

# **Table of Content (VII International Conference on Photonics and Information Optics)**

## **Large-scale Synthesis of Monodisperse PbS Quantum Dots**

K Vokhmincev, P Linkov, P Samokhvalov, K Takai, A Baranov, A Fedorov, I Nabiev

Pages 1-6, <https://doi.org/10.18502/ken.v3i3.2007>

## **Polymeric Layers for Optical Structures with Controllable Waveguide Parameters**

U V Mahilny, A I Stankevich

Pages 7-13, <https://doi.org/10.18502/ken.v3i3.2008>

## **Periodic Structures Fabricated By STED-DLW Stereolithography: Morphology and Optical Properties**

D A Kolymagin, R D Zvagelsky, D A Chubich, A G Vitukhnovsky

Pages 14-22, <https://doi.org/10.18502/ken.v3i3.2009>

## **Laser Printing of Gel Microdrops with Living Cells and Microorganisms**

N V Minaev, V I Yusupov, V S Zhigarkov, E S Churbanova, V S Cheptsov, M V Gorlenko, V N Bagratashvili

Pages 23-31, <https://doi.org/10.18502/ken.v3i3.2010>

## **Equivalent Surface Temperature of Optical Elements Interacting with Laser Irradiation**

N V Kovalenko, G A Aloian, A V Konyashkin, O A Ruabushkin

Pages 32-37, <https://doi.org/10.18502/ken.v3i3.2011>

## **Methods of Interaction Field Extension for Precision Highspeed Femtosecond Laser Processing of Transparent Materials**

D Ganin, K Lapshin, S Vartapetov

Pages 38-46, <https://doi.org/10.18502/ken.v3i3.2012>

## **The Design Optimization and Experimental Investigation of the 4.4 $\mu\text{m}$ Raman Laser Basedon Hydrogen-filled Revolver Silica Fiber**

A N Kolyadin, M S Astapovich, A V Gladyshev, A F Kosolapov, A D Pryamikov, K G Alagashov, M M Khudyakov, M E Likhachev, I A Bufetov

Pages 47-64, <https://doi.org/10.18502/ken.v3i3.2013>

**Plasma-mediated Nanosecond-Laser Generation of Si Nanoparticles in Water**

A Ivanova, A Ionin, S Kudryashov, I Saraeva

Pages 65-72, <https://doi.org/10.18502/ken.v3i3.2014>

**Optical Properties of Gel Titanium Dioxide Film, Modified By Metal Nanoparticles**

S A Aliev, N E Nikolaev, N S Trofimov, M S Kopyeva, T K Chekhlova

Pages 73-82, <https://doi.org/10.18502/ken.v3i3.2015>

**Superconducting Single-photon Detectors Made of Ultra-thin VN Films**

P Zolotov, A Divochiy, Y Vakhtomin, V Seleznev, P Morozov, K Smirnov

Pages 83-89, <https://doi.org/10.18502/ken.v3i3.2016>

**Preparation of Freestanding Porous Silicon Photonic Crystals**

I Kryukova, D Dovzhenko, A Chistyakov, I Nabiev

Pages 90-95, <https://doi.org/10.18502/ken.v3i3.2017>

**Dynamics of Changes in Optical Absorption Induced By Nanosecond Laser Pulses in the Bi<sub>12</sub>Ti<sub>20</sub>:Al Crystal**

V G Dyu, D V Sokolov, T D Tokhmashev, S M Shandarov

Pages 96-102, <https://doi.org/10.18502/ken.v3i3.2018>

**Correction of Y-Banches on Proton-exchanged Waveguides in Lithium Niobate By Femtosecond Writing Technology**

N N Skryabin, M A Bukharin, S M Kostritskii, Yu N Korkishko, V A Fedorov, D V Khudyakov

Pages 103-108, <https://doi.org/10.18502/ken.v3i3.2019>

**Photoelectric Fields and Band Gap in Doped Lithium Niobate Crystals**

N V Sidorov, M N Palatnikov, N A Teplyakova, D V Manukovskaya, A V Syuy, E O Kile, D S Shtarev

