PROCEEDINGS OF SPIE

SPIDigitalLibrary.org/conference-proceedings-of-spie

Front Matter: Volume 11865

, "Front Matter: Volume 11865," Proc. SPIE 11865, Target and Background Signatures VII, 1186501 (19 October 2021); doi: 10.1117/12.2614925

SPIE.

Event: SPIE Security + Defence, 2021, Online Only

PROCEEDINGS OF SPIE

Target and Background Signatures VII

Karin U. Stein
Ric Schleijsen
Editors

13-17 September 2021
Online Only, Spain

Sponsored by
SPIE

Cooperating Organisations
European Optical Society
Cranfield University (United Kingdom)
CENSIS (United Kingdom)
SEDOPTICA (Spain)

Supporting Organisation
INEUSTAR/INDUCIENCIA (Spain)

Published by
SPIE

Volume 11865

Proceedings of SPIE 0277-786X, V. 11865

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

Target and Background Signatures VII, edited by Karin U. Stein, Ric Schleijsen, Proc. of SPIE
Vol. 11865, 1186501 · © 2021 SPIE · CCC code: 0277-786X/21/\$21 · doi: 10.1117/12.2614925

Proc. of SPIE Vol. 11865 1186501-1

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 [SPIDigitalLibrary.org](https://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 *Target and Background Signatures VII*, edited by Karin U. Stein, Ric Schleijpen, Proc. of SPIE 11865, Seven-digit Article CID Number (DD/MM/YYYY); (DOI URL).

ISSN: 0277-786X

ISSN: 1996-756X (electronic)

ISBN: 9781510645745

ISBN: 9781510645752 (electronic)

Published by

SPIE

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

Telephone +1 360 676 3290 (Pacific Time)

[SPIE.org](https://spie.org)

Copyright © 2021 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**
[SPIDigitalLibrary.org](https://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

PROPERTIES OF SCENE ELEMENTS

- 11865 04 **Spectral reflectance measurements of snow and snow covered objects: experimental studies compared with mathematical models (Invited Paper)** [11865-1]
- 11865 05 **Spectral properties of multilayered oak leaves and a camouflage net: experimental measurements and mathematical modelling** [11865-2]
- 11865 06 **A multi-temporal hyperspectral target detection experiment: evaluation of military setups** [11865-3]

FEATURES FOR DETECTION

- 11865 08 **Optical modeling and simulation of subpixel target infrared detection (Invited Paper)** [11865-5]
- 11865 09 **Perspectives and limitations of visible-thermal image pair synthesis via generative adversarial networks** [11865-6]
- 11865 0A **Compensation of geometrical distortion and inter-reflection effects in a BRDF imaging system** [11865-7]
- 11865 0B **Target detection from limited number of spectral bands using a signature-based machine learning** [11865-8]

OBSERVATION AND ASSESSMENT

- 11865 0C **The relation between visual search and visual conspicuity for moving targets** [11865-9]
- 11865 0D **Field observation, photosimulation and videosimulation of target detection in maritime environments: update** [11865-10]
- 11865 0E **Surveying for man-made objects in photographic images** [11865-20]

ADAPTIVE CAMOUFLAGE FOR THE SOLDIER

- 11865 0F **Overview of the adaptive camouflage for the soldier II (ACAMSII) (Invited Paper)** [11865-11]
- 11865 0G **Opto-electronic methods for adaptive camouflage** [11865-12]

- 11865 OH **Demonstrator of adaptive visual camouflage based on LEDs** [11865-13]
- 11865 OJ **Prototype of adaptive, multispectral camouflage for the soldier** [11865-15]

ADAPTIVE SIGNATURES

- 11865 OK **Printed electronics based adaptive decoy (Invited Paper)** [11865-16]
- 11865 OL **Authentic colour replication in adaptive LED-camouflage panels** [11865-17]

POSTER SESSION

- 11865 OM **An investigation of various dehazing algorithms used on thermal infrared imagery for maritime surveillance systems** [11865-18]
- 11865 ON **A method for reducing the noise component for smooth monotonic signals and an algorithm for its application for prediction problems and detection of local stationary regions in images** [11865-19]