

Program

The IV International Symposium and Exhibition «Photonics of Ukraine – 2003» –“Optical Holography and its Applications”, Exhibition centre «Nauka» of National Academy of Sciences of Ukraine, pavilion 23 (National complex «Expocentre of Ukraine») 1, prospect Glushkova, 03680, Kyiv, Ukraine

26 June 2003, 14:00 -17:00 Poster Session

Poster-1

Solid fullerene-containing hosts: spectral analysis and the dynamic holograms recording

A.L. Pyajt¹, O.V. Andreeva², V.G. Bespalov², ¹Saint-Petersburg State Institute of Fine Mechanics and Optics, Sablinskaya 14, Saint-Petersburg, Russia, ²S.I. Vavilov State Optical Institute, Birzhevaya line 12, Saint-Petersburg, Russia

Poster-2

Optoelectronic device for identification of rainbow hologram authenticity

Sergey B.Odinokov, Gennadiy N.Sabaev, Sergey E.Dubynin, Bauman Moscow State Technical University (BMSTU), Russia

Poster-3

The magneto-optical device for reading the hidden magnetic images combined from the rainbow hologram

Sergey B. Odinokov, Alexey S.Kuznetsov, Bauman Moscow State Technical University (BMSTU), Russia

Alexander Igorevich Nikolaev, “Holography-service” Company, Russia

Poster-4

Method for recording of hologram with the encoded hidden image and the device for reading and processing image

Dmitry S.Lushnikov, Sergey B.Odinokov, Bauman Moscow State Technical University (BMSTU), Russia, Alexander I.Nikolaev, “Holography-service” Company, Russia

Poster-5

Optical scheme of the device for producing Dot-matrix holograms with acoustooptic modulator

Ivan K.Tsiganov, Sergey B.Odinokov, Bauman Moscow State Technical University (BMSTU), Russia, Alexander I.Nikolaev, “Holography-service” Company, Russia

Poster-6

Photosensitive Materials for Recording Optical Protective Elements

Andrey Kryuchin, Vyacheslav Petrov, Sergey Kostukevitch

Institute for Information Recording, Institute of Semiconductor Physics, Kyiv, Ukraine

Poster-7

Investigation of processes of manufacturing hologram diffraction gratings based on $As_{40}S_{60}Se_x$ ($x=0-20$) layers

S.A. Kostyukevich, P.E. Shepeliaviy, P.F. Romanenko, N.L. Moskalenko, V.M. Tomchuk

Institute of Semiconductor Physics, NAS of Ukraine

Poster-8

EFFECT OF CHIRALITY: HOLOGRAPHIC GRATING RECORDING IN DIASTEREOMERIC LIQUID CRYSTALLINE COPOLYMETHACRYLATES

Ruslan A. Lymarenko¹ and Mikhail V. Kozlovsky², ¹ Institute of Applied Optics, National Academy of Science, Kyiv, Ukraine,

² Institute of Macromolecular Chemistry, Darmstadt University of Technology, Darmstadt, Germany

Poster-9

Optically Addressed Spatial Light Modulator with Stibnite Photoconductor as Nonlinear Recording Medium for Holography
L. P. Amosova, A. N. Chaika, N. I. Pletneva, All-Russian Research Center S. I. Vavilov State Optical Institute, St. Petersburg, 199034 Russia

Poster-10

Recording of high efficiency diffraction grating by He-Ne laser.

V.I.Min'ko, P.E.Shepeliaviyi, I.Z.Indutnyy, P.F.Romanenko, O.S.Litvin, V.A. Dan'ko, V. Lashkaryov Institute of Semiconductor Physics NAS of Ukraine, Kiev, Ukraine

Poster-11

CGH recording on the photoresist material to generate the laser beams with phase singularities and their metrology

A. A. Ivanovskyy, M. S. Soskin, Institute of Physics NAS of Ukraine, Kiev, Ukraine

Poster-12

Application of binary phase masks for stabilization of a laser beam directional diagram

Alexander V. Gnatovsky, Oleg A. Ilyin, Institute of Physics, NASU, Kiev, Ukraine

Poster-13

Modeling of Human-like Reasoning on Linguistic Scales by Holographic Technique

Alexander V.Pavlov^{1,2}, Yanina Shevchenko², ¹. S.I.Vavilov State Optical Institute, St.Petersburg, Russia

². State Institute for Fine Mechanics and Optics, St.Petersburg, Russia

Poster-14

Depolarization of multiple scattered coherent radiation

Andrey A. Goloborodko, Vitalij N. Kurashov, National Taras Shevchenko University of Kyiv, radiophysical dept., Kyiv, Ukraine

Poster-15

DIGITAL AND OPTICAL SPECKLE-DISPLACEMENT CORRELATION TECHNIQUES FOR STUDY OF IN-PLANE ROUGH SURFACE STRAINS

Leonid I. Muravsky, Olexander P. Maksymenko, Olexander M. Sakharuk, Karpenko Physico-Mechanical Inst. of Nat. Acad. Sci. of Ukraine, Lviv, Ukraine