Pages 109-115, <https://doi.org/10.18502/ken.v3i3.2020>

**Nanogratings Formation in a System of Ultra-short Laser Pulses - Metalloorganic Gas - Deposited Metal - Sapphire in Sinergetic Interference Field with Waveguide Modes Participation**

V S Makin, R S Makin

Pages 116-121, <https://doi.org/10.18502/ken.v3i3.2021>

## **Conditions for the Dye Sensitization of Photoprocesses in Semiconductors**

M A Goryaev

Pages 122-129, <https://doi.org/10.18502/ken.v3i3.2022>

## **Experimental Research of XeBr Excimer Molecule Luminescence in Ar-Xe- C<sub>2</sub>HBrClF<sub>3</sub> Gas Mixture with High Energy Particles Excitation**

A V Podkopaev, A I Mis'kevich

Pages 130-137, <https://doi.org/10.18502/ken.v3i3.2023>

## **Organic Chromophores with Nonlinear Optical Properties for Electro-optical Modulators**

K S Levchenko, K A Chudov, N O Poroshin, E V Zinoviev, P A Chicheva, E A Shohina, P S Shmelin, E P Greben-nikov

Pages 138-146, <https://doi.org/10.18502/ken.v3i3.2024>

## **Terahertz Radiation of a Low-inductance Discharge in Vacuum with Laser-plasma Initiation**

K I Kozlovskii, M I Lisovsky, A P Melekhov, A A Plekhanov, A A Chistyakov

Pages 147-153, <https://doi.org/10.18502/ken.v3i3.2025>

## **Taking into Account the Increase in the Dye Molecules Absorptivity in Modeling of Graetzel Solar Cell with Metallic Nanoparticles**

D A Kislov

Pages 154-164, <https://doi.org/10.18502/ken.v3i3.2026>

## **Dynamics of Switching Waves in a Nanofluid in a Light Field**

A Livashvili, V Krishtop, G Kostina, P Vinogradova, N Kireeva

Pages 165-172, <https://doi.org/10.18502/ken.v3i3.2027>

## **Calculation of Field Characteristics in Periodic Nanostructures from Composite Elements with Activated Plasmon Modes**

