

2020 International Conference Laser Optics (ICLO 2020)

**Saint Petersburg, Russia
2-6 November 2020**



**IEEE Catalog Number: CFP2036X-POD
ISBN: 978-1-7281-5234-9**

**Copyright © 2020 by the Institute of Electrical and Electronics Engineers, Inc.
All Rights Reserved**

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

****** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP2036X-POD
ISBN (Print-On-Demand):	978-1-7281-5234-9
ISBN (Online):	978-1-7281-5233-2
ISSN:	2640-8201

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
E-mail: curran@proceedings.com
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com

TABLE OF CONTENTS

PL: PLENARY

LASERS AND ZHOSES ALFEROV'S HETEROSTRUCTURES: PAST, CURRENT, AND FUTURE	1
<i>S. V. Ivanov</i>	

R1: SOLID-STATE LASERS

AMPLIFICATION OF LOW ENERGY CHIRPED PICOSECOND PULSES TO MULTI-MJ LEVEL WITH YTTERBIUM DISK LASER HEADS.....	2
<i>M. R. Volkov, I. I. Kuznetsov, I. B. Mukhin, O. V. Palashov</i>	
COHERENCE OF FOURIER DOMAIN MODE-LOCKED (FDML) LASERS IN THE ULTRA-STABLE REGIME.....	3
<i>M. Schmidt, C. Grill, R. Huber, C. Jirauschek</i>	
PICOSECOND HIGH POWER YB:LUAP LASER SYSTEM.....	4
<i>A. S. Rudenkov, V. E. Kisel, A. S. Yasukevich, K. L. Hovhannesyan, A. G. Petrosyan, N. N. Rubtsova, A. A. Kovalyov, V. V. Preobrazhenskii, N. V. Kondratyuk, D. A. Homan, N. V. Kuleshov</i>	
ALL-FIBER NONLINEAR-POLARIZATION-EVOLUTION MODE-LOCKED LASER AT 980 NM	5
<i>S. S. Aleshkina, M. E. Likhachev</i>	
HIGH-EFFICIENCY REPETITIVELY-PULSED 2.3-3.2 μ M LASERS BASED ON CR ²⁺ -DOPED SINGLE-CRYSTALLINE OR POLYCRYSTALLINE CHALCOGENIDES WITH LOW-QUANTUM-DEFECT PUMPING.....	6
<i>O. L. Antipov</i>	
50 MW TELLURITE GLASS FIBER LASER AT 2.3 MICRONS.....	7
<i>B. I. Denker, V. V. Dorofeev, B. I. Galagan, V. V. Koltashev, S. E. Motorin, S. E. Sverchkov, V. G. Plotnichenko</i>	
A NARROW LINEWIDTH SINGLY RESONANT PPLN OPO SEEDED BY HENE AT 3390 NM FOR CH ₄ PHOTOACOUSTIC DETECTION.....	8
<i>E. Y. Erushin, A. A. Boyko, N. Yu. Kostyukova, I. V. Sherstov, O. L. Antipov, D. B. Kolker</i>	
EMISSION PROPERTIES OF RARE EARTH DOPED CHALCOGENIDE GLASSES AND THEIR CHANCE TO BECOME ACTIVE MEDIA FOR ~5 MICRON LASERS	9
<i>S. E. Sverchkov, M. F. Churbanov, B. I. Denker, B. I. Galagan, V. V. Koltashev, V. G. Plotnichenko, G. E. Snopatin, M. V. Sukhanov, A. P. Velmushov</i>	
SPECTROSCOPY AND CW LASER PERFORMANCE OF ER ³⁺ , YB ³⁺ : YMGB5O10 CRYSTAL.....	10
<i>K. N. Gorbachenya, V. E. Kisel, A. S. Yasukevich, R. V. Deineka, E. V. Vilejshikova, V. V. Maltsev, D. D. Mitina, E. A. Volkova, N. I. Leonyuk, N. V. Kuleshov</i>	
2 JOULE 10 HZ FLASHLAMP-PUMPED 1047 NM ND:YLF LASER WITH NEAR-DIFFRACTION-LIMITED BEAM QUALITY	11
<i>A. F. Kornev, A. M. Makarov, Yu. V. Katsev, V. K. Stupnikov</i>	

ADVANTAGES OF COMPOSITE DISK ACTIVE ELEMENTS MADE BY THERMAL DIFFUSION BONDING OF DISSIMILAR MATERIALS YB:YAG AND SAPPHIRE	12
<i>I. B. Mukhin, M. R. Volkov, I. I. Kuznetsov</i>	
CANCELLATION OF SIDE LOBES IN "DROPLET" BESSEL BEAMS GENERATED WITH SEMICONDUCTOR LASER	13
<i>S. H. Abdulrazak, D. V. Chistyakov, S. N. Losev, V. Yu. Myl'Nikov, Yu. M. Zadiranov, N. G. Deryagin, V. V. Dudelev, V. I. Kuchinskii, G. S. Sokolovskii</i>	
COMPARISON OF THIN-TAPERED-ROD AND THIN-ROD YB:YAG LASER AMPLIFIERS AT HIGH AVERAGE POWER OPERATION	14
<i>S. A. Chizhov, I. I. Kuznetsov, I. B. Mukhin, O. V. Palashov</i>	
HIGH-ENERGY AND HIGH AVERAGE POWER THIN-ROD AND THIN-TAPERED-ROD YB:YAG LASER AMPLIFIERS	15
<i>I. I. Kuznetsov, S. A. Chizhov, I. B. Mukhin, O. V. Palashov</i>	
MULTI-GHZ BURST-MODE FIBER LASERS	16
<i>F. Ömer Ilday</i>	
ALL-FIBER 1.9 μ M ULTRAFAST AMPLIFIER BASED ON NORMAL DISPERSION THULIUM-DOPED FIBER AND LARGE MODE AREA SILICA FIBER COMPRESSOR	17
<i>V. S. Voropaev, D. T. Batov, A. I. Voronets, D. S. Vlasov, A. I. Donodin, M. K. Tarabrin, V. A. Lazarev, A. M. Khagai, M. E. Likhachev, M. V. Yashkov, V. E. Karasik</i>	
WAVELENGTH-TUNABLE DBR FIBER LASER BASED ON MULTICORE FIBER	18
<i>A. V. Dostovalov, A. A. Wolf, M. I. Skvortsov, K. Proskurina, S. A. Babin</i>	
45 MICRON OUTER DIAMETER YB-DOPED FIBER FOR EFFICIENT 976 NM LASERS	19
<i>L. Kotov, V. Temyanko, M. Bubnov, S. Aleshkina, D. Lipatov, N. Peyghambarian, M. Likhachev</i>	
SWEEPING REGIMES IN A TM-DOPED SELF-SWEEPING FIBER LASER	20
<i>A. E. Budarnykh, I. A. Lobach, S. I. Kablukov</i>	
NEAR-INFRARED FEMTOSECOND DIRECT LASER WRITTEN WAVEGUIDE LASERS [INVITED]	21
<i>Pavel Loiko, Esrom Kifle, Carolina Romero, Javier Rodríguez Vázquez De Aldana, Tae Gwan Park, Ji Eun Bae, Fabian Rotermund, Patrice Camy, Uwe Griebner, Valentin Petrov, Magdalena Aguiló, Francesc Diaz, Xavier Mateos</i>	
SWITCHING BETWEEN SINGLE- AND DUAL-WAVELENGTH MODE-LOCKING IN WAVEGUIDE ND:YAG LASER WITH GRAPHENE SATURABLE ABSORBER	22
<i>M. V. Ponarina, A. G. Okhrimchuk, M. G. Rybin, T. V. Dolmatov, V. V. Bukin, P. A. Obraztsov</i>	
AMPLIFICATION PROPERTIES OF RAMAN FIBER AMPLIFIERS FOR NARROWBAND SINGLE FREQUENCY SOURCES	23
<i>V. I. Karpov, W. R. L. Clements</i>	
SILVER HALIDE FIBER FUSION SPLICING	24
<i>E. A. Korsakova, A. I. Bogdanov, A. M. Turabi, L. V. Zhukova, A. S. Korsakov</i>	
SIGNAL-TO-NOISE RATIO OF F-OTDR ASSISTED BY DISTRIBUTED RAMAN AMPLIFIER	25
<i>D. R. Kharasov, E. A. Fomiryakov, S. P. Nikitin, O. E. Nanii, V. N. Treshchikov</i>	

NUMERICAL SIMULATION OF HIGHLY-EFFICIENT FIBER LASER CAVITY PROTECTIVE COATING FOR ENVIRONMENTAL NOISE DESENSITIZATION	26
<i>A. A. Vlasov, E. A. Motorin, A. N. Ashirov, A. V. Varlamov, A. S. Aleinik</i>	
HIGH-POWER NONMODE-LOCKED FEMTOSECOND LASER SOURCES AT GHZ REPETITION RATES	27
<i>Lilia Pontagnier, Hanyu Ye, Giorgio Santarelli, Eric Cormier</i>	
ULTRAFAST MID-IR FE:ZNSE LASER.....	28
<i>A. V. Pushkin, E. A. Migal, S. Tokita, Yu. V. Korostelin, F. V. Potemkin</i>	
VIBRATION INFLUENCE ON WAVELENGTH STABILITY OF SOLID-STATE YB,ER-PHOSPHATE GLASS LASER	29
<i>T. V. Choban, A. A. Zhirnov, V. L. Tolstoguzov, S. V. Tikhomirov, A. B. Pnev, V. E. Karasik, C. Svelto</i>	
SPECTROSCOPIC STUDY AND FIRST LASER OPERATION OF MONOCLINIC YB ³⁺ ,LI ⁺ :ZNWO ₄ CRYSTAL	30
<i>A. A. Volokitina, K. A. Subbotin, P. A. Loiko, A. I. Titov, D. A. Lis, S. Slimi, R. M. Solé, S. P. David, V. Jambunathan, A. Lucianetti, T. Mocek, U. Griebner, V. Petrov, M. Aguiló, F. Díaz, X. Mateos, E. Zharikov</i>	
RECOVERY OF EXCESS LASER NOISE PHOTON-NUMBER DISTRIBUTION FROM PHOTOCOUNTING STATISTICS.....	31
<i>P. P. Gostev, S. A. Magnitskiy, A. S. Chirkin</i>	
LASER OPERATION OF YB ³⁺ -DOPED LU-BASED OXIDE CERAMICS: A COMPARATIVE STUDY.....	32
<i>Liza Basyrova, Pavel Loiko, Roman Maksimov, Josep Maria Serres, Vladislav Shitov, Mikhail Baranov, Magdalena Aguiló, Francesc Díaz, Uwe Griebner, Valentin Petrov, Xavier Mateos</i>	
LASING IN THE SLURRY-LIKE ACTIVE MEDIA.....	33
<i>O. Burdukova, N. Bykovsky, B. Chichkov, B. Denker, V. Konyushkin, Yu. Kopylov, K. Lopukhin, V. Petukhov, Yu. Senatsky, P. Zverev</i>	
HIGH-EFFICIENT Q-SWITCHED COMPACT DIODE-PUMPED MIR LASERS.....	34
<i>V. P. Mitrokhin, A. E. Dormidonov, A. D. Savvin, A. A. Sirotkin, K. N. Firsov</i>	
SYNTHESIS, STRUCTURE AND LUMINESCENCE OF TRANSPARENT "MIXED" CERAMICS DY ³⁺ :(LU,Y,LA) ₂ O ₃	35
<i>Liza Basyrova, Stanislav Balabanov, Vitaliy Koshkin, Dmitry Permin, Mikhail Baranov, Pavel Loiko</i>	
SYNTHESIS AND INVESTIGATION OF COMPOSITE YB-DOPED Y ₂ O ₃ -SC ₂ O ₃ LASER CERAMICS.....	36
<i>L. R. Basyrova, V. A. Shitov, A. N. Orlov, R. N. Maksimov</i>	
SPECTROSCOPIC AND LASER PROPERTIES OF THE HO ₃ ⁺ IONS OPTICAL CENTERS IN CAF ₂ AND SRF ₂ CRYSTALS	37
<i>K. A. Pierpoint, O. K. Alimov, M. E. Doroshenko, A. G. Papashvili, V. A. Konyushkin, A. V. Nekhoroshikh</i>	
DIODE-PUMPED HIGHLY EFFICIENT YB:(Y,SC) ₂ O ₃ MIXED SESQUIOXIDE CERAMIC LASERS	38
<i>E. V. Tikhonov, R. N. Maksimov, G. Toci, A. Pirri, B. Patrizi, V. V. Osipov, V. A. Shitov, M. Vannini</i>	