Poster-16

Random phase mask based reflective optical marks for security verification

S.O. Kostyukevych^a, L.I. Muravsky^b, T.I. Voronyak^b, P.E. Shepeliaviyi^a, ^aInstitute of Semicond. Phys. of NASU, Kyiv 03028, Ukraine, ^bKarpenko Physico-Mechanical Inst. of Nat. Acad. Sci. of Ukraine, Lviv, Ukraine

Poster-17

PHOTO-INDUCED MICRO-DOMAIN FORMATION IN FERROELECTRICS

Eugeniy A. Eliseev^{a*}, Anna N. Morozovska^{b*}, Vyacheslav V. Obukhovskiy^b and Vasiliy V. Lemeshko^b

^aInstitute for Materials Sciences, NASC of Ukraine, Kiev, Ukraine, ^bTaras Shevchenko Kyiv University, Radiophysic Department, Kyiv, Ukraine

Poster-18

The technology of the designing two-mirror anaberration focuses of laser emission

Gennady A. Dontsov, Company "AO KMZ", Moscow, Russia, Gennady S. Melnikov, Aleksey A. Osharin, Vavilov State Optical Institute, St. Petersburg, Russia, Alexander S. Popov (LG Soft Lab, Saint-Petersburg, Russia).

Poster-19

The analysis program and the choice of aplanatic systems technique according to the way of designing two-mirror system with the principal mirror in the form of a sphere segment".

Gennady A. Dontsov, Company "AO KMZ", Moscow, Russia, Gennady S. Melnikov, Aleksey A. Osharin
Vavilov State Optical Institute, St. Petersburg, Russia, Alexander S. Popov (LG Soft Lab, Saint-Petersburg, Russia)

Poster-20

Analytical review and choice of hyper-compact superhigh-aperture two-mirror systems for nano-sputniks

Gennady A. Dontsov, Company "AO KMZ", Moscow, Russia, Gennady S. Melnikov, Aleksey A. Osharin
Vavilov State Optical Institute, St. Petersburg, Russia, Alexander S. Popov (LG Soft Lab, Saint-Petersburg, Russia)

Poster-21

Shack-Hartmann wave-front sensor with nonlinear holographic lenslet array

Dmytro V. Podanchuk, Volodymir P. Dan'ko, Myhailo M. Kotov., National Taras Shevchenko university of Kyiv, radiophysical dept., Kyiv, Ukraine

Poster-22

Self-developing photopolymer: peculiarities of the matched filtering

Pavel Valentinovich Yezhov, Institute of Physics, NASU, Ukraine

Poster-23

Holographic gratings and laser beams in optical motors

Sergey S. Sarkisov, Michael J. Curley, Aisha Fields, and Nickolai V. Kukhtarev

Department of Physics, Alabama A&M University, Normal, Alabama, USA

Poster-24

ADHESION STRENGTH OF ARSENIC-CONTAINING FILMS AND MULTILAYER STRUCTURES

Onopko V.V., Rubish V.V., Spesivikh A.A., Rubish V.M., Moskalenko N.L.*, Kostiukevych S.O.*, Uzhhorod National University, Uzhhorod, Ukraine, *Institute of Physics of Semiconductors, 41 prospect Nauki, Kyiv, Ukraine

Poster-25

Many Particle and Bandstructure Effects in Intersubband Quantum Well Optics

M.F. Pereira Jr., NMRC, University College, Lee Maltings, Prospect Row, Cork, Ireland

Poster-26, Poster-27, Poster-28, Poster-29, Poster-30

27 June 2003

10:00

Application of Holographic Interferometry to Shock Wave Research at Interdisciplinary Shock Wave Research Center

Kazuyoshi Takayama, Atsushi Abe, Tsutomu Saito, Interdisciplinary Shock Wave Research Center, Institute of Fluid Science, Tohoku University 2-1-1 Katahira Aoba Sendai JAPAN

10:30

CHIRAL PHOTOCHROMIC LIQUID CRYSTALLINE POLYMERS FOR HOLOGRAPHY APPLICATIONS

Mikhail V. Kozlovsky, Institute of Macromolecular Chemistry, Darmstadt University of Technology, Petersenstr. 22, D-64287

Darmstadt, Germany

11:00

Holographic Properties of Bacteriorhodopsin and Its Mutants for Real-Time Optical Information Processing

Elena Korchemskaya¹, Nikolai Burykin², Thomas G. Ebrey³, Sergei Balashov³, ¹*Institute of Physics, National Academy of Sciences, Kiev, Ukraine,* ²*Institute of Applied Optics, National Academy of Sciences, Kiev, Ukraine,* ³*University of Washington, Box 351330, 423 Johnson Hall, Seattle, WA 98195, USA*

11:20

The results of fractal graphically synthesized holograms experimental investigations

Gennady S. Melnikov, Maxim G. Tomilin, Aleksey A. Osharin, Vavilov State Optical Institute, St. Petersburg, Russia, Igor N. Serov, Eduard V. Bi'chkov, Alexander V. Alexeytsev, Aires New Medical Technologies Foundation, St. Petersburg, Russia

