

2013 International Conference on Advanced Optoelectronics and Lasers

(CAOL 2013)

**Sudak, Ukraine
9 – 13 September 2013**



**IEEE Catalog Number: CFP13814-POD
ISBN: 978-1-4799-0019-0**

Contents

Advanced Optoelectronics

(Invited) From Order to Chaos and Back: Recent Advances in Optical Cryptography of Transmitted Data S. Donati, V. Annovazzi-Lodi	1
(Invited) Advances in optoelectronic approaches for wideband and programmable processing of ultrafast signals R. A. Minasian, E. H. W. Chan, X. Yi	7
(Invited) Grating Resonances on Periodic Arrays of Sub-Wavelength Wires and Strips: Historical Narrative and Possible Applications A. I. Nosich, V. O. Byelobrov, O. V. Shapoval, D. M. Natarov, T. L. Zinenko, M. Marciniak, J. Ctyroky	10
(Invited) Dynamic singular vector speckle fields by the Hurst exponent time analysis. M. S. Soskin, V. I. Vasilev	14
(Invited) Frequency shifted feedback lasers: from basic physics to applications L. P. Yatsenko	17
(Invited) Applications of whispering gallery modes resonances of silica rods and microcapillaries E. Rivera-Perez, A. Diez, J. L. Cruz, A. Rodriguez-Cobos, and M. V. Andres	19
(Invited) Surface acoustic wave modulation of quantum cascade lasers P. Harrison	22
(Invited) Recent progress in polarization bistable VCSELs and their applications for all-optical signal processing H. Kawaguchi, T. Katayama	25
(Invited) Superradiant lasing and collective dynamics of active centers with polarization lifetime exceeding photon lifetime Vl. V. Kocharovskiy, E. R. Kocharovskaya, V. V. Kocharovskiy	28
(Invited) Characterization and Fusion Splicing of Single-Mode Photonic Crystal Fiber K. Borzycki, K. Schuster	31
(Invited) Application of multipass modes for high quality generation in stable open resonators V. G. Niziev	35

Photonics of (Quasi)Periodic Media

(Invited) Antiguided resonant multicore fiber with improved intermodal discrimination N. N. Elkin, A. P. Napartovich, D.V. Vysotsky	38
(Invited) Dye-doped polymer optical fiber pulse illuminator for microscopes D. Kiesewetter, P.G. Gabdullin, A.Y. Savina, A.I. Bodrov, N.O. Stelmakova, V.M. Levin, G.G. Baskakov	41
Scattering of the plane wave from a periodically perforated dielectric slab V. Byelobrov, T. M. Benson	43
Design of 3D optical media with periodically distributed emitting centers S. O. Klimonsky, T. Bakhia, N.S. Borodinov, A.V. Knotko, N. Yu. Vereschagina	46
The PDLC photonic structures diffraction characteristics managing by the spatially non-uniform electric field A. O. Semkin, S. N. Sharangovich	48
Defect Modes of a Two-Dimensional Photonic Crystal in the Presence of Acoustic Wave Yu. V. Pilgun	50
Simulation study on the mode cutoff frequency in large mode area photonic crystal fibers Xiaojian Shu, Xianfeng Bao, Xiaojun Wang	53
Ternary Comb-like Silicon Photonic Crystal: Oxidation, Intrinsic Modes, Reflection Windows and Contrastivity E. Ya. Glushko	56
Investigation of the 2-D Photonic Crystal Filter A. I. Filipenko, A. N. Donskov	58
Tapered double-clad optical fibers as gain medium for high power lasers and amplifiers V. E. Ustimchik, Yu. K. Chamorovskii, V. N. Filippov, J. Kerttula, A. E. Ulanov, S. A. Nikitov	60