LUTETIUM-YTTRIUM ALUMINUM GARNET DOPED WITH YTTERBIUM – PERSPECTIVE CERAMIC MATERIAL FOR HIGH POWERED LASERS.....	39
<i>V. V. Balashov, E. A. Cheshev, A. Yu. Kanaev, A. A. Kaminskii, Yu. L. Kopylov, A. L. Koromylov, S. M. Kozlova, K. V. Lopukhin, I. M. Tupitsyn, L. Yu. Zakharov, A. V. Inyushkin, D. A. Chernodubov</i>	
NOVEL MOLYBDATE LASER CRYSTAL WITH A LAYERED STRUCTURE: ORTHOROMBIC ER ₃₊ :KY(MOO ₄) ₂	40
<i>Anna Volokitina, Pavel Loiko, Anatoly Pavlyuk, Rosa Maria Solé, Magdalena Aguiló, Francesc Díaz, Xavier Mateos</i>	
TUNABLE ROOM TEMPERATURE PULSED FE ₂₊ :CDTE SINGLE CRYSTAL LASER	41
<i>S. O. Leonov, M. P. Frolov, Yu. V. Korostelin, Ya. K. Skasyrsky, V. I. Kozlovsky</i>	
PASSIVELY Q-SWITCHED TM:KYW LASER WITH CR:ZNSE SATURABLE ABSORBER.....	42
<i>V. E. Kisel, N. V. Gusakova, M. P. Demesh, E. M. Gavrishchuk, S. A. Rodin, D. V. Savin, N. V. Kuleshov</i>	
5 MJ-LEVEL ND:YAG REGENERATIVE AMPLIFIER	43
<i>A. S. Davtian, V. V. Koval, E. A. Viktorov, A. F. Kornev</i>	
ESTIMATION OF THE THERMAL STATE AND THE DESTRUCTION LIMITS OF THE CR:LISAF LASER ACTIVE MEDIUM.....	44
<i>V. V. Krasnyh, I. A. Kiselev, A. A. Sergeev</i>	
NOISE REJECTION DURING MODE-LOCKING IN A SOLID-STATE LASER GYROSCOPE BASED ON YAG:CR ₄₊	45
<i>Yu. Yu. Broslavets, A. A. Fomichev, E. A. Polukeev, D. M. Ambartsumyan</i>	
CHARACTERIZATION OF PERSPECTIVE ACTIVE MEDIUM BASED ON MIXED CRYSTALS CE ₃₊ :LICAXSR1-XALF ₆	46
<i>A. A. Shavelev, A. S. Nizamutdinov, A. A. Shakirov, M. A. Marisov, E. I. Madirov, E. V. Lukinova, N. F. Rakhimov, P. A. Popov, V. V. Semashko</i>	
0.4 J / 35 PS ND:YAG LASER FOR LUNAR LASER RANGING.....	47
<i>A. F. Kornev, R. V. Balmashnov, I. G. Kuchma, V. V. Koval</i>	
MID-IR SIMULTANEOUS LASING OF CR ₂₊ AND FE ₂₊ IONS AT 2.4 AND 4.2 μM IN CR ₂₊ ,FE ₂₊ :Zn _{1-x} Mn _x SE (X=0.05) CRYSTAL PUMPED BY ER:YLF LASER AT 1.73 μM	48
<i>A. Riha, M. E. Doroshenko, H. Jelínková, M. Nemeč, M. Jelinek, N. O. Kovalenko, I. S. Terzin</i>	
KINETICS OF THE LUMINESCENCE DECAY OF IMPURITY FE ₂₊ CENTERS IN ZNSE UPON EXCITATION BY AN ELECTRON BEAM.....	49
<i>N. N. Il'ichev, A. A. Gladilin, E. S. Gulyamova, V. P. Kalinushkin, S. A. Mironov, A. V. Sidorin, P. P. Pashinin, V. V. Tumorin, E. M. Gavrishchuk, D. V. Savin, S. A. Rodin, V. B. Ikonnikov, M. V. Chukichev</i>	
10W 90PS ND:YAG MOPA LASER WITH MICROCHIP MASTER OSCILLATOR	50
<i>A. F. Kornev, V. P. Pokrovskiy, S. S. Terekhov, V. V. Koval, E. A. Viktorov</i>	
COMPARISON OF POCKELS CELL BASED ON X-CUT AND Y-CUT KTP CRYSTALS UNDER INTENSE PICOSECOND RADIATION.....	51
<i>V. V. Koval, A. F. Kornev, V. A. Rusov</i>	
INFLUENCE OF THULIUM CONCENTRATION IN KYW AND KLUW CRYSTALS ON SPECTROSCOPIC AND LASER PROPERTIES	52
<i>N. V. Gusakova, A. S. Yasukevich, A. A. Pavlyuk, O. P. Dernovich, V. E. Kisel, N. V. Kuleshov</i>	

HIGH-SPATIAL-RESOLUTION DISTRIBUTED TEMPERATURE SENSING SYSTEM BASED ON A MODE-LOCKED FIBER LASER	53
<i>Anton O. Chernutsky, Dmitriy A. Dvoretzkiy, Ilya O. Orekhov, Stanislav G. Sazonkin, Yan Zh. Ososkov, Lev K. Denisov, Konstantin V. Stepanov, Andrey A. Zhirnov, Alexey B. Pnev, Valeriy E. Karasik</i>	
1.94 μM , 1.97 μM AND 2.064 μM WAVELENGTH OPERATION OF CW AND PASSIVELY- Q-SWITCHED TM_{3+} : LU_2O_3 CERAMICS LASERS UNDER IN-BAND FIBER-LASER PUMPING	54
<i>O. L. Antipov, Y. A. Getmanovskiy, V. V. Sharkov, S. S. Balabanov, S. V. Larin</i>	
2.7- μM ER_{3+} : Y_2O_3 CERAMICS LASER IN CW AND Fe^{2+} : ZnSe PASSIVELY Q- SWITCHED MODES	55
<i>O. L. Antipov, Y. A. Getmanovskiy, H. T. Huang, D. Y. Shen, D. Y. Tang, S. S. Balabanov</i>	
FORMATION OF SPATIAL PARAMETERS FOR SECOND HARMONIC GENERATION WITH WALK-OFF COMPENSATION	56
<i>S. G. Grechin, D. G. Kochiev, A. A. Sirotkin, I. V. Smirnov, V. D. Volosov</i>	
CLADDING-PUMPED ER-DOPED FIBER WITH ABSORBING INCLUSIONS FOR SUPPRESSION OF HIGH-ORDER MODES	57
<i>S. S. Aleshkina, D. S. Lipatov, M. M. Khudyakov, T. A. Kashaykina, V. V. Velmiskin, M. M. Bubnov, M. E. Likhachev</i>	
CONTINUOUS-WAVE SHORT-CAVITY LASER BASED ON THE ER- YB-CODOPED PHOSPHOROSILICATE OPTICAL FIBER.....	58
<i>D. S. Lipatov, A. N. Guryanov, A. S. Lobanov, A. N. Abramov, A. A. Umnikov, A. A. Rybalovskiy, O. V. Butov</i>	
PULSE SHORTENING IN SYNCHRONOUSLY-PUMPED MODE-LOCKED YB-FIBER LASERS	59
<i>B. N. Nyushkov, S. V. Smirnov, A. V. Ivanenko, S. I. Trashkeev, D. B. Kolker, S. M. Kobtsev</i>	
X-RAY STRUCTURAL RESEARCH OF CaF_2 - ErF_3 , CaF_2 - YbF_3 , CaXSR_1 - XF_2 CRYSTALS.....	60
<i>V. A. Nikishin, V. M. Kyashkin, S. N. Ushakov, V. S. Tsarev, M. A. Uslamina</i>	
SPECTROSCOPY OF ND DOPED YTTRIUM SCANDATE CRYSTAL FIBER	61
<i>O. K. Alimiov, E. A. Dobretsova, V. V. Kashin, S. A. Kutovoy, S. Ya. Rusanov, V. B. Tsvetkov</i>	
OPTICAL PROPERTIES OF 50 AT.% ER_{3+} : YAG CERAMICS.....	62
<i>E. A. Dobretsova, S. V. Kuznetsov, I. S. Chikulina, M. S. Nikova, V. A. Tarala, D. S. Vakalov, V. Zhmykhov, V. B. Tsvetkov</i>	
ELECTRONIC CONTROL OF LASING REGIMES IN AN ALL-FIBER CAVITY WITH AN ELECTRO-OPTIC SWITCH-COUPLER.....	63
<i>B. N. Nyushkov, A. V. Ivanenko, S. V. Smirnov, S. M. Kobtsev</i>	
<u>R2: HIGH POWER LASERS - FIBER, SOLID STATE, GAS AND HYBRID</u>	
COMPOSITE OPTICAL ELEMENTS FOR HIGH-POWER LASERS MADE BY SURFACE ACTIVATED DIRECT BONDING	64
<i>I. I. Kuznetsov, A. E. Pestov, I. B. Mukhin, M. R. Volkov, M. V. Zorina, N. I. Chkhalo, O. V. Palashov</i>	

