

Reflection, Scattering, and Diffraction from Surfaces VI

Monday - Tuesday 20 - 21 August 2018

Conference Sessions At A Glance

SHOW | HIDE

- 1: Theory and Modeling
 - 2: Measurement Methods
 - 3: Applications
 - 4: Metrology and Standards
- Posters-Monday

Important Dates

SHOW | HIDE

Abstract Due:
7 February 2018

Author Notification:
16 April 2018

Manuscript Due Date:
25 July 2018

Conference Committee

SHOW | HIDE

Conference Chair

Leonard M. Hanssen, National Institute of Standards and Technology (United States)

Program Committee

Gérard Berginc, Thales Optronique S.A.S. (France)
Samuel D. Butler, Air Force Institute of Technology (United States)
Brian G. Hoover, Advanced Optical Technologies (United States)
Alexei A. Maradudin, Univ. of California, Irvine (United States)

Program Committee continued...

Michael A. Marciniak, Air Force Institute of Technology (United States)
Richard N. Pfisterer, Photon Engineering LLC (United States)
Hendrik Rothe, Helmut-Schmidt Univ. (Germany)
Michael E. Thomas, Johns Hopkins Univ. (United States)
Benjamin K. Tsai, National Institute of Standards and Technology (United States)

MONDAY 20 AUGUST

[Show All Abstracts](#)


Session 1: Theory and Modeling

Monday 20 August 2018
 8:10 AM - 10:20 AM
 Location: Conv. Ctr. Room 25C

Session Chair: Michael E. Thomas, Johns Hopkins Univ. (United States)


Laser scattering from arbitrarily shaped large objects with randomly rough surfaces *(Invited Paper)*

Paper 10750-1
 Time: 8:10 AM - 8:40 AM
 Author(s): Gérard Berginc, Thales Optronique S.A.S. (France)

[Add To My Schedule](#) 


Modeling of remotely-sensed signatures of spacecraft

Paper 10750-2
 Time: 8:40 AM - 9:00 AM
 Author(s): Paul D. LeVan, Jennifer Leute, Martha Navarro, Air Force Research Lab. (United States)

[Add To My Schedule](#) 


Improved grazing angle BRDF model using polarization factor Q and adaptive microfacet distribution function

Paper 10750-3
 Time: 9:00 AM - 9:20 AM
 Author(s): Becca E. Ewing, Wright State Univ. (United States); Samuel D. Butler, Michael A. Marciniak, Air Force Institute of Technology (United States)

[Add To My Schedule](#) 

Spectral signatures of solids and liquids on different substrates: the need for accurate optical constants

Paper 10750-4
 Time: 9:20 AM - 9:40 AM
 Author(s): Tanya L. Myers, Russell Tonkyn, Brent De Vetter, Tyler O. Danby, Nicole Scharko, Ashley M. Oeck, John S. Loring, Yin-Fong Su, Timothy J. Johnson, Pacific Northwest National Lab. (United States)


[Add To My Schedule](#) 

Improved-anomalous diffraction approximation for accurate extinction, scatter and absorption efficiency calculations

Paper 10750-5

Time: 9:40 AM - 10:00 AM


Author(s): Michael E. Thomas, Johns Hopkins Univ. (United States)

[Add To My Schedule](#) **Polarimetric evaluation of oblique and grazing angle microfacet BRDF model modification using experimental data**

Paper 10750-6

Time: 10:00 AM - 10:20 AM

Author(s): Ann Lanari, U.S. Air Force Academy (United States); Samuel Butler, Michael A. Marciniak, Air Force Institute of Technology (United States); Becca Ewing, Wright State Univ. (United States)

[Add To My Schedule](#) 

Coffee Break 10:20 AM - 10:50 AM

**Session 2:
Measurement Methods**

Monday 20 August 2018

10:50 AM - 11:50 AM


Location: Conv. Ctr. Room 25C

Session Chair: [Brian G. Hoover](#), Advanced Optical Technologies (United States)**Reflectance from solids and solid particles: the need for the optical constants n and k and far-IR measurement challenges**

Paper 10750-7

Time: 10:50 AM - 11:10 AM


Author(s): Brent M. De Vetter, Tanya L. Myers, Bret D. Cannon, Nicole K. Scharko, Russell G. Tonkyn, Timothy J. Johnson, Pacific Northwest National Lab. (United States)

[Add To My Schedule](#) **A high dynamic range imaging method for the characterization of periodic errors in diffraction gratings**

Paper 10750-8

Time: 11:10 AM - 11:30 AM


Author(s): Sofia Carolina Corzo-Garcia, Muhammad Imran Afzal, National Institute of Standards and Technology (United States); Benjamin T. Kidder, University of Texas at Austin, Department of Astronomy (United States); Michelle A. Grigas, University of Texas at Austin (United States); Ulf Griesmann, National Institute of Standards and Technology (United States)