Investigation of modal content of radiation in multilayer cylindrical W- fibers A. E. Ulanov, S. A. Nikitov, V. E. Ustimchik, Yu. K. Chamorovskii	63
Localized optical modes in photonic liquid crystals and low threshold DFB lasing V. A. Belyakov	65
The researches of optical fibers speckle at the presence of optical vortices D. Kiesewetter, N.V. Ilin	68
Spectral dependence of all-solid photonic bandgap fiber transmittance A. Plastun, A. Konyukhov, E. Romanova T. Benson, G. Athanasiou, J. Lousteau, G. Scarpignato, E. Mura, N. Boetti, D. Milanese	71
Non-reciprocal beam behavior in two-dimensional photonic crystal slab A.P. Ostroukh, R.A. Lymarenko, V.A. Kolyadenko, V.B. Taranenko	74
Bragg resonance in multilayer structure with compound nonlinear layer D. Sidorov, V. Borulko	77
Transmission and reflection spectra of photonic crystal with plasmonic defect layer S. G. Moiseev, V. A. Ostatochnikov, D. I. Sementsov	80
Magneto-optical spectra of microcavity one-dimensional magnetophotonic crystals with double layer V. N. Berzhansky, A. N. Shaposhnikov, T. V. Mikhailova, A. R. Prokopov, A. V. Karavainikov, Yu. M. Kharchenko, I. M. Lukienko, O. V. Miloslavskaya, M. F. Kharchenko	82
Research of misalignments and cross-sectional structure influence on optical loss in photonic crystal fibers connections A. I. Filipenko, O. V. Sychova	85

Advanced Lasers and Applications

(Invited) Influence of water medium and flame on the processes of laser materials treatment A. F. Glova, S. V. Gvozdev, V. Yu. Dubrovskii, S. T. Durmanov, A. G. Krasnyukov, A. Yu. Lysikov, G. V. Smirnov	88
(Invited) Adaptive system for high power (more than 100 kW) CW CO₂ lasers A. Kudryashov, A. Alexandrov, V. Samarkin, A. Rukosuev	91
(Invited) The control of energy, temporal and spatial characteristics a microchip laser with active output mirror V.V. Kiyko, S.V. Gagarsky, V.I. Kislov, V.A. Kondratyev, E.N. Ofitserov, A.N. Sergeev	93
(Invited) Study of Stable Laser Cavity With Hole-coupling Output Mirror Z. S. Tian, Y. C. Zhang, Z. H. Sun, S. Y. Fu, Q. Wang	95
The technique of measuring the velocity of melt removal in gas-laser cutting technology using multi-channel pyrometer Y. N. Zavalov, A. V. Dubrov, V. D. Dubrov, N. G. Dubrovin, E. S. Makarova A. N. Antonov	98
Intracavity singly-resonant optical parametric oscillator pumped by a semiconductor disk laser Yu. A. Morozov, M. Yu. Morozov	100
Infrared laser emission in a compact CW and quasi-CW diode pumped Nd³⁺: GdLuCOB laser C. A. Brandus, L. Gheorghe, T. Dascalu	102
Large aperture bimorph deformable mirror for extremely high power laser system J. Sheldakova, V.Samarkin, A. Kudryashov, A.Rukosuev	104
Segments of Oversized Waveguides in Open Resonant Systems I. K. Kuzmichev, A.Yu. Popkov	106
Degree of paraxiality for monocromatic beams A. B. Katrich	109
Narrow-band DFB laser based on a dye-doped volume Bragg grating T. N. Smirnova, O. V Sakhno, V. M. Fitio, J. Stumpe	111
Broadband superluminescent diodes of NIR range with quasi-Gaussian spectra E. V. Andreeva, S. N. Ilchenko, Yu. O. Kostin, M. A. Ladugin, P. I. Lapin, A. A. Marmalyuk, S. D. Yakubovich	114
Numerical analysis of the performance of AlGaAs/GaAs multi-quantum well superluminescent diodes A. Asgari, P. Navaeipour	117