AN INVESTIGATION OF DUAL-PUMP SCHEMES FOR OPTICALLY PUMPED RARE GAS LASERS	65
<i>P. Sun, D. Zuo, X. Wang, J. Han, M. C. Heaven</i>	
LASING ON THE D' - A' TRANSITION OF BRF MOLECULES (355 NM) EXCITED BY TEA DISCHARGE	66
<i>A. M. Razhev, D. N. Kapusta, E. S. Kargapol'Tsev</i>	
IR AR I LASER PUMPED BY A PULSED INDUCTIVE DISCHARGE.....	67
<i>A. M. Razhev, D. S. Churkin, R. A. Tkachenko</i>	
BEND-INSENSITIVE BI-DOPED FIBER FOR A COMPACT LASER OPERATING AT 1.3- μ M WAVELENGTH REGION	68
<i>E. G. Firstova, A. M. Khagai, Ya. J. Ososkov, K. E. Riumkin, A. S. Lobanov, S. V. Alyshev, M. A. Melkumov, V. F. Khopin, A. N. Guryanov, S. V. Firstov</i>	
DUAL-WAVELENGTH SOLITON DUMBBELL-SHAPED THULIUM-DOPED FIBER LASER.....	69
<i>A. D. Zverev, V. A. Kamynin, A. I. Trikshev, Y. G. Gladush, E. M. Khabushev, D. V. Krasnikov, A. G. Nasibulin, A. A. Mastin, P. A. Ryabochkina, V. G. Voronin, V. B. Tsvetkov</i>	
THULIUM-DOPED TELLURITE FIBER AMPLIFIER AT A WAVELENGTH OF 2270 NM	70
<i>B. I. Denker, S. A. Filatova, B. I. Galagan, V. A. Kamynin, V. V. Koltashev, S. E. Sverchkov, I. V. Zhlyuktova, V. B. Tsvetkov</i>	
COHERENT AMPLIFICATION OF PEAK-POWER-SCALABLE OUT-OF-PHASE SUPERMODE IN YB-DOPED MULTICORE FIBER	71
<i>N. A. Kalinin, A. V. Andrianov, E. A. Anashkina, O. N. Egorova, D. S. Lipatov, A. V. Kim, S. L. Semjonov, A. G. Litvak</i>	
WIDEBAND 26 DB BISMUTH-DOPED FIBER AMPLIFIER IN THE RANGE 1.3-1.44 μ M.....	72
<i>A. M. Khagai, Y. Zh. Ososkov, S. V. Firstov, K. E. Riumkin, S. V. Alyshev, V. F. Khopin, F. V. Afanasiev, A. S. Lobanov, A. N. Guryanov, O. I. Medvedkov, M. A. Melkumov</i>	
40 TW LASER SYSTEM IN VISIBLE SPECTRUM RANGE	73
<i>V. F. Losev</i>	
PICOSECOND HYBRID LASER BASED ON SEMICONDUCTOR DFB LASER, FIBER AND ND:YVO ₄ AMPLIFIERS - LIMITS OF OUTPUT PEAK POWER SCALING.....	74
<i>I. A. Gorbunov, O. V. Kulagin</i>	
PUMPING OF GAS MIXTURES BY THE PRODUCTS OF ⁶ Li(N, α) ³ H NUCLEAR REACTION IN THE NUCLEAR REACTOR CORE	75
<i>K. Samarkhanov, E. Batyrbekov, M. Khasenov, Yu. Gordienko, Yu. Ponkratov, Ye. Tulubayev, V. Bochkov</i>	
OPTIMIZATION OF HIGH PEAK, HIGH AVERAGE POWER LASER AMPLIFIER WITH CRYOGENIC COOLING.....	76
<i>G. V. Kuptsov, V. A. Petrov, V. V. Petrov, A. V. Laptev</i>	
DEFORMABLE MIRRORS FOR HIGH-POWER LASERS	77
<i>A. V. Kudryashov, V. V. Toporovsky, V. V. Samarkin, A. L. Rukosuev, J. V. Sheldakova</i>	
MAGNETO-OPTICAL PROPERTIES OF SESQUIOXIDE CERAMICS	78
<i>I. L. Snetkov, A. I. Yakovlev, D. A. Permin, S. S. Balabanov, J. Li, O. V. Palashov</i>	

LASER RADIATION RESISTANCE OF ACTIVE CENTERS IN BISMUTH-DOPED GEO2-SIO2-GLASS CORE FIBERS.....	79
<i>A. V. Kharakhordin, K. E. Riumkin, S. V. Alyshev, A. M. Khegai, M. A. Melkumov, A. S. Lobanov, V. F. Khopin, A. N. Guryanov, S. V. Firstov</i>	
TIME BEHAVIOR OF NH3 LASER THZ EMISSION UNDER OPTICAL PUMPING BY "LONG" PULSE CO2 LASER	80
<i>A. A. Ionin, I. O. Kinyaevskiy, Yu. M. Klimachev, A. A. Kotkov, A. A. Kozlov, J.-F. Lampin, Yu. A. Mityagin, S. A. Savinov, A. M. Sagitova, D. V. Sinitsyn, I. A. Chebotarev</i>	
ALL-FIBERIZED NARROWBAND LASER WITH TUNABLE SPECTRAL LINE WIDTH	81
<i>A. N. Slobozhanin, M. G. Slobozhanina, A. V. Bochkov</i>	
ANALYSIS OF THE PROCESSES OF INTERECTION OF PHOTONS IN THE SPECTRAL OF THE PUMP AND LASER RADIATION WITH YB3+ FIBER AMPLIFIER MEDIUM	82
<i>M. G. Slobozhanina, A. V. Bochkov</i>	
TEMPORAL DYNAMICS OF HOLMIUM-DOPED FIBER LASER WITH AN INTRACAVITY MACH-ZEHNDER INTERFEROMETER	83
<i>M. S. Kopyeva, S. A. Filatova, V. A. Kamynin, V. G. Voronin, T. K. Chekhlova, V. B. Tsvetkov</i>	
AMPLIFICATION ON THE PLASMA OF HE-LIKE NITROGEN IONS CREATED BY AN EXTENDED HIGH-CURRENT Z-DISCHARGE	84
<i>M. V. Timshina, N. V. Kalinin</i>	
SINGLE-MODE DOUBLE-CLAD FIBER WITH SPECTRALLY-SELECTIVE PROPAGATION LOSS DUE TO RESONANT COUPLING TO ABSORBING INCLUSIONS.....	85
<i>T. A. Kashaykina, S. S. Aleshkina, M. M. Bubnov, M. E. Likhachev</i>	
MINIATURE WAVEFRONT CORRECTORS BASED ON MONOLITHIC PIEZOSTACK BLOCK	86
<i>V. V. Toporovsky, A. V. Kudryashov, V. V. Samarkin, A. L. Rukosuev, A. A. Panich, A. I. Sokallov, A. Yu. Malykhin</i>	
NONTRIVIAL SYMMETRIC CONFIGURATIONS OF LASER BEAMS FOR DIRECT DRIVE ICF.....	87
<i>S. V. Bondarenko, L. V. Solnyshkova</i>	
THE EFFECT OF PARASITIC ASE ON THE GAIN COEFFICIENT OF A HIGH-POWER NEODYMIUM LASER	88
<i>L. V. Solnyshkova, F. A. Starikov</i>	
MODEL OF FIBER LASER UNIT HEATING CONSIDERING THERMO-OPTICAL PROPERTIES OF SILICONE POLYMERS	89
<i>Ismagilova R. I., Shaidullin R. I., Ryabushkin O. A.</i>	
THE SOLITON MODE-LOCK FIBER LASER PULSE ENERGY DEPENDENCE FROM SATURABLE ABSORBER PARAMETERS	90
<i>A. A. Mastin, P. A. Ryabochkina</i>	
ABSORPTANCE MEASUREMENT OF LBO CRYSTALS AT HIGH INTENSITY LEVELS OF 1070 NM RADIATION USING RADIOFREQUENCY IMPEDANCE SPECTROSCOPY	91
<i>I. V. Grishchenko, Yu. S. Stirmanov, A. V. Konyashkin, O. A. Ryabushkin</i>	
DEVELOPMENT OF LASERJET-HEAD AND MEASUREMENT TOOLS FOR WATER-GUIDED HYBRID LASER SYSTEM	92
<i>Swook Hann, Zenith Choi</i>	

CRYSTALS OF CAF ₂ -SRF ₂ -4 MOL.% YBF ₃ SOLID SOLUTIONS FOR LASER APPLICATIONS.....	93
<i>S. N. Ushakov, M. A. Uslamina, K. N. Nishchev, P. P. Fedorov, S. V. Kuznetsov</i>	
CURVED COPPER-COATED OPTICAL FIBER SENSOR FOR PRECISE LASER POWER MEASUREMENTS	94
<i>I. O. Khramov, R. I. Shaidullin, O. A. Ryabushkin</i>	
MEASUREMENT OF LASER RADIATION ATTENUATION IN METALLIZED OPTICAL FIBERS IN VISIBLE AND NEAR-IR SPECTRAL RANGES.....	95
<i>P. S. Cherpak, R. I. Shaidullin, O. A. Ryabushkin</i>	
DEGRADATION OF SYLOXANE POLYMERS UNDER THE CONDITION OF HEATING BY POWERFUL LASER RADIATION EXITING THROUGH THE SIDE SURFACE OF AN OPTICAL FIBER.....	96
<i>P. S. Cherpak, G. Yu. Ivanov, I. A. Larionov, V. A. Tyrtyshtnyy</i>	
LASER GAUSSIAN BEAM DIVERGENCE DEPENDING ON RANDOM PHASE DISTORTIONS OF THE FIELD	97
<i>V. I. Kislov, E. N. Ofitserov</i>	
MEASUREMENT OF WEAK ABSORPTION IN OPTICAL MATERIALS BY THE PCI METHOD.....	98
<i>A. V. Kirpichnikov, V. V. Petrov, V. I. Trunov, M. A. Merzliakov, E. V. Pestryakov</i>	
SPECTRAL AND LASING CHARACTERISTICS OF HEAVILY DOPED FE:ZNSE SINGLE-CRYSTAL LASERS	99
<i>V. A. Antonov, A. A. Davydov, K. N. Firsov, E. M. Gavrishchuk, I. G. Kononov, S. V. Kurashkin, S. V. Podlesnykh, N. A. Raspopov, N. V. Zhavoronkov</i>	
HEAT TREATMENT OF BISMUTH-DOPED FIBERS AS A WAY TO IMPROVE THEIR LASER PROPERTIES.....	100
<i>S. V. Alyshev, A. V. Kharakhordin, E. G. Firstova, A. S. Lobanov, V. F. Khopin, A. M. Khegai, M. A. Melkumov, A. N. Guryanov, S. V. Firstov</i>	
MATERIAL OF THE DISCHARGE CHANNEL WALLS AND AVERAGE RADIATION POWER LOW PRESSURE NITROGEN LASER	101
<i>B. A. Kozlov, S. A. P'Yanchenkov, V. I. Seredinov</i>	
SMALL-SIZED SEALED-OFF TEA-CO ₂ LASER WITH A HIGH ENERGY PUMPING DENSITY.....	102
<i>B. A. Kozlov, Mai The Nguyen</i>	
PULSE-PERIODICAL TEA LASER BASED ON IR TRANSITIONS OF NEUTRAL XENON ATOMS.....	103
<i>B. A. Kozlov, Mai The Nguyen, T. I. Nekrasova</i>	
GENERATION CHARACTERISTICS OF A SUPER-ATMOSPHERIC PRESSURE CO ₂ LASER IN A PULSE-PERIODICAL REGIME.....	104
<i>B. A. Kozlov, Mai The Nguyen, A. Ya. Payurov</i>	
UV HIGH-POWER INDUCTIVE N ₂ LASER.....	105
<i>A. M. Razhev, D. S. Churkin, R. A. Tkachenko</i>	
COMPROMISE BETWEEN WAVEFRONT DISTORTIONS AND GAIN IN HIGH POWER LASER AMPLIFIER	106
<i>V. V. Petrov, V. A. Petrov, G. V. Kuptsov, A. V. Laptev, A. V. Kirpichnikov, E. V. Pestryakov</i>	

