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Front Matter: Volume 8286

, "Front Matter: Volume 8286," Proc. SPIE 8286, International Symposium on Lidar and Radar Mapping 2011: Technologies and Applications, 828601 (25 October 2011); doi: 10.1117/12.915559

SPIE.

Event: International Symposium on Lidar and Radar Mapping Technologies, 2011, Nanjing, China

PROCEEDINGS OF SPIE

*International Symposium on Lidar
and Radar Mapping 2011*

Technologies and Applications

Xiufeng He
Jia Xu
Vagner G. Ferreira
Editors

26–29 May 2011
Nanjing, China

Organized by
Hohai University (China)
The Hong Kong Polytechnic University (Hong Kong, China)

Sponsored by
ICA—International Cartographic Association
ISPRS—International Society for Photogrammetry and Remote Sensing
FIG—International Federation of Surveyors
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Cooperating Organization and Publisher
SPIE

Volume 8286

Proceedings of SPIE, 0277-786X, v. 8286

SPIE is an international society advancing an interdisciplinary approach to the science and application of light.

International Symposium on Lidar and Radar Mapping 2011: Technologies and Applications,
edited by Xiufeng He, Jia Xu, Vagner G. Ferreira, Proc. of SPIE Vol. 8286, 828601
© 2011 SPIE · CCC code: 0277-786X/11/\$18 · doi: 10.1117/12.915559

Proc. of SPIE Vol. 8286 828601-1

The papers included in this volume were part of the technical conference cited on the cover and title page. Papers were selected and subject to review by the editors and conference program committee. Some conference presentations may not be available for publication. The papers published in these proceedings reflect the work and thoughts of the authors and are published herein as submitted. The publisher is not responsible for the validity of the information or for any outcomes resulting from reliance thereon.

Please use the following format to cite material from this book:

Author(s), "Title of Paper," in *International Symposium on Lidar and Radar Mapping 2011: Technologies and Applications*, edited by Jonathan Li, Proceedings of SPIE Vol. 8286 (SPIE, Bellingham, WA, 2011) Article CID Number.

ISSN 0277-786X

ISBN 9780819489333

Published by

SPIE

P.O. Box 10, Bellingham, Washington 98227-0010 USA

Telephone +1 360 676 3290 (Pacific Time) · Fax +1 360 647 1445

SPIE.org

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Introduction

Both LiDAR and radar mapping technologies are the two fastest-growing active remote sensing technologies with many scientific and practical applications. LiDAR and laser scanning has become a million-dollar industry with applications ranging from topographic mapping, heritage documentation, architectural modeling, and civil engineering, to forestry inventory and vegetation analysis. The development and use of laser scanners on various platforms (airborne, land-based, etc.), together with adapted data processing techniques, made these applications possible. In the past decade, LiDAR has become the most prestigious topic at international meetings on this subject in Europe and the United States, which gives a unique opportunity for scientists, engineers, surveyors, and project managers from around the world to recognize the trends and achievements in this area, exchange ideas, and present and discuss the most recent developments and applications.

In recent years, several new generations of radar imaging satellites have been launched successfully (e.g., TerraSAR-X, COSMO-SkyMed, ALOS, RADARSAT-2, SAC-D), and many new developments have been made in the field of SAR image analysis and the application in the domain of risk management and damage assessment. In fact, the incoming growing capabilities of the new SAR sensors, in terms of the improved spatial resolution and temporal revisit time, offer a potential tool for prevention, monitoring and damage assessment in relation to natural disasters such earthquake, flood, landslide, and fires. It is clear that there are particular properties of SAR images that demand fundamentally different interpretation techniques from conventional image analysis methods.

The Lidar and Radar 2011 symposium in Nanjing, China is the first time this type of event on active remote sensing has been held in Asia. The conference is designed to promote the development and applications of LiDAR and radar mapping technologies in Asia, to meet the scientific, technical, and business needs of the photogrammetry and remote sensing, surveying and mapping, as well as geosciences, forestry, renewable energy, environment, transportation, and disaster management communities.

The Lidar and Radar 2011 Symposium is jointly organized by Hohai University and the Hong Kong Polytechnic University; co-sponsored by the International Cartographic Association (ICA), International Society for Photogrammetry and Remote Sensing (ISPRS), International Federation of Surveyors (FIG), and International Association of Geodesy (IAG) and published by SPIE.

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