11:40

Theoretical and Experimental Results as to the Creation of Graphically Synthesized Fractal Holograms Having Specified Diffraction and Spatial-Frequency Properties". Gennady S. Melnikov, Aleksey A. Osharin, Vavilov State Optical Institute, St. Petersburg, Russia, Igor N. Serov, Eduard V. Bi'chkov, Alexander V. Alexeytsev, Aires New Medical Technologies Foundation, St. Petersburg, Russia

12:00

RESOLUTION ABILITY OF INORGANIC CHALCOGENIDE RESIST

Mikhail Mikhailov, Anna Belykh, Tatyana Dubrovina, Rudolf Gerke, Igor Yusupov, HoloGrate, JSC, St-Petersburg, Russia

12:20

Holographic Lenslet Array for Shack-Hartmann Wavefront Sensor

Jung-Young Son¹, Dmytro V. Podanchuk², Volodymyr P. Dan'ko², Bahram Javidi³, ¹Electronics and Electrical Engineering Dept., Han-Yang University, Seoul, Korea, ²National Taras Shevchenko University of Kyiv, radiophysical dept., Kyiv, Ukraine, ³ Electrical and Computer Engineering Dept., University of Connecticut, Storrs, CT, U.S.A.

12:40

Properties of chalcogenide based media in holographic applications

A.V. Stronski, S.A. Kostyukevych, P.E. Shepeliaviyi, Institute of Semiconductor Physics of NASU, Kyiv, Ukraine

M. Vlcek, University of Pardubice, Czech Republic

13:00-14:00 Lunch

14:00

Finding of the optimal parameters of animated and stereographic rainbow diffraction images

Vladimir I. Girnyk^a, Valeriy I. Grygoruk^b, Ilya Borisov^b, ^a Optronics Ltd, PO Box 610, Kyiv, Ukraine, ^b Kyiv Taras Shevchenko University, Radiophysical Dept., 5 B. 2 acad. Glushkov Str., Kyiv, Ukraine.

14:15

The opportunities of computer-generated rainbow holograms combining investigation

Vladimir I. Girnyk^a, Valeriy I. Grygoruk^b, Alexandr Kononov^a, Ilya Borisov^b, ^a Optronics Ltd, PO Box 610, 03127 Kyiv, Ukraine, ^b Kyiv Taras Shevchenko University, Radiophysical Dept., 5 B. 2 acad. Glushkov Str., 03137 Kyiv, Ukraine.

14:30

Spatial-temporal peculiarities of PILS in ferroelectric PR-crystals

Anna N. Morozovska, Vyacheslav V. Obukhovskiy, Taras Shevchenko Kyiv University, Radiophysic Department, 01033, Kyiv, Volodymyrs'ka str.64, Ukraine

14:45

STUDY OF CHALCOGENIDE GLASS BASED REFLECTING HOLOGRAPHIC MARKS FOR OPTICAL SECURITY

L.I. Muravsky^a, S.O. Kostyukevych^b, T.I. Voronyak^a, P.E. Shepeliavyi^b,^a - Karpenko Physico-Mechanical Inst. of Nat. Acad. Sci. of Ukraine, Lviv, Ukraine;^b - Institute of Semiconductor Physics of NASU, Kyiv 03028, Ukraine;

15:00

KINOFORM SYNTHESIS METHOD

Alexander Kuzmenko

The International Centre "Applied Optics Institute" of the NAS of Ukraine

15:20

PHASE RETRIEVAL ALGORITHMS OPTIMIZATION

Alexander Kuzmenko, The International Centre "Applied Optics Institute" of the NAS of Ukraine

15:40

Digital imaging systems: how to measure their performance ?

Volodymyr Borovytsky, Optical Engineering Department, National Technical University of Ukraine, Kiev, Ukraine

16:00

FREE-CARRIERS HOLOGRAPHIC GRATING IN FERROMAGNETIC SEMICONDUCTORS

O.Yu. Semchuk¹, V.M. Semioshko¹, M. Willander², and M. Karlsteen³, ¹Institute of Surface Chemistry NAS of Ukraine, Kyiv, Ukraine, ²Chalmers University of Technology and Goteborg University, Goteborg, Sweden

16:20 - 17:00 SPIE Short Course "Optical Document Security" (Instructor Rudolph L. van Renesse, Van Renesse Consulting (CDV087))

28 June 2003, Institute of Semiconductor Physics, 41 prospect Nauki, off. 219, Kiev, Ukraine

10:00- 12:00

SPIE Short Course "Optical Document Security" (Instructor Rudolph L. van Renesse, Van Renesse Consulting (CDV087))

More information about taking part in the Exhibition, Seminar and Conferences you can get via: SPIE/UKRAINE

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Ukraine, Phone: +380 (44) 2656205, Fax: +380 (44) 2655430, E-mail: photonics@spie.org.ua,

Web: www.spie.org.ua

NATO Advanced Research Workshop "SINGULAR OPTICS 2003"

(24-29 June, Institute of Theoretical Physics, Feofania)

Web: www.spie.org.ua