TEMPERATURE OF OPTICAL DISCHARGE IN HOLLOW-CORE OPTICAL FIBERS	107
<i>A. N. Kolyadin, A. F. Kosolapov, I. A. Bufetov</i>	
MICROWAVE PUMPED MULTI-FREQUENCY PLANAR MID-IR LASERS	108
<i>A. P. Mineev, S. M. Nefedov, P. P. Pashinin, P. A. Goncharov, V. V. Kiselev, O. M. Stelmakh</i>	
INVESTIGATION OF A CW PLANAR LASER WITH AN UNSTABLE RESONATOR AND ADDITIONAL FEEDBACK	109
<i>A. P. Mineev, S. M. Nefedov, P. P. Pashinin, P. A. Goncharov, V. V. Kiselev, O. M. Stelmakh</i>	
HYBRID CAVITY OPTICALLY COUPLED CONTINUOUS-WAVE IR LASERS.....	110
<i>A. P. Mineev, S. M. Nefedov, P. P. Pashinin, P. A. Goncharov, V. V. Kiselev, O. M. Stelmakh</i>	
10 UJ NANOSECOND PULSED YTTERBIUM FIBER LASER WITH ARBITRARY PULSE SHAPE	111
<i>A. I. Trikshev, V. A. Kamynin, V. B. Tsvetkov</i>	
SINGLE FREQUENCY TEA-CO ₂ LASER WITH OVER 1 GW/CM ² FOCUSED RADIATION INTENSITY	112
<i>V. R. Sorochenko</i>	
<u>R3: SEMICONDUCTOR LASERS, MATERIALS AND APPLICATIONS</u>	
CONICAL REFRACTION WITH GAUSSIAN SCHELL-MODEL SOURCES.....	113
<i>V. Yu. Mylnikov, E. U. Rafailov, G. S. Sokolovskii</i>	
OPTICAL FREQUENCY COMB GENERATION FOR BROADBAND MICROWAVE PHOTONICS RECEIVER	114
<i>S. Kontorov, V. Cherepenin, F. Kueppers, V. Kulagin, D. Prokhorov, A. Shipulin, V. Valuev</i>	
PULSED OPERATION IN A SWEEP LASER WITH FEEDBACK	115
<i>A. V. Kovalev, K. M. Grigorenko, S. Slepneva, N. Rebrova, A. G. Vladimirov, G. Huyet, E. A. Viktorov</i>	
GAIN SWITCHING OF THE BROAD-STRIPE INAS/GAAS QUANTUM DOT LASERS	116
<i>E. D. Cherotchenko, V. V. Dudelev, A. S. Shkol'Nik, D. A. Livshits, G. S. Sokolovskii</i>	
HIGH-POWER NARROW-STRIPE SEMICONDUCTOR LASERS (1060 NM) AT ULTRAHIGH PUMP LEVELS	117
<i>S. O. Slipchenko, I. S. Shashkin, A. Y. Leshko, A. A. Klimov, L. S. Efremov, V. A. Kryuchkov, D. N. Nikolaev, V. V. Shamakhov, N. A. Pikhtin, P. S. Kop'Ev</i>	
20-GBPS DIRECTLY MODULATED SEMICONDUCTOR LASERS BASED ON SURFACE HIGH-ORDER GRATING FABRICATED BY I-LINE PHOTOLITHOGRAPHY.....	118
<i>Pijie Ma, Jing Li, Fengxin Dong, Mingjin Wang, Wanhua Zheng</i>	
ENERGY BARRIER LAYERS AND INTERNAL OPTICAL LOSS IN 1400-1600 NM SEMICONDUCTOR LASERS.....	119
<i>D. A. Veselov, Yu. K. Bobretsova, M. G. Rastegaeva, N. V. Voronkova, M. A. Ladugin, Yu. L. Ryaboshan, A. A. Marmalyuk, S. O. Slipchenko, N. A. Pikhtin</i>	
OUTCOUPLING OF MICRODISK LASER EMISSION BY STRIP-LOADED SLOT WAVEGUIDE.....	120
<i>N. V. Kryzhanovskaya, M. V. Fetisova, I. V. Reduto, V. V. Zhurikhina, O. A. Morozova, A. V. Raskhodchikov, M. Roussey, S. Pélisset, M. M. Kulagina, Yu. A. Guseva, A. A. Lipovskii, M. V. Maximov, A. E. Zhukov</i>	

ROOM-TEMPERATURE CW THZ-EMITTING TWO-CHIP SEMICONDUCTOR DISK LASER.....	121
<i>H. Guoyu, K. A. Fedorova, C. Kriso, M. Wichmann, F. Zhang, W. Stolz, A. Rahimi-Iman</i>	
THZ QUANTUM CASCADE LASERS BASED ON GAAS/ALGAAS AND HGCDTE MATERIAL SYSTEMS	122
<i>R. A. Khabibullin, N. V. Shchavruk, D. S. Ponomarev, D. V. Ushakov, A. A. Afonenko, O. Yu. Volkov, V. V. Pavlovskiy, K. V. Maremyanin, A. A. Dubinov</i>	
HIGH POWER QUANTUM-CASCADE LASERS FOR 8 μ M SPECTRAL REGION.....	123
<i>V. V. Dudelev, D. A. Mikhailov, A. V. Babichev, A. G. Gladyshev, S. N. Losev, I. I. Novikov, A. V. Lyutetskiy, S. O. Slipchenko, N. A. Pikhtin, L. Ya. Karachinsky, A. Yu. Egorov, G. S. Sokolovskii</i>	
GENERATION AND DETECTION OF THZ RADIATION BY ANTENNAS BASED ON TOPOLOGICAL INSULATORS BI2-XSBXTE3-YSEY	124
<i>D. A. Safronkov, K. A. Kuznetsov, P. I. Kuznetsov, A. A. Ezhov, G. Kh. Kitaeva</i>	
OPTICAL GAIN AND HIGH-POWER OPERATION OF EDGE-EMITTING LASERS BASED ON QUANTUM WELL-DOTS	125
<i>M. V. Maximov, N. Yu. Gordeev, A. S. Payusov, Yu. M. Shernyakov, S. A. Mintairov, N. A. Kalyuzhnyi, A. M. Nadtochiy, A. A. Serin, G. O. Kornyshev, A. E. Zhukov</i>	
SINGLE MODE NARROW SPECTRUM DBR LASER (1040NM).....	126
<i>V. V. Zolotarev, A. V. Rozhkov, A. Yu. Leshko, S. O. Slipchenko, N. A. Pikhtin, P. S. Kopèv</i>	
GENERATION OF SURFACE PLASMON POLARITONS IN CRI3-BASED SYSTEMS.....	127
<i>A. A. Pervishko</i>	
MEASUREMENT OF FREE-CARRIER ABSORPTION CROSS-SECTIONS FOR LASER DIODE WAVEGUIDE MATERIALS.....	128
<i>Yu. K. Bobretsova, D. A. Veselov, N. A. Rudova, V. A. Kapitonov, S. O. Slipchenko, N. A. Pikhtin</i>	
THE TECHNIQUE FOR QCLS HEATING DYNAMICS MESUREMENTS	129
<i>V. V. Dudelev, D. A. Mikhailov, A. V. Babichev, V. Yu. Mylnikov, A. G. Gladyshev, S. N. Losev, I. I. Novikov, A. V. Lyutetskiy, S. O. Slipchenko, N. A. Pikhtin, L. Ya. Karachinsky, A. Yu. Egorov, G. S. Sokolovskii</i>	
DYNAMICS OF FREQUENCY COMBS GENERATION BY QCLS IN 8 μ M WAVELENGTH RANGE	130
<i>V. V. Dudelev, D. A. Mikhailov, A. V. Babichev, A. G. Gladyshev, S. N. Losev, I. I. Novikov, A. V. Lyutetskiy, S. O. Slipchenko, N. A. Pikhtin, L. Ya. Karachinsky, A. Yu. Egorov, G. S. Sokolovskii</i>	
CREATION AND INVESTIGATION OF A SESAM AND DSAM MIRRORS FOR YB:KYW LASER	131
<i>S. A. Kuznetsov, V. S. Pivtsov, A. A. Kovalyov, D. V. Ledovskikh, G. M. Borisov, V. V. Preobrazhenskii, M. A. Putyato, B. R. Semyagin, N. N. Rubtsova</i>	
STRAIN-COMPENSATED ACTIVE REGION OF HIGH-POWER LASER DIODES BASED ON ALXGAYINI-X-YAS/INP	132
<i>V. N. Svetogorov, Yu. L. Ryaboshtan, M. A. Ladugin, A. A. Marmalyuk, O. O. Bagaeva, V. I. Romantsevich, K. V. Kurnosov, V. D. Kurnosov, A. V. Ivanov</i>	

NUMERICAL STUDY OF LIGHT-CURRENT CHARACTERISTICS OF LASER DIODE WITH AN ULTRATHIN WAVEGUIDE UNDER HIGH DRIVE CURRENT USING THE ENERGY BALANCE MODEL	133
<i>O. S. Soboleva, V. S. Golovin, S. O. Slipchenko, N. A. Pikhtin</i>	
THEORETICAL ANALYSIS OF SPATIAL CURRENT TURN-ON DYNAMICS IN HIGH-POWER ALGAAS/GAAS LASER-THYRISTORS WITH AN OPTICAL FEEDBACK.....	134
<i>O. S. Soboleva, V. S. Yuferev, A. A. Podoskin, P. S. Gavrina, D. N. Romanovich, K. V. Bakhvalov, V. A. Strelets, S. O. Slipchenko, N. A. Pikhtin</i>	
LASER/HETEROTHYRISTOR HYBRID ASSEMBLIES BASED ON ALGAAS/GAAS HETEROSTRUCTURES FOR HIGH-POWER AND NS-LASER-PULSE-WIDTH OPERATION	135
<i>S. O. Slipchenko, A. A. Podoskin, V. S. Golovin, P. S. Gavrina, V. V. Shamakhov, I. N. Arsentiev, A. D. Bondarev, D. N. Nikolaev, V. V. Zolotarev, N. A. Pikhtin, T. A. Bagaev, M. A. Ladugin, A. A. Marmalyuk, V. A. Simakov</i>	
DESIGN OF SEMICONDUCTOR LASERS FOR GENERATION OF HIGH-POWER SUB-NS LASER PULSES IN THE GAIN SWITCHING MODE	136
<i>S. O. Slipchenko, A. A. Podoskin, V. S. Golovin, V. V. Shamakhov, I. N. Arsentiev, L. S. Vaviliva, A. V. Lyutetskiy, D. N. Nikolaev, N. A. Pikhtin, P. S. Kopèv</i>	
RESERVOIR COMPUTING BASED ON LASER SUBJECT TO OPTOELECTRONIC FEEDBACK.....	137
<i>Pavel Dmitriev, Anton Kovalev, Alexandre Locquet, D. S. Citrin, Evgeny Viktorov, Damien Rontani</i>	
APPLICATION OF SEMICONDUCTOR LASER EMITTERS TO THICKNESS MEASUREMENTS	138
<i>V. I. Shlychkov</i>	
NEAR FIELD DYNAMICS OF A 1060 NM SINGLE-MODE LASER DIODE BASED ON INGAAS/ALGAAS/GAAS.....	139
<i>I. S. Shashkin, A. Yu. Leshko, D. N. Nikolaev, V. V. Shamakhov, N. A. Rudova, K. V. Bakhvalov, A. V. Lutetskiy, V. A. Kapitonov, V. V. Zolotarev, V. A. Strelets, S. O. Slipchenko, N. A. Pikhtin, P. S. Kop'Ev</i>	
SIMULATION OF THE ALGAAS/GAAS LASER THYRISTOR TURN-ON DYNAMICS USING ENERGY-BALANCE MODEL	140
<i>N. A. Pikhtin, O. S. Soboleva, A. V. Rozhkov, A. Yu. Leshko, V. S. Golovin, S. O. Slipchenko</i>	
COMPARATIVE ANALYSIS OF VARIOUS MULTI-SECTORAL HPHT DIAMONDS USING LASER-INDUCED BREAKDOWN SPECTROSCOPY	141
<i>V. F. Lebedev, D. V. Bulyga, A. V. Koliadin</i>	
OPTIMAL PARAMETERS FOR LASER STABILIZATION VIA SELF-INJECTION LOCKING TO HIGH-Q RESONATOR.....	142
<i>R. R. Galiev, N. M. Kondratiev, V. E. Lobanov, I. A. Bilenko</i>	
MODELING OF HIGH-Q CLOSED MODE STRUCTURES SWITCHING DYNAMICS IN LARGE RECTANGULAR CAVITIES	143
<i>A. A. Podoskin, D. N. Romanovich, I. S. Shashkin, P. S. Gavrina, Z. N. Sokolova, S. O. Slipchenko, N. A. Pikhtin</i>	