[Add To My Schedule](#) **Investigation of transverse motion of concealed scatterer using correlation of speckled speckles from static surface layer**

Paper 10750-9

Time: 11:30 AM - 11:50 AM

Author(s): Gokul G. Nair, Indian Institute of Space Science and Technology (India); Vinu R.V., Utsunomiya Univ. (Japan); Dinesh N. Naik, Indian Institute of Space Science and Technology (India); Michael Linde Jakobsen, Steen G. Hanson, DTU Fotonik (Denmark); Rakesh Kumar Singh, Indian Institute of Space Science and Technology (India)

[Add To My Schedule](#) 

Lunch Break 11:50 AM - 1:20 PM

**Session 3:
Applications**

Monday 20 August 2018

1:20 PM - 3:10 PM

Location: Conv. Ctr. Room 25C

Session Chairs: [G rard Berginc](#), Thales Optronique S.A.S. (France) ; [Richard N. Pfisterer](#), Photon Engineering LLC (United States)**Polarimetric scatter analysis of microstructured optical materials in the mid-wave infrared (Invited Paper)****(Canceled)**

Paper 10750-10

Time: 1:20 PM - 1:50 PM


Author(s):

The light behavior from Shallow Trench Isolation profiles at Chemical Mechanical Planarization step and correlation with optical endpoint system by interferometry

Paper 10750-11

Time: 1:50 PM - 2:10 PM


Author(s): Sophia Bourzgui, Institut Fresnel (France), Aix-Marseille Univ. (France), Lab. d'Informatique, de Mod lisation et d'Optimisation des Syst mes (France); Ga lle Georges, CNRS (France), Aix-Marseille Univ. (France), Institut Fresnel (France); Agn s Roussy, Jakey Blue, Ecole Nationale Sup rieure des Mines de Saint- tienne (France), Lab. d'Informatique, de Mod lisation et d'Optimisation des Syst mes (France); Emilie Faivre, Jacques Pinaton, STMicroelectronics (France)

[Add To My Schedule](#) **Polarized reflectivity for quantitative crystallography of α -titanium**

Paper 10750-12

Time: 2:10 PM - 2:30 PM


Author(s): Brian G. Hoover, Jonathan H. Turner, Brian J. Ritter, Advanced Optical Technologies (United States); Joseph R. Michael, Sandia National Labs. (United States); Michael D. Uchic, Air Force Research Lab. (United States)

[Add To My Schedule](#) **Stray light test results of Operational Landsat Imager 2 (OLI-2) compared to OLI**

Paper 10750-13

Time: 2:30 PM - 2:50 PM


Author(s): Frank S. Grochocki, John C. Fleming, Thomas U. Kampe, Ball Aerospace (United States)

[Add To My Schedule](#) **Nondestructive characterization of aged paper using spectral and directional reflection measurements**

Paper 10750-15

Time: 2:50 PM - 3:10 PM

Author(s): Michael E. Thomas, Jessica Ma, Johns Hopkins Univ. (United States); M. B. Airola, Johns Hopkins Univ. Applied Physics Lab., LLC (United States); Patricia McGuiggan, Johns Hopkins Univ. (United States)

[Add To My Schedule](#) 

Coffee Break 3:10 PM - 3:40 PM

**Session 4:
Metrology and Standards**

Monday 20 August 2018

3:40 PM - 5:10 PM

Location: Conv. Ctr. Room 25C


Session Chair: [Samuel D. Butler](#), Air Force Institute of Technology (United States)

Design and characterization of a new absolute diffuse reflectance reference instrument at the NRC (Invited Paper)

Paper 10750-17

Time: 3:40 PM - 4:10 PM


Author(s): Luke Sandilands, Eric Côté, Joanne Zwinkels, National Research Council Canada (Canada)

[Add To My Schedule](#) **Correction of the calibration measurement by taking into account the SpectralonTM spectro-polarimetric BRDF model**

Paper 10750-18

Time: 4:10 PM - 4:30 PM


Author(s): Martin P. Levesque, Maria Dissanska, Defence Research and Development Canada (Canada)

[Add To My Schedule](#) **Metric for comparison of generic camera calibration**

Paper 10750-19

Time: 4:30 PM - 4:50 PM


Author(s): Martin Prinzler, Jonas Bartsch, Michael Kalms, Ralf B. Bergmann, Bremer Institut für angewandte Strahltechnik GmbH (Germany)

[Add To My Schedule](#) **Comparison of NIST's specular reflectance scales from 1 μ m to 2.4 μ m**

Paper 10750-20

Time: 4:50 PM - 5:10 PM

Author(s): Leonard M. Hanssen, Simon G. Kaplan, Catherine C. Cooksey, Heather J. Patrick, National Institute of Standards and Technology (United States)

[Add To My Schedule](#) 

**Session PMon:
Posters-Monday**

Monday 20 August 2018

5:30 PM - 7:30 PM

Location: Conv. Ctr. Room 20C

Conference attendees are invited to view the posters, enjoy light refreshments, ask questions, and network with colleagues in your field. Authors of poster papers will be present to answer questions concerning their papers. Attendees are required to wear their conference registration badges to the poster sessions. Poster authors, view poster presentation guidelines at <http://spie.org/OPPosterGuidelines>.