Modeling of XeCl excilamps with barrier discharge in frequency regime of work S. S. Anufrik, A. P. Volodenkov, K. F. Znosko	120
Broadband semiconductor optical amplifiers of NIR range based on nanoheterostructures E. V. Andreeva, S. N. Ilchenko, M. A. Ladugin, A. A. Lobintsov, A. A. Marmalyuk, M. V. Shramenko, S. D. Yakubovich	123
Dependence of efficiency of generation of the dye laser from a wave length of microsecond pumping S. S. Anufrik, V. Yu. Kurstak, V. V. Tarkovsky	126
Spectral-luminescent and lasing properties of coumarin dyes N. Kh. Ibrayev, E. V. Seliverstova, T. N. Kopylova, R. M. Gadirov, V. I. Alekseeva, L. E. Marinina, L. P. Savvina	129
Super/Subradiant Frequency Doubling by Quantum Wells Coupled to External Resonator G.A. Koganov, R. Shuker	131
Manifestations of optical transient nutation in frequency- modulated CW laser beams I. I. Plastun, A. G. Misurin	134
Propagation of frequency-modulated CW laser beams in coherent population trapping conditions A. N. Bokarev, I. L. Plastun	137
The new laser media of dipyrromethene complexes with boron fluoride R. T. Kuznetsova, Yu. V. Aksenova, T. A. Solodova, T. N. Kopylova, E. N. Telminov, G. V. Mayer, M. B. Berezin, A. S. Semeikin	139
Photophysical properties of laser active elements based on dyes in new aliphatic polyurethane matrix P. V. Bezrodna, L. F. Kosyanchuk, A. M. Negryiko, M. S. Stratilat, T. T. Todosiichuk	142
Influence of the electric field on laser material processing A. Yu. Ivanov, S. V. Vasiliev	145
Modeling of XeCl excilamps with glow discharge in frequency regime of work S. S. Anufrik, A. P. Volodenkov, K. F. Znosko	148
Spectral features of some red and NIR laser dyes in silica matrices I. M. Pritula, O. N. Bezkravnaya, V. M. Puzikov, V. V. Maslov, A. G. Plakhsy, A. V. Lopin, Yu. A. Gurkalenko	151
Faraday rotator for the optical switch of a two-wave light flux in fiber-optic networks G. D. Basiladze, V. N. Berzhansky, A. I. Dolgov	155
Realization of two-electron mechanism of two charged ions creation upon multiphoton ionization of barium atoms by infrared. I. I. Bondar, V. V. Suran	158
Formation of a quasi-uniform output beam in the waveguide CO₂ laser O. V. Gurin, A. V. Degtyarev, V. A. Maslov, V. A. Svich, A. N. Topkov, T. F. Ruban	160
Conical 90 degree mirrors in a terahertz gas-discharge laser V.P. Radionov, V.K. Kiseliov	164
High efficient vertical LED with pattern surface texture M. H. Mustary, V. V. Lysak	16*
End diode pumped solid state mini-lasers passive Q-switched by colored polymeric matrix A. O. Yaskovets	16-
 THz Photonics, Plasmonics, Nanophotonics	
(Invited) Hyperbolic Airy beams V. Kotlyar, A. Kovalev	170
(Invited) Dielectric properties of some practical-use materials in the low-frequency part of the terahertz band V. V. Meriakri, E. E. Chigryai, I. P. Nikitin	173
(Invited) Gyrotropic Metamaterials and Polarization Experiment in the Millimeter Waveband S.I. Tarapov, S.Yu. Polevoy	176
(Invited) Electromagnetic wave diffraction by periodic structures with nonlinear inclusions V. V. Khardikov, P. L. Mladyonov, S. L. Prosvirnin, V. R. Tuz	179
Frequency and wave-vector dispersion of the microwave mobility of drifting electron gas in GaN V. V. Korotyeyev, G. I. Syngayivska and V. A. Kochelap	186