M G Kucherenko, A P Rusinov, D A Kislov

Pages 173-189, <https://doi.org/10.18502/ken.v3i3.2028>

## **Formation of Surface Plasmon-Polariton Vortices at Reflection from Curvilinear Boundary**

V S Pereskokov, I V Dzedolik

Pages 190-203, <https://doi.org/10.18502/ken.v3i3.2029>

## **The Features of Surface Plasmon-Polariton Pulses Generation Via Cooperative Effects in Waveguide Spaser**

M Yu Gubin, A V Shesterikov, M G Gladush, A V Prokhorov

Pages 204-214, <https://doi.org/10.18502/ken.v3i3.2030>

## **Polariton Propagation in Imperfect Resonantly Absorbing Bragg grating**

E V Kazantseva

Pages 215-227, <https://doi.org/10.18502/ken.v3i3.2031>

## **Raman Nonlinearity Contribution to Spatio-Temporal Pulse Dynamics Under Filamentation in Yag Crystal**

K V Lvov, S Y Stremoukhov, F V Potemkin

Pages 228-234, <https://doi.org/10.18502/ken.v3i3.2032>

## **Field Distribution into Binary Linear Waveguide Array**

A I Maimistov, A A Dovgiy

Pages 235-240, <https://doi.org/10.18502/ken.v3i3.2033>

## **Spin-orbital Conversion of Bessel Light Beams By Liquid Crystal Elements**

S A Nazarov, D V Gorbach, E A Melnikova, S N Kurilkina, A L Tolstik

Pages 241-248, <https://doi.org/10.18502/ken.v3i3.2034>

## **Resonance Absorption of Light By Subwavelength Diffractive Gratings**

N I Petrov, V A Danilov, V V Popov, B A Usievich

Pages 249-258, <https://doi.org/10.18502/ken.v3i3.2035>

## **Forming of the Optical Beam with the Rotating Polarization Vector**

V M Kotov, G N Shkerdin, S V Averin

Pages 259-266, <https://doi.org/10.18502/ken.v3i3.2036>

## **Manipulation of Microparticles By Bessel Light Beam**

D U Tashtimirova, E A Savchenko, E T Aksenov, V D Kuptsov

Pages 267-272, <https://doi.org/10.18502/ken.v3i3.2037>

## **Vortex Interferometric Microscopy with Laguerre-Gaussian Beams**

B V Sokolenko, S I Khalilov, A V Prisyazhniuk, D A Poletaev

Pages 273-280, <https://doi.org/10.18502/ken.v3i3.2038>

## **Method of Laser Cross-correlation Optical Spectroscopy for Investigation of Dispersion Medium**

Z A Zabalueva, E K Nepomnyashchaya, E N Velichko, E T Aksenov

Pages 281-286, <https://doi.org/10.18502/ken.v3i3.2039>

## **Laser Desorption of Traces of Explosives in Ion Mobility Spectrometry**

A E Akmalov, G E Kotkovskii, A A Chistyakov

Pages 287-296, <https://doi.org/10.18502/ken.v3i3.2040>

## **Laser Conoscopy Study of Optical Anomalies in Uniaxial Crystals**

A Kolesnikov, S Tretiakov, I Kaplunov, R Grechishkin, E Vorontsova, P Ivanova

Pages 297-303, <https://doi.org/10.18502/ken.v3i3.2041>

## **Registration of CBS Effects from Wedge-shaped Samples Containing Particles of Alumina**

S M Ismailov, V G Kamenev

Pages 304-308, <https://doi.org/10.18502/ken.v3i3.2042>

## **Scattered Light Measurement for the Birefringence Distribution Estimations**

A N Vasilenko, I U Primak, A V Khomchenko

Pages 309-316, <https://doi.org/10.18502/ken.v3i3.2043>

## **The Laser-only Single-event Effects Test Method for Spacecraft Electronics Based on Ultrashort-pulsed-laser Local Irradiation**

O Mavritskii, A Chumakov, A Egorov, A Pechenkin, D Savchenkov

Pages 317-326, <https://doi.org/10.18502/ken.v3i3.2044>

## **Refraction of the Flat Optical Beam in a Transparent Heterogeneous Environments**

O A Evtikhieva, S M Khaing, B S Rinkevichyus

Pages 327-336, <https://doi.org/10.18502/ken.v3i3.2045>

**Investigation of the Characteristics of the Three-axis Ring Typed Angular Velocity Transducer Based on Optical Tunneling Effect**

V I Busurin, V V Korobkov, P V Mulin, Y N Win

Pages 337-342, <https://doi.org/10.18502/ken.v3i3.2046>

**Application of Laser Radiation for Fabrication of Micromechanical Actuator Based on Two-Way Shape Memory Effect**

K A Borodako, K A Dmitrieva, A V Shelyakov, A A Ivanov, A A Timofeev

Pages 343-348, <https://doi.org/10.18502/ken.v3i3.2047>

**Optoelectronic Methods of IR-Photometry in Solving Thermal and Physical Problems**

S E Aleksandrov, G A Gavrilov, A A Kapralov, B A Matveev, K L Muratikov, G Y Sotnikova

Pages 349-361, <https://doi.org/10.18502/ken.v3i3.2048>

**Piezoelectric Resonance Temperature Sensor for Active Fibers**

D R Kharasov, A V Konyashkin, O A Ryabushkin

Pages 362-372, <https://doi.org/10.18502/ken.v3i3.2049>

**Study of Gamma-ray Induced Attenuation of Fluorine-doped Single-mode Radiation Hard Optic Fiber**

D S Ukolov, M E Cherniak, R K Mozhaev

Pages 373-378, <https://doi.org/10.18502/ken.v3i3.2050>

**A Determination of the Initial Level of the Brillouin Frequency Shift in Optical Fibers of Different Kinds**

I V Bogachkov

Pages 379-387, <https://doi.org/10.18502/ken.v3i3.2051>

**Use of 3x3 Coupler in the Fiber Optic Strainmeter Based on Mach-Zehnder Interferometer**

O T Kamenev, Y S Petrov, A A Podlesnykh

Pages 388-392, <https://doi.org/10.18502/ken.v3i3.2052>

**Research of Quantum Well Laser Diode's and Heterostructural P-I-N Photodiode's of Fiber-Optic Modules Radiation Hardness to Gamma-ray and Neutron Irradiation**