VISUALIZATION AND STUDY OF THE SWITCHING PROCESSES DYNAMICS IN ELECTRICALLY BISTABLE ALGAAS/GAAS/INGAAS THIN-BASE LASER-THYRISTORS	144
<i>A. A. Podoskin, V. S. Golovin, P. S. Gavrina, D. N. Romanovich, O. S. Soboleva, S. O. Slipchenko, A. Yu. Lunev, V. Yu. Mikhailov, N. A. Pikhtin, T. A. Bagaev, M. A. Ladugin, A. A. Marmalyuk, V. A. Simakov</i>	
RED PHOSPHORS BASED ON MN-DOPED FLUOROCHLOROZIRCONATE GLASSES FOR WARM WHITE LEDS	145
<i>L. V. Moiseeva, S. Kh. Batygov, V. N. Makhov, N. Yu. Kirikova, V. E. Shukshin, M. N. Brekhovskikh</i>	
PHOTOCHEMICAL 2D-STRUCTURING MID-INFRARED FLEXIBLE PLATES MADE OF SILVER HALIDE POLYCRYSTALS.....	146
<i>V. S. Korsakov, E. A. Korsakova, O. N. Pakhomenko, M. S. Korsakov, L. V. Zhukova</i>	
SPATIAL RESOLUTION IMPROVEMENT FOR PHI-OTDR SENSORS VIA WEAK FIBER BRAGG GRATINGS.....	147
<i>K. V. Stepanov, A. A. Zhirnov, A. O. Chernutsky, T. V. Choban, A. B. Pnev, A. I. Lopunov, O. V. Butov</i>	
SEMICONDUCTOR-BASED PHOTONIC-CRYSTAL WAVEGUIDES FOR NONLINEAR LIGHT CONVERSION	148
<i>G. M. Savchenko, G. S. Sokolovskii</i>	
CASCADED FOURTH AND SECOND HARMONIC GENERATION WITH A FRACTIONAL ORDER OF PERIODICAL POLING	149
<i>V. Yu. Mylnikov, N. S. Averkiev, G. S. Sokolovskii</i>	
STUDY OF INGAAS/ALGAAS/GAAS SEMICONDUCTOR LASERS WITH A BURIED MESA.....	150
<i>V. S. Golovin, V. V. Shamakhov, D. N. Nikolaev, D. A. Veselov, A. Yu. Lunev, V. Yu. Mikhailov, S. O. Slipchenko, N. A. Pikhtin</i>	
LASER HETEROSTRUCTURES WITH A BROADENED MQW WAVEGUIDE FOR HIGH-POWER AND SUB-NS-LASER-PULSE-WIDTH OPERATION.....	151
<i>S. O. Slipchenko, A. A. Podoskin, V. S. Golovin, V. V. Shamakhov, I. N. Arsentiev, A. D. Bondarev, D. N. Nikolaev, N. A. Pikhtin, P. S. Kop'Ev</i>	
MODELLING SUBNANOSECOND PULSE GENERATION BY GAIN SWITCHING OF HIGH-POWER SEMICONDUCTOR LASERS	152
<i>V. S. Golovin, S. O. Slipchenko, N. A. Pikhtin, P. S. Kop'Ev</i>	
ELECTRON BEAM PUMPED PULSED ULTRAVIOLET EMITTER (~ 300 NM) BASED ON CAF2.....	153
<i>N. A. Gamov, V. B. Studionov, E. V. Zhdanova, M. M. Zverev</i>	
HIGH-POWER ALGAINN LEDS OPERATED UNDER HIGH PULSED CURRENT DENSITY (UP TO 7 KA/CM2).....	154
<i>A. V. Aladov, A. E. Chernyakov, A. E. Ivanov, A. L. Zakgeim, A. F. Tsatsulnikov</i>	
SUPPRESSION OF INSTABILITY OF WIDE-APERTURE LASER BY EXTERNAL OPTICAL INJECTION.....	155
<i>E. A. Yarunova, A. A. Krents, N. E. Molevich</i>	

R4: LASER BEAM CONTROL

LASER-INDUCED NONLINEAR OPTICAL PROCESSES IN FLUID SYSTEMS WITH NANOCARBON.....	156
<i>P. V. Ivanov, A. V. Venediktova, I. M. Kislyakov, J. Wang, A. L. Nikolaeva, A. Yu. Vlasov</i>	
CONTROLLING LIGHT WITH DMDS.....	157
<i>V. Rodriguez-Fajardo, S. Scholes, R. Kara, J. Pinnell, C. Rosales-Guzmán, N. Mashaba, I Nape, A. Forbes</i>	
RAPID PARALLELIZATION OF TAILORED LASER BEAMS WITH ACOUSTO-OPTOFLUIDICS.....	158
<i>S. Surdo, A. Zunino, A. Diaspro, M. Duacastella</i>	
GENERATION OF VORTEX LIGHT FIELDS USING A SECTORIAL SPIRAL PLATE BASED ON FERROELECTRIC LIQUID CRYSTALS	159
<i>S. P. Kotova, E. P. Pozhidaev, S. A. Samagin, A. M. Mayorova, A. A. Pichkasova</i>	
COMPARISON OF FOUR METHODS OF OPTICAL VORTEX REGISTRATION.....	160
<i>V. P. Aksenov, F. Yu. Kanev</i>	
MANIPULATION OF MICROPARTICLES USING OPTICAL VORTEX FIELDS AND CONVECTIVE HEAT FLUXES.....	161
<i>A. V. Korobtsov, S. P. Kotova, N. N. Losevsky, A. M. Mayorova, D. V. Prokopova</i>	
FREQUENCY STABILIZATION OF PHASE-CONJUGATE STATE PULSE LASER BY INTRACAVITY REFLECTING BRAGG GRATING.....	162
<i>I. S. Khakhailn, E. E. Popov, A. P. Pogoda, A. S. Boreysho, V. M. Petrov</i>	
FLUCTUATIONS OF THE ORBITAL ANGULAR MOMENTUM AT A PARTIAL INTERCEPTION OF A LASER BEAM IN THE TURBULENT ATMOSPHERE.....	163
<i>V. P. Aksenov, V. V. Kolosov, G. A. Filimonov</i>	
1500 HZ PHASE CORRECTION OF DYNAMIC TURBULENT DISTORTIONS OF THE LASER BEAM.....	164
<i>A. L. Rukosuev, F. A. Starikov, M. V. Volkov, V. A. Bogachev, A. A. Khlebnikov, A. N. Nikitin</i>	
OPTICAL FILMS BASED ANGULAR FILTERS FOR MICROLASERS.....	165
<i>L. Grineviciute, C. Babayigit, D. Gailevicius, M. Turduev, V. Purlys, T. Tolenis, H. Kurt, K. Staliunas</i>	
NONLINEAR TRANSMISSION OF V2O3 FILMS UNDER THE INFLUENCE OF IR LASER IRRADIATION.....	166
<i>I. M. Belousova, O. B. Danilov, S. I. Klement'Ev, V. A. Klimov, I. I. Shaganov, E. B. Shadrin, A. P. Zhevlakov</i>	
MATRIX ACOUSTO-OPTIC DEVICES FOR SPATIAL CONTROLLING OF LASER BEAMS	167
<i>V. Ya. Molchanov, K. B. Yushkov</i>	
TAPERED-CORE SILVER HALIDE MOFS.....	168
<i>E. A. Korsakova, N. A. Muftahitdinova, L. V. Zhukova, A. S. Korsakov</i>	
COHERENT ACOUSTIC PHONONS IN OPTICAL LIMITING.....	169
<i>V. V. Danilov, A. S. Kulagina, A. I. Khrebtov</i>	