Zero reflection phenomenon in terahertz crystalline spectra S. G. Felinskyi, G. S. Felinskyi	189
Amplification of terahertz radiation by plasmons in graphene with a planar Bragg grating O. V. Polischuk, V. V. Popov, S. A. Nikitov, V. Ryzhii, T. Otsuji, M. S. Shur	192
Modeling of functional optical coatings based on plasmonic nanocomposites. S.G. Moiseev	195
Left-Handed Photonic Crystal Waveguide Sensors D. El-Amassi, M. M. Shabat	197
Fluid pumping cell of photonic - plasmonic microcavity sensor for biomedical application V. A. Saetchnikov, E. A. Tcherniavskaia, A. V. Saetchnikov, G. Schweiger, A. Ostendorf	199
Interaction wave at diffraction on slit R. A. Lymarenko	202
Interaction of optical pulses in nonlinear plasmonic systems D. O. Ignatyeva, A. P. Sukhorukov	204
Laser irradiation effect on ZnO nanoparticles W. A. Farooq, W. Tawfik, A. Fatehmulla, S. M. Ali, M. Aslam	207
Signal forming of chromophores secondary emission near noble metals plasmon films N. D. Strekal, V. F. Askirka, A. E. German, S. A. Maskevich	209
Effect of excitation intensity and surface morphology on the photoluminescence of ZnO films under the influence of surface plasmon resonance S. I. Rumyantsev, V. M. Markushev, M. V. Ryzhkov, A. P. Tarasov, Ch. M. Briskina, A. A. Lotin, O. A. Novodvorsky, V. L. Lyaskovskii	211
Finite Comb-Like Silver Nanostrip Grating in the Optical Range: Interplay of Resonances O. V. Shapoval, J. Ctyroky	214
Photonics of new metal alkanoate composites contained semiconductor nanoparticles A. Lyashchova, D. Fedorenko, G. Klimusheva, I. Dmitruk, S. Bugaychuk, T. Mirnaya	217
Selection rules for angular-resolved photoionization of single P donor atom in silicon M. V. Klymenko, F. Remeacle	220
Resonant enhancement of electromagnetic wave in the structure with refractive index gradient A. A. Abramov	223
Nanosized structures with the field localization: new opportunities for precise control of photonic and electronic device A. N. Yakunin, G. G. Akchurin, N. P. Abanshin, B. I. Gorfinkel	225
Custom types of waves spatially periodic structure of microwires V. A. Boiko, V. I. Ponomarenko	227
Hybrid plasmon resonances in the scattering and absorption of light by a circular silver nanotube E. A. Velichko, A. I. Nosich	229
The diffraction of the laser radiation on the two-band axial microelement D. A. Savelyev, S. N. Khonina	231
Subwavelength elliptical focal spot generated by a binary zone plat M. Kotlyar, S. Stafeev	234
Tight light localization in a hyperbolic secant planar slit lens A. G. Nalimov, V. V. Kotlyar	237
A solution of the wave equation for planar gradient waveguides in a frequency domain V. M. Fitio, V. V. Romakh, Y. V. Bobitski	240
Plasmon resonance, periodical structures and absorption spectra induced by laser beam in composite waveguide AgCl-Ag films L. A. Ageev, V. K. Miloslavsky, V. M. Reznikova, E. D. Makovetsky	243
Shift of surface plasmon-polaritons resonances via acoustic waves in hybrid metal-semiconductor structures N. E. Khokhlov, V. I. Belotelov, B. A. Glavin	245

Effective coupling between THz electromagnetic radiation and 2D plasmons V. V. Korotyeyev, Yu. M. Lyaschuk	248
Theory of near field management via magnetoplasmon tunneling A. N. Kalish, V. I. Belotelov, S. N. Andreev, V. P. Tarakanov, A. K. Zvezdin	251
Gaussian beam in linear gradient-index medium A. A. Kovalev, V. V. Kotlyar	254
Nature of extraordinary transmission through a metal grating at frequencies closed to the Rayleigh-Wood anomaly M. I. Panov, A. A. Shmat'ko	257
Gaussian beam tunneling through a gyrotropic -nihilty finely stratified structure V. R. Tuz, V. I. Fesenko	260
 Nonlinear & Ultrafast Optics	
(Invited) Spiral Beams: New Results and Application V. Volostnikov, S. Kishkin, S. Kotova	263
(Invited) Broadband similariton: applications to ultrafast optics and photonics L. Kh. Mouradian, A. S. Zeytunyan, G. L. Yesayan, F. Louradour, A. Barthélémy, R. Zadoyan	265
(Invited) Transient processes and steady state regimes in dynamic WGM microcavities with time dependent material parameter N. K. Sakhnenko	268
(Invited) Interpretation of the ultrafast optical measurements of time delay in the ionization of Coulomb systems V. L. Derbov, V. V. Serov, T.A. Sergeeva	271
Impact of electric field on dissipative micro-patterns in cholesteric-nematic mixtures (COC-5CB) doped by multiwalled carbon nanotubes M. S. Soskin, V. V. Ponevchinsky, L. N. Lisetski, O. Deriabina A. I. Goncharuk, N. I. Lebovka	275
Optimal spectral decomposition of Raman gain profile using time response test M. Y. Dyriv, G. S. Felinskyi, P. A. Korotkov	278
Submicron structures for nonlinear photonics in the mid-infrared spectral range E. A. Romanova, A. I. Konyukhov, E. V. Borisov, D. S. Zhivotkov	281
Pulse shape transformation upon reflection from Bragg resonators with asymmetric feedback V. Borulko, O. Drobakhin, D. Sidorov	284
Optical properties of layered organic-inorganic perovskite (CH₃NH₃)₂PbBr₄ S. Ahmadi-Kandjani, H. Ghanbari, M. S. Zakerhamidi	287
Femtosecond Parabolic Pulse Formation in All-Normal Dispersion Photonic Crystal Fiber I. A. Sukhoivanov, S. O. Iakushev, J. A. Andrade Lucio, A. García Pérez, O. Ibarra Manzano	290
Similariton pulse compression using hybrid grating-prism compressor A. Zeytunyan, G. Yesayan, L. Mouradian	293
2D wave structure induced by femtosecond laser pulse in semiconductor V. A. Trofimov, M. M. Loginova, V.A. Egorenkov	296
Nonlinear interference effects in different types of three-level quantum systems A. A. Orudzhev, I. L. Plastun, V.L. Derbov	299
A dynamically optical fiber loop memory using a nonlinear regeneration element I. A. Malevich, A. V. Polyakov, S. I. Chubarov	301
Acoustic Modes on As₂S₃/Y⁺¹²⁸X LiNbO₃ Crystal R. M. Taziev	303
Dispersion oscillating fibers for the fusion of optical solitons M. A. Dorokhova, A. I. Konyukhov	305
Spatial anisotropy of electro- and nonlinear optical effects in the LiNbO₃ and KTP crystals: calculation and experiment A. S. Andrushchak, O. V. Yurkevych, I. M. Solskii, A. Rusek	307
Light beams interaction in the cell with thermal optical nonlinearity at the presence of a feedback system G. A. Knyazev, D. A. Davtyan, A. P. Sukhorukov	309