R K Mozhaev, M E Cherniak

Pages 393-399, <https://doi.org/10.18502/ken.v3i3.2053>

**The application of the Raman Spectroscopy Method for Evaluating Implants from the Dura Mater**

P E Timchenko, E V Timchenko, L T Volova, O O Frolov, N K Kiyko, AY Kulabukhova

Pages 400-406, <https://doi.org/10.18502/ken.v3i3.2054>

**On the Difference in Action of the Laser Light with Wavelength Near 2mm on Biotissue in Gas and Water Media**

A Z Vinarov, A M Dymov, N I Sorokin, V P Minaev, V Y Lekarev

Pages 407-418, <https://doi.org/10.18502/ken.v3i3.2055>

**Spectral Studies of Rat Bone Tissue in Modeling Osteoporosis and Effectiveness of Treatment By Hydroxyapatite**

E V Timchenko, P E Timchenko, E V Pisareva, M Y Vlasov, L T Volova, A S Tyumchenkova, Y V Fedorova

Pages 419-428, <https://doi.org/10.18502/ken.v3i3.2056>

**Determination of Diffusion Coefficient in Hydrogel**

T Mironova, A Kraiski

Pages 429-436, <https://doi.org/10.18502/ken.v3i3.2057>

**Plasmonic Magnetooptic Structures for Visualization of Magnetic Information**

S A Baryshev, S B Odinokov, A S Kuznetsov

Pages 437-449, <https://doi.org/10.18502/ken.v3i3.2058>

**Holographic Structure Transfer from Dichromated Gelatin Layers to a Polymethylmethacrylate Substrate**

N M Ganzherli, S N Gulyaev, I A Maurer, D R Khazvalieva

Pages 450-457, <https://doi.org/10.18502/ken.v3i3.2059>

**Analysis of Temperature Modes of Hologram Recording on Photothermoplastic Materials**

N K Dzhamankyzov, Y K Ismanov, K M Zhumaliev, S A Alymkulov

Pages 458-468, <https://doi.org/10.18502/ken.v3i3.2060>

**Phase Filters for 3D Localization of Point Light Sources**

V G Volostnikov, E N Vorontsov, N N Losevsky, S P Kotova, D V Prokopova, S A Samagin

Pages 469-481, <https://doi.org/10.18502/ken.v3i3.2061>

**Study of Dimensional Stability of Metal-ceramic Prostheses By Holographic Interferometry**

A V Osintsev

Pages 482-489, <https://doi.org/10.18502/ken.v3i3.2062>

**Determination of the Working Liquids Technical Condition By Analysis of Digital Speckle Images Parameters**

P V Pavlov, A N Malov, A V Neupokoeva

Pages 490-497, <https://doi.org/10.18502/ken.v3i3.2063>

**Method of Asymmetric Optical Encryption of Images Using Spatially Incoherent Illumination**

N N Evtikhiev, V V Krasnov, A V Shifrina

Pages 498-508, <https://doi.org/10.18502/ken.v3i3.2064>

**Objects Reconstruction By Compressive Sensing from Single-pixel Registrations Using DMD**

M N Kulakov, R S Starikov, P A Cheremkhin

Pages 509-522, <https://doi.org/10.18502/ken.v3i3.2065>

**Coefficients Quantization at Off-axis Digital Hologram Wavelet Compression**

N N Evtikhiev, E A Kurbatova, P A Cheremkhin

Pages 523-534, <https://doi.org/10.18502/ken.v3i3.2066>

**Optical-electronic System and Software Complex for Research and Identification of Macro- and Micro-optical Elements of Security Holograms**

S B Odinokov, V D Cheburkanov, V V Kolyuchkin, N V Piryutin, V E Talalayev, I K Tsyganov

Pages 535-541, <https://doi.org/10.18502/ken.v3i3.2067>

**Zero Order Correction of Shift-multiplexed Computer Generated Fourier Holograms Recorded in Incoherent Projection Scheme**

E Zlokazov, P Cheremkhin, V Krasnov

Pages 542-548, <https://doi.org/10.18502/ken.v3i3.2068>