PROCEEDINGS OF SPIE

International Conference on Remote Sensing and Digital Earth (RSDE 2024)

Kegen Yu
Mahmoud Reza Delavar
Jie Cheng
Editors

8–10 November 2024
Chengdu, China

Organized by
China University of Mining and Technology (China)

Sponsored by
AEIC—Academic Exchange Information Centre (China)

Published by
SPIE

Volume 13514

Proceedings of SPIE 0277-786X, V. 13514

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

The papers 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. Additional papers and presentation recordings may be available online in the SPIE Digital Library at SPIEDigitalLibrary.org.

The papers 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 these proceedings:
Author(s), "Title of Paper," in *2024 International Conference on Remote Sensing and Digital Earth*, edited by Kegen Yu, Mahmoud Reza Delavar, Jie Cheng, Proc. of SPIE 13514, Seven-digit Article CID Number (DD/MM/YYYY); (DOI URL).

ISSN: 0277-786X
ISSN: 1996-756X (electronic)

ISBN: 9781510688216
ISBN: 9781510688223 (electronic)

Published by
SPIE
P.O. Box 10, Bellingham, Washington 98227-0010 USA
Telephone +1 360 676 3290 (Pacific Time)
SPIE.org
Copyright © 2025 Society of Photo-Optical Instrumentation Engineers (SPIE).

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 fees. To obtain permission to use and share articles in this volume, visit Copyright Clearance Center 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.

Printed in the United States of America by Curran Associates, Inc., under license from SPIE.

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

SPIE. DIGITAL LIBRARY
SPIEDigitalLibrary.org

Paper Numbering: A unique citation identifier (CID) number is assigned to each article in the Proceedings of SPIE at the time of 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 and print versions of the publication. SPIE uses a seven-digit CID article numbering system structured as follows:

- The first five 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.

Contents

vii *Conference Committee*

TERRAIN MONITORING AND REMOTE SENSING IMAGE ANALYSIS

13514 02 **RTNet: Remote sensing image change detection combining RepVGG and transformer** [13514-40]

13514 03 **Simulation analysis of the effect of dip variation on response in horizontal well array induction logging** [13514-17]

13514 04 **A novel USF-Net approach for open-pit mine extraction: integrating SAM model with task-specific adaptation** [13514-50]

13514 05 **Pixel memory sharing-based multiscale features perception method for remote sensing images** [13514-14]

13514 06 **A dual attention mechanism improved Swin transformer for extracting eucalyptus from GF-1 imagery** [13514-27]

13514 07 **Application of CSAMT in deep prospecting in Shizhai mining area of Yangshan County, Guangdong Province** [13514-7]

13514 08 **Spatiotemporal evolution analysis of land subsidence in Nanjing based on time-series InSAR** [13514-3]

13514 09 **Numerical simulation of the evolution of the morphological features of Shuidong Bay** [13514-41]

13514 0A **CTGAN: A super-resolution end-to-end model for optical remote sensing images** [13514-39]

13514 0B **A GNSS-IR soil moisture inversion method based on the SSA assisted ELM** [13514-22]

13514 0C **Remote sensing estimation of soil organic matter based on multiscale geographical weighted regression** [13514-43]

13514 0D **Deformation monitoring and accuracy analysis of slope in mining area during treatment period based on ground-based SAR** [13514-33]

13514 0E **Study on building extraction with the DC-CTransNet model** [13514-31]

13514 0F **Implementation method of low-cost high-speed remote sensing data interface based on forward error correction** [13514-12]

13514 0G **A novel dataset for transmission tower recognition in high-resolution remote sensing imagery** [13514-51]

13514 0H **Multiscale cloth simulation filtering algorithm based on terrain roughness** [13514-11]

13514 0I **TEC anomaly detection in ionosphere of super typhoon Meranti** [13514-21]

13514 0J **Analysis of irregular structural changes in the global and regional ionosphere during magnetic storms** [13514-19]

13514 0K **Analysis of ionospheric disturbances during the November 2016 New Zealand earthquake** [13514-18]

GEOGRAPHIC INFORMATION SYSTEM DESIGN AND OPTIMIZATION

13514 0L **Dual-frequency ambiguity fixing method based on improved AFM approach** [13514-52]

13514 0M **Construction of a precision management and risk assessment system for mariculture by integrating GIS and remote sensing technology** [13514-48]

13514 0N **Planning of urban distribution grid backbone lines based on high-resolution remote sensing images** [13514-15]

13514 0O **Research on design method of digital prototype of satellite and airborne cooperative detection platform** [13514-35]

13514 0P **UAV path planning method in dynamic environments: an ant colony algorithm-based optimization study** [13514-44]

13514 0Q **Research on the identification method of inefficient land in Baiyun District, Guangzhou based on multisource data** [13514-20]

13514 0R **GNSS reflectometry global ocean wind speed estimation based on transformer and Kan** [13514-37]

13514 0S **CT-NET: A cross-modal transformer network for satellite-borne GNSS-R soil moisture retrieval** [13514-28]

13514 0T **Statistical evaluation of anti-jamming performance for radar seeker** [13514-36]

13514 0U **Research on the epipolarity analysis of the images captured by linear array sensors circular scanning perpendicular to the orbit** [13514-5]

13514 0V **A deep learning-based high-precision and robustness target detection model for small crater detection** [13514-49]

13514 0W **Crop classification using non-fixed length multitemporal images base on deep learning** [13514-47]

13514 0X **Geological big data utilization in public health** [13514-4]

13514 0Y **Design and in-orbit application of Ku-band high resolution intelligent SAR satellite system** [13514-16]

13514 0Z **The application of mobile measurement system in large-scale coastal terrain surveying and mapping** [13514-38]

13514 10 **Overview of cooperative UAV swarm localization** [13514-8]

13514 11 **Hyperspectral imagery classification based on multiscale neighborhood structure tensor representation** [13514-42]

13514 12 **Design and implementation of digital compass based on HMC5883L magnetoresistive sensor** [13514-9]

13514 13 **Spatial distribution characteristics and formation mechanism of Chinese textile and costume intangible cultural heritage items** [13514-25]