Vibration spectra evaluation of dyes from their stimulated Raman scattering in multiple scattering media V. P. Yashchuk, A. A. Sukhariev	312
Problem of coherence in modern optoelectronics and relaxed optics P. P. Trokhimchuck, I. P. Dmytruk	314
Optical Characterization & Instrumentation	
(Invited) About fluorescence excitation spectrums N. Kh. Gomidze, Z. Kh. Shashikadze, K. A. Makharadze, M. R. Khajishvili, O. M. Nakashidze	317
(Invited) Precise laser measurements of a material index refraction on Brewster angle E. A. Tikhonov, A. K. Lyamets	320
A nondestructive validation of reverse impact experiment based on shape measurement using high speed photograph D. Khodadad, T. Sjöberg	322
Features of Optical Image Jitter in a Random Medium with a Finite Outer Scale L. A. Bolbasova, P. G. Kovadlo, V. P. Lukin, V. V. Nosov, A. V. Torgaev	325
Using digital camera as metering device in geometrical, spectral and intensity measurements A. V. Kraisky, T. V. Mironova, T. Sultanov	327
Scanning devices for the beam profile measurement of laser irradiation N. G. Kokodij, B. V. Safronov, I. A. Priz, V. P. Balashin, M. P. Perepechaj	330
Measurement of microparticle sizes by digital processing of light scattering patterns N. G. Kokodij, M. V. Kaydash, V. O. Timaniuk, Yu. O. Derecha	332
Absolute Calibration of Profile Thin-Wire Bolometric Gauge of Laser Pulse Energy S. Pogorelov	334
Features of the wavefront sensor based on the Talbot effect D. V. Podanchuk, A. A. Goloborodko, M. M. Kotov	337
Modern approach for estimating uncertainty of a precision optoelectronic phase noise measurement P. Salzenstein, E. Pavlyuchenko	340
Pulsed laser/ion beam treatment of Ge/Si and Ge/Al₂O₃ thin film structures R. I. Batalov, R. M. Bayazitov, H. A. Novikov, V. A. Shustov, I. A. Faizrahmanov, N. M. Lyadov, K. N. Galkin, P. I. Gaiduk, G. D. Ivlev	342
Some features of estimation of the diffusion length of minority carriers in cathodoluminescence microscopy Yu. E. Gagarin, N. N. Miheev, N. A. Nikiforova, M. A. Stepovich	344
The possibilities of the colorimetric method for measuring of wavelength's distribution of light radiation in standard and the RAW A. V. Kraiski, T. V. Mironova, T. T. Sultanov, V. A. Postnikov	346
Peculiarities of interferometric studies of surfaces with phase fluctuations of various statistical characteristics O. V. Gnatovskiy, L. A. Derzhypolska, A. M. Negriiko	349
Agitated reactor with in situ nanoparticle size control by light scattering photon correlation spectroscopy A. G. Lazarenko, A. N. Andreev, M. Ben Amar, K. Chhor, A. V. Kanaev	352
Development of algorithms for image forward using finite element method with florescent molecular tomography Sima Saleh	355
Laser-microwave spectroscopy of singlet Mg I atoms in S,P,D,F,G Rydberg state S. F. Dyubko, V. A. Efremov, A. S. Kutsenko, N. L. Pogrebnyak, K. B. MacAdam	358
Optical properties of composite thick films based on silver nanoparticles in the acrylic polymer matrices N. M. Ushakov, I. D. Kosobudsky, P. A. Muzalev, V. Ya. Podvigalkin	361
Dynamic holographic grating in liquid crystalline polymer E. O. Berezhniy, M. M. Burykin, S. G. Ilchenko, A. P. Ostroukh, R. A. Lymarenko	363
Differential method of doppler laser anemometry of the objects with retroreflecting sheet G. N. Dolya, A.M.Kryukov,V.G.Mudrik	365