CHIP-MODULATOR FOR THE ALL-ELECTRIC LASER BEAM ANGULAR CONTROL BY QUANTUM-CONFINED STARK EFFECT	170
<i>V. V. Zolotarev, I. S. Shashkin, L. S. Vavilova, A. V. Lyutetskiy, S. O. Slipchenko, N. A. Pikhlin</i>	
NUMERICAL ANALYSIS OF SURFACE BRAGG GRATING PARAMETERS FOR THE ALL-ELECTRIC LASER BEAM ANGULAR MODULATOR.....	171
<i>V. V. Zolotarev, I. S. Shashkin, L. S. Vavilova, A. V. Lyutetskiy, S. O. Slipchenko, N. A. Pikhlin</i>	
MATHEMATICAL MODEL OF POLARIZATION EXTINCTION DISTORTION OF LASER RADIATION IN MAGNETO-OPTICAL CRYSTAL DUE TO MULTIPLE REFLECTIONS FROM THE FACES.....	172
<i>A. V. Seleznev, R. I. Shaidullin, O. A. Ryabushkin</i>	
ROBUSTNESS TO MISALIGNMENT OF FOUR-MIRROR RING NONPLANAR CAVITIES.....	173
<i>E. A. Polukeev, Yu. Yu. Broslavets, A. A. Fomichev</i>	
THE TIP-TILT WAVE FRONT CORRECTOR UNDER HARDWARE CONTROL	174
<i>S. V. Khokhlov, R. A. Shnyagin, F. A. Starikov</i>	
ADAPTIVE MIRRORS FOR PHASE CORRECTION OF THE LASER BEAM PASSED THROUGH AN AIRWAY	175
<i>V. K. Blagonravov, A. A. Vereshchagin, M. A. Glukhov, D. E. Guk, M. O. Koltygin, R. S. Kuzin, F. A. Starikov, R. A. Shnyagin</i>	
NUMERICAL SIMULATIONS OF DYNAMIC PHASE CORRECTION OF LASER RADIATION BY THE ADAPTIVE SYSTEM WITH THE SHACK-HARTMANN WAVEFRONT SENSOR.....	176
<i>M. V. Volkov, F. A. Starikov, R. A. Shnyagin</i>	
PHASE LOCKING OF 7-CHANNEL CW FIBER LASER WITH DYNAMIC PHASE DISTORTIONS BY USING STOCHASTIC PARALLEL GRADIENT ALGORITHM AT THE SYSTEM BANDWIDTH 450 KHZ.....	177
<i>M. V. Volkov, S. G. Garanin, T. I. Kozlova, M. I. Konovaltsov, A. V. Kopalkin, R. S. Lebedev, F. A. Starikov, O. L. Techko, S. V. Tyutin, S. V. Khokhlov, V. S. Tsykin</i>	
SPATIAL RESOLUTION OF ADAPTIVE OPTICAL SYSTEM ELEMENTS AND CORRECTION EFFICIENCY OF LASER BEAM WITH TURBULENT PHASE DISTORTION	178
<i>M. V. Volkov, V. A. Bogachev, F. A. Starikov</i>	
THE EFFICIENCY OF MULTI-CHANNEL LASER RADIATION FOCUSING THROUGH THE OPTICALLY INHOMOGENEOUS MEDIUM UNDER ITS PHASING ON THE SYSTEM OUTPUT AND IN THE TARGET-IN-THE-LOOP TECHNIQUE	179
<i>M. V. Volkov, O. L. Kuzikov, F. A. Starikov</i>	
RESOLUTION ENHANCEMENT OF THE STELLAR IMAGING ADAPTIVE SYSTEM BY USING AN ARTIFICIAL GUIDE STAR	180
<i>V. A. Bogachev, A. A. Vereshchagin, M. V. Volkov, S. G. Garanin, M. A. Gluhov, D. E. Guk, M. O. Koltigin, A. V. Kopalkin, R. S. Kuzin, S. M. Kulikov, F. A. Starikov</i>	
AN EXPERIMENTAL SETUP FOR THE RESEARCH OF PIEZOELECTRIC ACTUATORS WITH MECHANICAL REDUCTION.....	181
<i>V. I. Boikov, S. V. Bystrov, P. V. Karev, N. R. Gafurov, A. V. Denisov</i>	
AFFORDABLE LASER IMAGING INSTRUMENTATION FOR PERSISTENT RUNWAY MONITORING	182
<i>A. B. Utkin, T. Rocha Da Silva, P. Reis</i>	

FPGA-BASED ADAPTIVE OPTICAL SYSTEM FOR ATMOSPHERIC APPLICATIONS	183
<i>A. L. Rukosuev, V. N. Belousov, I. V. Galaktionov, A. N. Nikitin, A. V. Kudryashov, V. V. Samarkin, J. V. Sheldakova</i>	
STUDY OF THE CRYSTALLIZATION PROCESS OF LOW-SOLUBLE COMPOUNDS USING LASER ANALYZERS.....	184
<i>I. A. Pochitalkina, P. A. Kekin, A. E. Kovalenko</i>	
APPLICATION OF A STREAK CAMERA TO MEASURE ACTUAL TEMPORAL SHAPE OF NANOSECOND LASER PULSES.....	185
<i>M. V. Kanzyuba, V. B. Lebedev, G. G. Feldman</i>	
MEASURING OF THE PARAMETERS OF NON-UNIFORM SPATIAL POLARIZATION OF THZ LASER RADIATION	186
<i>N. G. Kokodii, S. V. Pogorelov, I. V. Krasovskiy</i>	
FOUR-FREQUENCY ZEEMAN LASER GYRO'S COUNTERPROPAGATING WAVES SIGNALS PROCESSING METHODS.....	187
<i>E. A. Milikov, Yu. Yu. Broslavets, V. G. Semenov, A. A. Fomichev</i>	
RAMAN GAS ANALYZER WITH A CONFOCAL INTERFEROMETER.....	188
<i>V. V. Vasiliev, V. V. Vitkin, A. V. Polishchuk, V. V. Kurikova, E. E. Popov, K. M. Grigorenko</i>	
HIGH NA SPECTROGRAPH FOR A RAMAN GAS ANALYZER.....	189
<i>V. V. Vitkin, E. E. Popov, A. A. Kharitonov, I. N. Kaliteevsky, V. M. Polyakov</i>	
BICONICAL OPTICAL FIBER FABRICATION.....	190
<i>E. A. Vyuzhanina, D. G. Gilev, V. K. Struk, V. V. Krishtop</i>	
ECHLETTE BASED METHOD OF CGH SYNTHESIS AND ITS APPLICATION FOR ABERRATIONS MEASUREMENT.....	191
<i>G. K. Krasin, N. G. Stsepuro, M. S. Kovalev, S. B. Odinov</i>	
LENSLESS SCHEME OF A HOLOGRAPHIC WAVEFRONT SENSOR.....	192
<i>G. K. Krasin, N. G. Stsepuro, M. S. Kovalev, E. Yu. Zlokazov</i>	
HELICOPTER LIDAR FOR FLIGHT SAFETY DURING SEARCH AND RESCUE ACTIVITIES	193
<i>S. A. Matveev, S. Yu. Strakhov, Bronds A. V. Trilis</i>	
THE CONTROL OF THE ENERGY AND GEOMETRIC LASER BEAM CENTERS POSITION	194
<i>A. E. Shepelev, N. M. Krasnov, A. A. Antipov, A. G. Putilov, A. V. Osipov</i>	

R5: SUPER-INTENSE LIGHT FIELDS AND ULTRA-FAST PROCESSES

TOWARDS SINGLE-CYCLE RELATIVISTIC OPTICS AT HIGH REPETITION RATE.....	195
<i>M. Ouillé, A. Vernier, D. Gustas, Z. Cheng, M. Lozano, J. P. Rousseau, A. Blumenstein, P. Simon, S. Haessler, J. Faure, T. Nagy, R. Lopez-Martens</i>	
X-RAY SPECTROSCOPY VALIDATION OF IONIZATION POTENTIAL DEPRESSION MODELS IN DENSE PLASMA CREATED BY PETAWATT LASER PULSES	196
<i>A. S. Martynenko, S. A. Pikuz, S. N. Ryazantsev, I. Yu. Skobelev, I. E. Golovkin, C. Baird, N. Booth, L. Doehl, P. Durey, A. Ya. Faenov, D. Farley, R. Kodama, K. Lancaster, P. McKenna, C. D. Murphy, C. Spindloe, T. A. Pikuz, N. Woolsey</i>	

INCREASED FLUX OF HIGH ENERGY PARTICLES AND X-RAYS FROM RELATIVISTIC NANOSTRUCTURED PLASMAS	197
<i>K. A. Ivanov, N. S. Sukhanov, I. M. Mordvintsev, Yu. V. Kargina, I. M. Gavrilin, Yu. V. Nazarkina, D. A. Gozhev, R. V. Volkov, S. A. Gavrilov, A. B. Savel'Ev</i>	
COLLIMATED MEV ELECTRON BEAM GENERATION IN THE INTERACTION OF INTENSE ULTRASHORT LASER PULSE WITH A DENSE PLASMA AND ITS APPLICATIONS.....	198
<i>D. A. Gorlova, I. N. Tsymbalov, A. Yu. Zavorotniy, A. B. Savel'Ev, V. G. Nedorezov</i>	
STOCHASTIC ELECTRON HEATING IN MICRO-STRUCTURED TARGETS IRRADIATED WITH INTENSE LASER RADIATION AND APPLICATIONS.....	199
<i>S. G. Bochkarev, D. A. Gozhev, N. I. Busleev, A. V. Brantov, S. I. Kudryashov, A. B. Savelev, V. Yu. Bychenkov</i>	
ACCELERATION OF HIGHLY STRIPPED IONS BY RELATIVISTIC FEMTOSECOND LASER PULSE FROM NANOSCALE TARGETS WITH CONTRAST CONTROL.....	200
<i>I. M. Mordvintsev, K. A. Ivanov, S. A. Shulyapov, A. B. Savel'Ev, Yu. V. Kargina, I. M. Gavrilin</i>	
X-RAY GENERATION FROM FLAT WATER JET IRRADIATED BY UP TO 120 MJ FEMTOSECOND LASER PULSE.....	201
<i>M. O. Zhukova, E. A. Ponomareva, P. A. Sheglov, M. V. Chashin, A. N. Tsyarkin, M. M. Nazarov</i>	
LASER-TRIGGERED GENERATION OF CHARGE WAVE AND RELATED PHENOMENA (INVITED).....	202
<i>A. V. Brantov, V. Yu. Bychenkov</i>	
GENERATION OF UNIPOLAR PULSES AND THEIR INTERACTION WITH QUANTUM SYSTEMS.....	203
<i>R. M. Arkhipov, M. V. Arkhipov, A. V. Pakhomov, I. Babushkin, N. N. Rosanov</i>	
COLLECTIVE ABSORPTION OF LASER RADIATION IN PLASMA AT SUB-RELATIVISTIC INTENSITIES.....	204
<i>V. Tikhonchuk, J. J. Gu, O. Klimo, S. Weber</i>	
FORMATION OF FEW-CYCLE FEMTOSECOND PULSES BY PHASE COMPENSATED SPECTRAL BROADENING IN MEDIA WITH ALTERNATING CUBIC NONLINEARITY SIGN.....	205
<i>S. A. Frolov, V. I. Trunov</i>	
HIGH-DEFINITION LASER PULSE SHAPING FOR PHASE ONLY PULSE SYNTHESIS AND REPLICATION.....	206
<i>K. B. Yushkov, V. Ya. Molchanov</i>	
ULTRAFAST TRANSIENT OPTICAL AND STRUCTURAL PROPERTY MODIFICATIONS INDUCED BY ULTRASHORT INTENSE LIGHT PULSES AT XUV WAVELENGTHS.....	207
<i>U. Teubner, S. Toleikis, V. Tkachenko, B. Ziaja</i>	
CONTROLLABLE CIRCULAR PATTERNS ON SILICON INDUCED BY BUBBLE-DIFFRACTED FEMTOSECOND LASER PULSES IN LIQUID	208
<i>S. A. Romashevskiy, S. I. Ashitkov</i>	
FEMTOSECOND HEATING OF METALS AND TERAHERTZ GENERATION IN DAMAGING REGIMES	209
<i>D. A. Fadeev, I. V. Oladyshkin, B. V. Shishkin, P. A. Yunin, V. A. Mironov</i>	