Luminescence of Ho-doped lithium niobate crystals highlighted by Raman Spectroscopy

Paper 10750-21

Time: 5:30 PM - 7:30 PM

Author(s): Ninel Kokanyan, Univ. de Lorraine (France), CentraleSupélec (France), Lab. Matériaux Optiques, Photonique et Systèmes (France); Edvard

Kokanyan, Armenian State Pedagogical Univ. After Khachatur Abovyan (Armenia), Institute for Physical Research, NAS Armenia (Armenia); Naira Babajanyan, Armenian State Pedagogical Univ. After Khachatur Abovyan (Armenia); Thomas Kauffmann, Univ. de Lorraine (France); Marc D. Fontana, Univ. de Lorraine (France), CentraleSupélec (France), Lab. Matériaux Optiques, Photonique et Systèmes (France)


[Add To My Schedule](#) 

Evaluate thin film surface roughness accurately by a simple x-ray reflectivity distribution method and first-order perturbation theory

Paper 10750-22

Time: 5:30 PM - 7:30 PM

Author(s): Yanli Meng, Texas A&M Univ. (United States), Northeast Normal Univ. (China); Mi Lu, Texas A&M Univ. (United States)


[Add To My Schedule](#) 

Intellectualized Mueller-Jones matrix system of laser polarimetry for breast fibroadenoma diagnosis

Paper 10750-23

Time: 5:30 PM - 7:30 PM

Author(s): Kostiantyn O. Radchenko, Vinnytsia National Technical Univ. (Ukraine)


[Add To My Schedule](#) 

Processing and analysis of images in the multifunctional classification laser polarimetry system of biological objects

Paper 10750-24

Time: 5:30 PM - 7:30 PM

Author(s): Natalia I. Zabolotna, Serhii V. Pavlov, Oleksandr V. Karas, Vladyslava V. Sholota, Vinnytsia National Technical Univ. (Ukraine)


[Add To My Schedule](#) 

Control of spatial-frequency spectrum of optical radiation by liquid crystals-polymer composites

Paper 10750-25

Time: 5:30 PM - 7:30 PM

Author(s): Petro Maksymyak, A. P. Maksymyak, Andriy L. Nehrych, Yuriy Fedkovych Chernivtsi National Univ. (Ukraine)


[Add To My Schedule](#) 

Investigation of the erythrocyte elasticity in the flow by the temporal chaotization of scattered light

Paper 10750-26

Time: 5:30 PM - 7:30 PM

Author(s): Mykhailo S. Gavryliak, Peter Maksymyak, Yuriy Fedkovych Chernivtsi National Univ. (Ukraine)


[Add To My Schedule](#) 

Spectral investigation of polarization properties of optical field scattered by muscle tissue

Paper 10750-27

Time: 5:30 PM - 7:30 PM

Author(s): Mykhailo S. Gavryliak, D. I. Prodan, Olexander Dubolazov, Dmytrii Gavryliak, Yuriy Fedkovych Chernivtsi National Univ. (Ukraine)


[Add To My Schedule](#) 

Using coherent optical frequency domain reflectometry to assist the additive manufacturing process of structures for radio frequency applications

Paper 10750-28

Time: 5:30 PM - 7:30 PM

Author(s): Max Koepfel, Maximilian Deckelmann, Mark Sippel, Konstantin Lomakin, Stefan Werzinger, Gerald Gold, Klaus Helmreich, Bernhard Schmauss, Friedrich-Alexander-Univ. Erlangen-Nürnberg (Germany)


[Add To My Schedule](#) 

Singular features of the diffraction field

Paper 10750-29

Time: 5:30 PM - 7:30 PM

Author(s): Javier Munoz-Lopez, Gabriel Martínez-Niconoff, Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico); Patricia Martinez-Vara, Benemérita Univ. Autónoma de Puebla (Mexico)

[Add To My Schedule](#) 

Analysis of optical wave-diffusion phenomena

(Canceled)

Paper 10750-30

Time: 5:30 PM - 7:30 PM

Author(s):