Microstructure and chemical composition of heterogeneous crystal GaSe:AgGaS₂ V. V. Atuchin, Yu. M. Andreev, N. F. Beisel, A. R. Tsygankova, T. A. Gavrilova, L. D. Pokrovsky, A. I. Saprykin	368
Pyroelectric effect in X-cut LiNbO₃ optical modulators R. S. Ponomarev, A. B. Volyntsev, I. S. Azanova, E. D. Voblikov	371
Fabrication of controllable holographic gratings to manage the energy transfer S. Bugaychuk, L. Pryadko, I. Pryadko, O. Kolesnyk, R. Conte, V. Gnatovskiy, A. Negriyko	373
Some optical properties of Zn_{1-x}Mn_xTe semimagnetic films O. Klymov, D. Kurbatov, O. Levchenko	376
Angular Spectra of Phase Diffraction Gratings Illuminated by Interference Field V. O. Gnatovskyy, S. A. Bugaychuk, A. M. Negriyko, I. I. Pryadko, A. V. Sidorenko	378
Crystal Growth Sector Effect on Dielectrical Properties of Carbamide Doped KDP Crystal A. N. Levchenko, I. M. Pritula, V. B. Tyutyunnik, A. O. Penkina, A. V. Kosinova, M. I. Kolybayeva	381
Research of the time of the transverse relaxation using the incoherent NMR-spectrometer M. O. Pikula, K. V. Shimko	384
Ge-Ga-S/Se glasses studied with PALS technique in application to chalcogenide photonics A. Ingram, H. Klym, O. Shpotyuk	386
LIDAR hyperspectral system for detecting chemical and biological agents V. V. Gnidenko, V. O. Yatsenko	388
Opto-cryogenic sensitive element with ultrasensitive laser interferometer and microprocessor controller M. V. Nalyvaychuk, V. O. Yatsenko	391
Modern polarization-independent trap detectors K. I. Muntean	393
Thermal processes in the bolometric measurer of laser radiation characteristics A. O. Pak, N. G. Kokodiy	396
Non-steady-state photoelectromotive force in AlN crystal M. Bryushinin, V. Kulikov, E. Mokhov, S. Nagalyuk, I. Sokolov	399
Spin controlled optical radiation pressure G. Tkachenko, E. Basselet	402
 Bio- & Chemi-photonics	
(Invited) Biomedical effect the phenomenon of in vivo blood oxyhemoglobin photodissociation M. M. Asimov, R. M. Asimov, D. B. Vladimirov, A. N. Rubinov	405
Method of generating a pulsed X-ray M. Samoylovich	408
Optical sensor network for detecting chemical and biological agents V. Yatsenko	411
Diagnostics of biomedical agents by whispering gallery mode optical resonance based sensor V. A. Saetchnikov, E. A. Tcherniavskaia, A. V. Saetchnikov, G. Schweiger, A. Ostendorf	412
Photo-Induced Birefringence Investigation of Azo Polymer with Cyano Substituted group E. Bagherzadeh Khajeh Marjan, S. Ahmadi-Kandjani, M. S. Zakerhamidi	415
The change response of holographic glucose sensors when changing pH of the solution V. A. Postnikov, A. V. Kraiski, M. A. Shevchenko	418
Application of the digital holographic interference and electron microscopy methods for study of blood erythrocytes 3D T. V. Tishko, D. N. Tishko, V. P. Titar, O. O. Prikhodko, V. I. Bumeister	420
Nonlinear holographic model of physiological optics V. P. Titar	423
(Invited) Picosecond 175 ~ 210 nm tunable deep-ultraviolet laser Shen-Jin Zhang, Yong Bo, Feng-Feng Zhang, Feng Yang, Zhi Xu1, Feng-Liang Xu, Zhi-Min Wang, Qin-Jun Peng, Jing-Yuan Zhang, Xiao-Yang Wang, Chuang-Tian Chen, Wen-Qiang Lei, and Zu-Yan Xu	426