

15th International Conference on Infrared Sensors and Systems (IRS2 2017)

Held at AMA Conferences 2017

Nuremberg, Germany
30 May - 1 June 2017

ISBN: 978-1-5108-4656-2

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© (2017) by AMA Service GmbH
All rights reserved.

Printed by Curran Associates, Inc. (2017)

For permission requests, please contact AMA Service GmbH
at the address below.

AMA Service GmbH
Postfach 2352
31506 Wunstorf
Germany

Phone: +49(0)5033-9639-0
Fax: +49(0)5033-1056

info@ama-service.com

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

I1-IR SENSORS AND ARRAYS

1.2 - Absolute Mid-infrared Spectral Responsivity Scale Based on Thermal Detectors and the Cryogenic Radiometer	1
<i>R. Taubert, P. Meindl, C. Monte, L. Werner, T. Pohl, J. Hollandt</i>	
1.3 - Enhanced Pyroelectric Linear Arrays for Infrared Spectroscopy	6
<i>R. Köhler, D. Wassilew, G. Hofmann, V. Norkus, M. Schossig</i>	
1.5 - Optical Modeling of Ge-on-Si Focal Plane Arrays with Diffractive Light Coupling	12
<i>D. Schmelz, M. Steglich, U. Zeitner, E. Kley</i>	

I2-SPECTROSCOPY AND GAS ANALYSIS

2.1 - High-Speed MWIR Upconversion Spectroscopy	17
<i>S. Wolf, J. Kießling, T. Trendle, F. Kühnemann, M. Kunz, G. Popko</i>	
2.2 - A Low-Cost Spectrometer Based on Stress-Induced Birefringence	20
<i>F. Dietachmayr, S. Schallmeiner, B. Zagar</i>	
2.3 - Thermal Modulation Behavior of Infrared Emitters with Cantilevered Heating Elements	25
<i>T. Ott, M. Schossig, G. Gerlach</i>	
2.4 - Advanced White Cell Design for Investigation of Ethylene Using a Nondispersive Infrared Photometer	30
<i>A. Eberhardt, J. Wöllenstein, U. Ulmer, K. Schmitt</i>	

I3-THERMAL IMAGING

3.1 - Motion Deblurring of Infrared Images	34
<i>B. Oswald-Tranta</i>	
3.2 - Uncertainties of Thermographic Measurements-Exercises	39
<i>S. Dudzik, W. Minkina</i>	

I4-RECENT DEVELOPMENTS IN IR INDUSTRY

4.2 - Thermopile Infrared Arrays with Ultra Wide Field of View for Person Detection and Building Automation	45
<i>R. Funk, J. Schieferdecker, M. Simon, B. Forg, M. Schnorr, F. Herrmann, C. Schmidt</i>	
4.3 - CaliPile TM: Wide Angle Lens-less Motion- and Presence Detection	48
<i>P. Jasinski, M. Mattes, H. Ernst, F. Plotz, J. Schilz</i>	
4.5 - Compact Pyroelectric Detectors Based on Micro-machined Chip Carriers	51
<i>A. Günther, M. Ebermann</i>	

IP-POSTER SESSION

P1 - Selection of Suitable Excitation and Recording Conditions for Active Lock-in Thermography with the Help of Parameter Studies	56
<i>G. Schober, C. Kolb, S. Kremling, M. Werner, M. Fink</i>	
P2 - Multiple Flash Thermography for Non-destructive Testing of Lightweight Components	60
<i>G. Schober, S. Kremling, T. Hochrein, D. Hoffmann, A. Stöhr</i>	
P4 - The Measurement System for Thermographic Research on Characteristic of Cooling Selected Radiators in Conditions of Free Convection	65
<i>W. Minkina, D. Klecha</i>	
P5 - Determining the Dimension of Subsurface Defect by Active IR - Experimental Research	69
<i>S. Gryś</i>	
Author Index	