FORMATION OF PERIODIC STRUCTURE ON AMORPHOUS SILICON FILMS BY FEMTOSECOND LASER PULSES.....	210
<i>A. V. Dostovalov, A. A. Kuchmizhak, K. A. Bronnikov, E. Mitsai, V. P. Korolkov, S. A. Babin</i>	
PICOCOULOMB ELECTRON BUNCHES EMITTED FROM THE METAL TIP ON Ti:SA FEMTOSECOND LASER IRRADIATION.....	211
<i>N. A. Abramovskii, A. A. Murzanev, A. V. Romashkin, A. N. Stepanov</i>	
INVESTIGATION OF THE INSTABILITIES OF AN EXPANDING PLASMA CREATED DURING ABLATION OF SOLID TARGETS BY INTENSE FEMTOSECOND LASER PULSES	212
<i>A. N. Stepanov, M. A. Garasev, Vl. V. Kocharovskiy, A. I. Korytin, A. A. Murzanev, A. A. Nechaev, D. V. Kartashov, Z. A. Samsonova</i>	
CONICAL IR EMISSION IN PROPAGATION OF SUB-TERAWATT ULTRASHORT UV KRF LASER PULSE IN Xe AS COHERENT STIMULATED FOUR-WAVE MIXING PROCESS	213
<i>I. V. Smetanin, A. V. Shutov, N. N. Ustinovskii, V. D. Zvorykin, A. V. Bogatskaya, A. M. Popov</i>	
TERAWATT TWO COLOR FILAMENTATION IN A LOW PRESSURE GAS: CHARACTERIZATION BY THZ AND X-RAY GENERATION.....	214
<i>M. M. Nazarov, A. V. Mitrofanov, D. A. Sidorov-Biryukov, P. A. Sheglov, M. V. Chashin, A. A. Garmatina, V. M. Gordienko, V. Ya. Panchenko</i>	
GENERATION OF TUNABLE MID- AND FAR-INFRARED PULSES DURING GAS IONIZATION BY TWO-COLOR CHIRPED LASER PULSES	215
<i>A. A. Silaev, A. A. Romanov, N. V. Vvedenskii</i>	
QUANTUM VORTICES IN THE PROBABILITY DENSITY OF A PHOTOELECTRON PULLED OUT BY ULTRASHORT PULSE.....	216
<i>N. V. Larionov, A. A. Smirnovsky</i>	
SILICON SURFACE MODIFICATIONS INDUCED BY SINGLE FEMTOSECOND LASER PULSES AT MINIMALLY DISRUPTIVE FLUENCES IN AIR AND WATER	217
<i>S. A. Romashevskiy</i>	
CROSS-CORRELATOR SCHEMES FOR DIAGNOSTIC OF VISIBLE AND UV SHAPED LASER PULSES.....	218
<i>I. V. Kuzmin, S. Yu. Mironov, M. A. Martyanov, A. K. Potemkin, E. A. Khazanov</i>	
SUPERRADIANCE IN Rb-VAPOR.....	219
<i>S. A. Pulkin, A. A. Kalinichev, A. Sheluhev, D. A. Ivanov, T. Yu. Ivanova, M. V. Balabas, I. K. Korshok, A. A. Antipov, S. V. Uvarova, N. S. Pulkin</i>	
THE RESEARCH OF RADIOACTIVE EXPOSURE COMPENSATION ON OPTICAL MATERIAL FOR OPTICAL FIBERS BY POWERFUL LASER RADIATION	220
<i>R. V. Davydov, D. S. Dmitrieva, V. M. Pilipova, V. Yu. Rud, V. V. Davydov, V. I. Dudkin, E. I. Andreeva</i>	
LASER PROCESSING OF TITANIUM SURFACE IN N-HEXANE VAPOR USING THE ELECTROSTATIC ABLATION PRODUCTS REMOVAL METHOD.....	221
<i>D. A. Kochuev, R. V. Chkalov, D. G. Vasilchenkova</i>	
MODIFICATION OF HIGH LASER HARMONICS BY OVER-DENSE PLASMA CLUSTER MEDIA.....	222
<i>A. Andreev, Zs. Lecz, N. Pulkin, U. Teubner</i>	

CHARACTERISTIC X-RAY RADIOGRAPHY OF SUPER-DENSE HIGH-TEMPERATURE LASER PLASMA	223
<i>A. A. Andreev, D. S. Bespalov, M. V. Sedov, K. Y. Platonov</i>	
ROLE OF FOCUSING CONDITIONS ON THE CONTROL OF COHERENT RADIATION SPECTRAL PROPERTIES UNDER MID-IR FILAMENTATION.....	224
<i>K. V. Lvov, S. Yu. Stremoukhov, F. V. Potemkin</i>	
PHOTOACOUSTIC ENERGY CONVERSION EFFICIENCY UNDER FEMTOSECOND FILAMENTATION IN WATER: DEPENDENCE ON TEMPERATURE AND FILAMENTATION REGIME.....	225
<i>B. V. Rumiantsev, E. I. Mareev, A. S. Bychkov, A. A. Karabutov, V. A. Makarov, E. B. Cherepetskaya, F. V. Potemkin</i>	
FEMTOSECOND LASER INTERACTION WITH TITANIUM AT DIFFERENT PRESSURES IN THE N-HEXANE MEDIUM.....	226
<i>A. V. Ivashchenko, M. A. Tarasova, D. A. Kochuev, K. S. Khorkov</i>	
INTERACTION OF PLASMA-DUST FORMATIONS WITH ULTRASHORT LASER PULSES	227
<i>A. A. Sergeev, V. V. Sementin, A. V. Savin, P. Yu. Serdobintsev, A. P. Pogoda, A. S. Boreysho</i>	
<u>R6: LASERS FOR GREEN PHOTONICS AND SUSTAINABILITY</u>	
DIODE LASER SPECTROSCOPY INSTRUMENT M-DLS FOR IN SITU STUDY OF ATMOSPHERE NEAR THE MARTIAN SURFACE: DESIGN, ASSEMBLY, ALIGNMENT AND CALIBRATION	228
<i>I. I. Vinogradov, V. V. Barke, I. Sh. Gazizov, I. V. Golovnin, V. A. Kazakov, T. O. Kozlova, Yu. V. Lebedev, S. V. Malashevich, V. V. Meshcherinov, A. V. Nosov, A. V. Rodin, O. Z. Roste, M. V. Spiridonov, A. A. Venkstern, S. G. Zenevich, J. Cousin, G. Durry, M. Ghysels-Dubois</i>	
NEW-GENERATION EYE-SAFE LIDAR (<1 $\mu\text{J}/\text{CM}^2$): FROM MARS EXPLORATION TO EARTHQUAKE PREDICTION	229
<i>S. M. Pershin</i>	
HIGH-THROUGHPUT LIVE IMAGING USING LIGHT SHEET MICROSCOPY	230
<i>Emilio J. Gualda, Matteo Bernardello, Maria Marsal, Pablo Loza Alvarez</i>	
LIDAR PROFILING BIOLOGICAL TARGETS : - DETECTION LIMITS AND DYNAMIC RANGE.....	231
<i>M. Brydegaard, B. Kouakou, S. Jansson, J. Rydell, J. Zoueu</i>	
LASER DIAGNOSTICS OF DYNAMIC WATER STRATIFICATIONS	232
<i>A. V. Vedyashkina, I. N. Pavlov, I. L. Raskovskaya, B. S. Rinkevichyus</i>	
EYE-SAFE LIDAR SENSING THROUGH DENSE FOG	233
<i>S. M. Pershin, M. Ya. Grishin, V. A. Zavozin, V. N. Lednev, V. S. Makarov, P. A. Sdvizhenskii, A. V. Turin</i>	
TECTONIC AEROSOL SENSING BY LIDAR AS A NEW TECHNIQUE FOR EARTH'S CRUST DEFORMATION MONITORING.....	234
<i>S. M. Pershin, A. L. Sobisevich, M. Ya. Grishin, V. A. Zavozin, V. V. Kuzminov, V. N. Lednev, D. V. Likhodeev</i>	
ACTIVE THERMAL IMAGING FOR REMOTE INSPECTION OF THE SUBSURFACE STRUCTURE OF AN OBJECT	235
<i>P. I. Abramov, E. V. Kuznetsov, P. Y. Lobanov, O. E. Sidoryuk, L. A. Skvortsov</i>	

HO-DOPED FIBER LASER WITH WAVELENGTH SELF-SWEEPING NEAR 2.06 μM FOR CO ₂ SPECTROSCOPY	236
<i>A. D. Vladimirovskaya, M. I. Skvorsov, A. A. Wolf, V. A. Kaminin, I. A. Lobach, S. I. Kablukov</i>	
QUANTITATIVE ANALYSIS OF ¹² CO ₂ , ¹³ CO ₂ , ¹² CH ₄ AND ¹³ CH ₄ GASES BY RAMAN SPECTROSCOPY	237
<i>V. V. Vitkin, I. K. Chubchenko, E. E. Popov, A. V. Polishchuk, P. A. Loiko</i>	
DETERMINATION OF PROBABILITY OF IRREVERSIBLE DAMAGE EXPANSION IN ORGANIC GLASS BY LASER RADIATION	238
<i>E. A. Sinicyna, D. A. Puz'Ko, V. Yu. Rud, V. V. Davydov, V. I. Sviatkina</i>	
EXCITATION ENERGY STRUCTURE OF THE PHOTOSYSTEM II REACTION CENTER: EXCITONS AND CHARGE-SEPARATED STATES	239
<i>R. Y. Pishchalnikov, A. A. Zabelin, V. O. Kompanetz, A. Y. Shkuropatov, A. P. Razjivin, S. V. Chekalin</i>	
LIDAR AIRCRAFT LANDING SYSTEM	240
<i>Boris Y. Karas, Leonid V. Smirnov, Andrey Y. Lunev, Alexandr S. Grishkanich</i>	
LOW ENERGY STATES OF CYANOBACTERIAL PHOTOSYSTEM I ANTENNA COMPLEXES	241
<i>R. Y. Pishchalnikov, V. V. Shubin, A. P. Razjivin</i>	
PORTABLE RAMAN SENSOR FOR GEOLOGICAL EXPEDITIONS	242
<i>B. Y. Karas, A. A. Kancer, E. Miharev, A. S. Grishkanich, A. P. Zhevlakov</i>	
NEARFIELD FREE-SPACE VISIBLE LIGHT COMMUNICATION SYSTEM VIA SMARTPHONE SCREEN	243
<i>N. A. Belyakov, A. I. Borodkin, I. S. Polukhin, D. S. Shiryayev, O. A. Kozyreva, V. E. Bougrov</i>	
PLASTIC OPTICAL FIBER AC VOLTAGE SENSOR	244
<i>Jonathan Prabowo, Hyejin Seo, Jaehee Park</i>	
RAMAN SPECTROSCOPY OF THE PENTAD OF ISOTOPICALLY-ENRICHED METHANE ¹³ CH ₄	245
<i>I. K. Chubchenko, V. V. Vitkin, E. E. Popov, A. V. Polishchuk, P. A. Loiko</i>	
HUMAN BREATH RAMAN ANALYSIS	246
<i>E. E. Popov, V. V. Kurikova</i>	

R7: FREE ELECTRON LASERS

ULTRAFAST DYNAMICS OF SPATIAL MAGNETIC FLUCTUATIONS IN CO/PT MULTILAYERS STUDIED AT EUROPEAN XFEL	247
<i>M. V. Baidakova, R. Carley, R. Gort, G. Grübel, L. Le Guyader, E. Jal, E. Yu. Lobanova, L. Mercadier, G. Mercurio, S. L. Molodtsov, L. Müller, A. Philippi-Kobs, D. Potorochin, M. Riapp, W. Roseker, A. Scherz, J. Schlappa, S. M. Suturin, B. Van Kuiken, A. Yaroslavtsev, I. I. Pronin</i>	
DIFFRACTIVE OPTICS TECHNOLOGIES FOR THE CONTROL OF HIGH-POWER TERAHERTZ LASER BEAMS	248
<i>V. S. Paveleyev, S. N. Khonina, K. N. Tukmakov, S. A. Degtyarev, A. S. Reshetnikov, B. A. Knyazev, N. D. Osintseva, Yu. Yu. Choporova</i>	

