi, M. Crosetto, N. Devanthery, M. Cuevas, and X. Meng

Page(s) 185-188

DATA FUSION TECHNOLOGY OF MULTI-PLATFORM EARTH  
OBSERVATION ON AGRICULTURE

W. Xie, Y. Xue, L. Zhai, and H. Sang

Page(s) 189-192

SUPERRESOLUTION SAR IMAGING ALGORITHM BASED ON MVM  
AND WEIGHTED NORM EXTRAPOLATION

P. Zhang, Q. Chen, Z. Li, Z. Tang, J. Liu, and L. Zhao

Page(s) 193-198

MONITORING OF GLACIER VOLUME VARIATION FROM MULTI-SOURCE DATA OVER GELADANDONG AREA

Y. Zhang, H. Wu, S. Jin, and H. Wang

Page(s) 199-203

SUB-APERTURE FOCUSING ALGORITHM OF GEOSYNCHRONOUS SAR

Y. Zhang, H. Li, H. Xu, and B. Hu

Page(s) 205-208