PROCEEDINGS OF SPIE

Satellite Data Compression, Communications, and Processing X

Bormin Huang
Chein-I Chang
José Fco. López
Editors

8–9 May 2014
Baltimore, Maryland, United States

Sponsored and Published by
SPIE

Volume 9124

Proceedings of SPIE 0277-786X, V. 9124

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

Satellite Data Compression, Communications, and Processing X, edited by Bormin Huang, Chein-I Chang, José Fco. López, Proc. of SPIE Vol. 9124, 912401 · © 2014 SPIE
CCC code: 0277-786X/14/$18 · doi: 10.1117/12.2072315

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 *Satellite Data Compression, Communications, and Processing X*, edited by Bormin Huang, Chein-I Chang, José Fco. López, Proceedings of SPIE Vol. 9124 (SPIE, Bellingham, WA, 2014) Article CID Number.

ISSN: 0277-786X
ISBN: 9781628410617

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

Copyright © 2014, Society of Photo-Optical Instrumentation Engineers.

Copying of material in this book for internal or personal use, or for the internal or personal use of specific clients, beyond the fair use provisions granted by the U.S. Copyright Law is authorized by SPIE subject to payment of copying fees. The Transactional Reporting Service base fee for this volume is $18.00 per article (or portion thereof), which should be paid directly to the Copyright Clearance Center (CCC), 222 Rosewood Drive, Danvers, MA 01923. Payment may also be made electronically through CCC Online at copyright.com. Other copying for republication, resale, advertising or promotion, or any form of systematic or multiple reproduction of any material in this book is prohibited except with permission in writing from the publisher. The CCC fee code is 0277-786X/14/$18.00.

Printed in the United States of America.

Publication of record for individual papers is online in the SPIE Digital Library.

SPIE Digital Library
SPIEDigitalLibrary.org

Paper Numbering: Proceedings of SPIE follow an e-First publication model, with papers published first online and then in print and on CD-ROM. Papers are published as they are submitted and meet publication criteria. A unique, consistent, permanent citation identifier (CID) number is assigned to each article at the time of the first publication. Utilization of CIDs allows articles to be fully citable as soon as they are published online, and connects the same identifier to all online, print, and electronic versions of the publication. SPIE uses a six-digit CID article numbering system in which:

- The first four digits correspond to the SPIE volume number.
- The last two digits indicate publication order within the volume using a Base 36 numbering system employing both numerals and letters. These two-number sets start with 00, 01, 02, 03, 04, 05, 06, 07, 08, 09, 0A, 0B … 0Z, followed by 10-1Z, 20-2Z, etc.

The CID Number appears on each page of the manuscript. The complete citation is used on the first page, and an abbreviated version on subsequent pages. Numbers in the index correspond to the last two digits of the six-digit CID Number.

Contents

Conference Committee

Symposium Chair

David A. Whelan, Boeing Defense, Space, and Security (United States)

Symposium Co-chair

Wolfgang Schade, Technische Universität Clausthal (Germany) and Fraunhofer Heinrich-Hertz-Institut (Germany)

Conference Chairs

Bormin Huang, University of Wisconsin-Madison (United States)
Chein-I Chang, University of Maryland, Baltimore County (United States)
José Fco. López, Universidad de Las Palmas de Gran Canaria (Spain)

Conference Co-chairs

Chulhee Lee, Yonsei University (Korea, Republic of)
Yunsong Li, Xidian University (China)
Qian Du, Mississippi State University (United States)

Conference Program Committee

Philip E. Ardanuy, Raytheon Intelligence & Information Systems (United States)
Roberto Camarero, Centre National d'Études Spatiales (France)
Lena Chang, National Taiwan Ocean University (Taiwan)
Ni-Bin Chang, University of Central Florida (United States)
Yang-Lang Chang, National Taipei University of Technology (Taiwan)
David J. Crain, GeoMetWatch Corporation (United States)
Mitchell D. Goldberg, National Oceanic and Atmospheric Administration (United States)
Lingjia Gu, Jilin University (China)
Li-xin Guo, Xidian University (China)
Tung-Ju Hsieh, National Taipei University of Technology (Taiwan)
Allen H.-L. Huang, University of Wisconsin-Madison (United States)
Felix Huber, Deutsches Zentrum für Luft- und Raumfahrt e.V. (Germany)
Roger L. King, Mississippi State University (United States)
Sebastian Lopez Suarez, Universidad de Las Palmas de Gran Canaria (Spain)

Enrico Magli, Politecnico di Torino (Italy)
Jarno Mielikainen, University of Eastern Finland (United States)
Daniela I. Moody, Los Alamos National Laboratory (United States)
Antonio J. Plaza, Universidad de Extremadura (Spain)
Jordi Portell de Mora, Universidad de Barcelona (Spain)
Jeffery J. Puschell, Raytheon Space & Airborne Systems (United States)
Shen-En Qian, Canadian Space Agency (Canada)
Joan Serra-Sagrista, Universidad Autònoma de Barcelona (Spain)
Xiaopeng Shao, Xidian University (China)
Carole Thiebaut, Centre National d'Études Spatiales (France)
Pierre V. Villeneuve, Space Computer Corporation (United States)
Raffaele Vitulli, European Space Research and Technology Centre (Netherlands)
Maria F. von Schoenermark, Universität Stuttgart (Germany)
Jiaji Wu, Xidian University (China)
Zhensen Wu, Xidian University (China)
Zhang Ye, Harbin Institute of Technology (China)

Session Chairs

1 Data Processing I
Bormin Huang, University of Wisconsin-Madison (United States)

2 Data Compression I
Chein-I Chang, University of Maryland, Baltimore County (United States)

3 Data Processing II
José Fco. López, Universidad de Las Palmas de Gran Canaria (Spain)

4 Spectral Unmixing
Chulhee Lee, Yonsei University (Korea, Republic of)

5 High-Performance Computing
Yunsong Li, Xidian University (China)

6 Data Compression II
Qian Du, Mississippi State University (United States)

7 Image Classification
Daniela I. Moody, Los Alamos National Laboratory (United States)

8 Data Processing III
Meiping Song, Dalian Maritime University (China)