ON THE WAY TO TIME-RESOLVED X-RAY OPTICAL EXPERIMENTS IN NRC «KURCHATOV INSTITUTE».....	249
<i>F. V. Potemkin, E. I. Mareev, M. M. Nazarov, E. A. Fomin, A. I. Stirin, V. N. Korchuganov, V. Ya. Panchenko, M. V. Kovalchuk</i>	

MACH-ZEHNDER AND MICHELSON INTERFEROMETERS FOR FORMATION LASER PULSES WITH PERIODIC INTENSITY MODULATION	250
<i>I. V. Kuzmin, S. Yu. Mironov, M. A. Martyanov, A. K. Potemkin, E. A. Khazanov</i>	

STUDY OF SPECTRAL CHARACTERISTICS OF SILVER HALIDE POLYCRYSTALS AT TERAHERTZ FREQUENCIES.....	251
<i>L. V. Zhukova, D. D. Salimgareev, G. A. Komandin, I. E. Spektor, A. E. Lvov, E. A. Korsakova, A. S. Korsakov</i>	

R8: NONLINEAR PHOTONICS: FUNDAMENTALS AND APPLICATIONS

THREE-WAVES SELF-TRAPPING IN A MEDIUM WITH QUADRATIC NONLINEAR RESPONSE	252
<i>V. A. Trofimov, D. M. Kharitonov, M. V. Fedotov</i>	

SPECTRA MODIFICATION OF FIRST AND SECOND HARMONIC IN THE TWO-COLOR FILAMENT OF TERA-WATT LASER RADIATION	253
<i>M. V. Chaschin, M. M. Nazarov</i>	

ROBUST MULTIFILAMENT ARRAYS USING DAMMANN PHASE GRATING.....	254
<i>D. V. Pushkarev, A. S. Lar'Kin, E. V. Mitina, D. S. Uryupina, R. V. Volkov, S. V. Karpeev, S. N. Khonina, A. A. Karabutov, O. G. Kosareva, A. B. Savel'Ev</i>	

THE FORMATION OF OPTICAL VORTICES BEYOND PHASE PLATE AND THEIR BREAKDOWN DURING FILAMENTATION	255
<i>A. A. Dergachev, F. I. Soyfer, S. A. Shlenov</i>	

TRANSFORMATION OF THE ORBITAL AND SPIN PARTS OF THE ANGULAR MOMENTUM OF LASER BEAMS IN THE COURSE OF THEIR INTERACTION IN NONLINEAR GYROTROPIC MEDIA IN THE FRAMEWORK OF CLASSICAL ELECTRODYNAMICS.....	256
<i>V. A. Makarov, V. A. Dukov, K. S. Grigoriev, V. M. Petnikova</i>	

NONLINEAR EFFECTS IN SYNTHETIC FREQUENCY DIMENSION CREATED BY ELECTRO-OPTICAL MODULATION OF A RING RESONATOR.....	257
<i>A. K. Tusnin, A. M. Tikan, T. J. Kippenberg</i>	

MEASUREMENT OF FREQUENCY TUNING CURVES OF SOLITON SELF-INJECTION LOCKING TO A NONLINEAR MICRORESONATOR.....	258
<i>A. S. Voloshin, Junqiu Liu, N. M. Kondratiev, G. V. Likhachev, S. E. Agafonova, T. J. Kippenberg, I. A. Bilenko</i>	

TWO-COLOR PLATICONS IN X(2) OPTICAL MICRORESONATORS.....	259
<i>V. E. Lobanov, N. M. Kondratiev, A. E. Shitikov, K. N. Min'Kov, I. A. Bilenko</i>	

NUMERICAL STUDY OF SELF-INJECTION-LOCKED KERR FREQUENCY COMB GENERATION IN WGM MICRORESONATOR	260
<i>N. M. Kondratiev, V. E. Lobanov, A. S. Voloshin, I. A. Bilenko</i>	

OPPOSITE DIRECTION PULSE TRAIN PROPAGATION MODELLING IN RING NONLINEAR MICROCAVITY	261
<i>V. A. Razukov, L. A. Melnikov</i>	
HIGH ENERGY PULSE DYNAMICS IN MULTIMODE GRIN FIBERS	262
<i>M. Zitelli, F. Mangini, M. Ferraro, R. Crescenzi, F. Frezza, D. S. Kharenko, A. Niang, S. Wabnitz</i>	
SBS GAIN SUPPRESSION IN ORDINARY SINGLE-MODE OPTICAL FIBERS WITH IMPROVED MULTIMODE ACOUSTIC DESIGN	263
<i>S. V. Tsvetkov, M. M. Khudyakov, A. S. Lobanov, D. S. Lipatov, M. M. Bubnov, M. E. Likhachev</i>	
NANOSECOND RAMAN LASER AT 2840 NM BASED ON A METHANE-FILLED REVOLVER FIBER	264
<i>A. V. Gladyshev, M. S. Astapovich, Yu. P. Yatsenko, A. F. Kosolapov, I. A. Bufetov</i>	
FULLY CONNECTED FEED-FORWARD NEURAL NETWORK BASED NONLINEARITY COMPENSATION METHOD FOR POLARIZATION MULTIPLEXED TRANSMISSION SYSTEMS	265
<i>S. A. Bogdanov, O. S. Sidelnikov, M. P. Fedoruk, S. K. Turitsyn</i>	
GAIN-THROUGH-LOSS IN NONLINEAR FIBERS: MODULATION INSTABILITIES AND TUNABLE FREQUENCY COMBS	266
<i>F. Bessin, A. M. Perego, K. Staliunas, S. Turitsin, A. Kudlinski, M. Conforti, A. Mussot</i>	
OCTAVE SPANNING INFRARED SUPERCONTINUUM GENERATION IN DIRECT LASER WRITTEN WAVEGUIDE	267
<i>A. G. Okhrimchuk, E. V. Sorokin, I. Astrauskas, A. D. Pryamikov, G. K. Alagashev, V. V. Dorofeev</i>	
OPTIMIZATION OF TERAHERTZ PRODUCTION FROM FEMTOSECOND MULTI- AND SUPERFILAMENTS IN AIR	268
<i>E. Mitina, D. Pushkarev, A. A. Ushakov, D. Uryupina, O. Kosareva, A. Savel'Ev</i>	
TERAHERTZ-FIELD-INDUCED OPTICAL SECOND HARMONIC GENERATION IN ISOTROPIC MEDIA: THEORY AND APPLICATION	269
<i>S. B. Bodrov, Yu. A. Sergeev, A. I. Korytin, E. A. Burova, M. I. Bakunov, A. N. Stepanov</i>	
ELECTRO-OPTIC DETECTION OF TERAHERTZ WAVES IN A PRISM-COUPLED LITHIUM NIOBATE LAYER WITH OVERCOMING THE EFFECT OF INHERENT BIREFRINGENCE	270
<i>A. I. Shugurov, M. I. Bakunov</i>	
SPECTRA OF TERAHERTZ RADIATION GENERATED IN SINGLE-COLOR FILAMENT	271
<i>G. E. Rizaev, D. V. Mokrousova, S. A. Savinov, A. V. Koribut, L. V. Seleznev, Ya. V. Grudtsyn, D. E. Shipilo, N. A. Panov, O. G. Kosareva, Yu. A. Mityagin, A. A. Ionin</i>	
RESONANT SUPERCONTINUUM GENERATION IN NORMAL AND ANOMALOUS DISPERSION	272
<i>M. H. Anderson, R. Bouchand, J. Liu, G. Lihachev, W. Weng, E. Obrzud, T. Herr, T. J. Kippenberg</i>	
TWO FREQUENCY HETERONUCLEAR SOLITON MOLECULES	273
<i>O. Melchert, S. Willms, S. Bose, A. Yulin, B. Roth, F. Mitschke, U. Morgner, I. Babushkin, A. Demircan</i>	

DISSIPATIVE KERR SOLITONS IN A PHOTONIC DIMER	274
<i>A. Tikan, J. Riemensberger, K. Komagata, S. Hönl, M. Churaev, C. Skehan, H. Guo, R. N. Wang, J. Liu, P. Seidler, T. J. Kippenberg</i>	
SELF-INDUCED TRANSPARENCY MODE-LOCKING: TOWARDS TO SINGLE-CYCLE PULSES	275
<i>R. M. Arkhipov, M. V. Arkhipov, A. A. Shimko, I. Babushkin, N. N. Rosanov</i>	
NONLINEAR DYNAMICS IN A LONG CAVITY SEMICONDUCTOR LASER.....	276
<i>S. Slepneva, A. Roche, U. Gouda, A. Pimenov, A. Kovalev, M. Marconi, M. Giudici, E. Viktorov, A. Vladimirov, G. Huyet</i>	
METHODS OF STABILIZATION OF CENTRAL WAVELENGTH OF ERBIUM-DOPED FIBER SOURCE FOR HIGH-ACCURACY FIBER OPTIC GYROSCOPE.....	277
<i>I. K. Zalesskaia, E. V. Vostrikov, N. E. Kikilich, A. S. Aleinik, M. A. Smolovik, A. V. Vinogradov, I. K. Meshkovskii</i>	
NUMERICAL SIMULATION OF SPATIO-TEMPORAL COUPLING EFFECT IN FEMTOSECOND LASER PULSE PROPAGATED THROUGH MULTI-LAYER SCATTERING MEDIA.....	278
<i>A. V. Belashov, N. V. Petrov</i>	
QUANTUM FLUCTUATIONS OF A SOLITON PAIR PRODUCED VIA TWO-SOLITON FISSION IN THE DISPERSION OSCILLATIONS FIBERS	279
<i>L. A. Melnikov, Yu. A. Mazhirina, A. A. Sysolyatin, A. I. Konukhov</i>	
HIGHLY NONLINEAR TELLURITE GLASSES FOR MID-IR APPLICATIONS	280
<i>V. V. Dorofeev, A. G. Okhrimchuk, V. V. Koltashev, M. P. Smayev, S. E. Motorin, K. V. Balueva, A. D. Plekhovich</i>	
STATISTICAL OCCURRENCE OF SOLITON CONTENT IN THE CONVENTIONAL OPTICAL WDM SIGNALS	281
<i>E. V. Sedov, A. A. Redyuk, M. P. Fedoruk, S. K. Turitsyn</i>	
NEW EFFECTS IN PICOSECOND STIMULATED RAMAN SCATTERING NEAR THE LIQUID-AIR INTERFACE	282
<i>S. M. Pershin, M. Ya. Grishin, P. A. Chizhov, V. A. Orlovich, I. A. Khodasevich, A. I. Vodchits</i>	
STATISTICS OF PULSE ENERGY FLUCTUATIONS IN A RAMAN LASER WITH A MULTIMODE PUMP SOURCE	283
<i>R. Chulkov, O. Korozhan, A. Alyamani, V. Orlovich</i>	
PROPERTIES OF PARAMETRIC GENERATION PUMPING BY ND:YAG LASER WITH SMAOM.....	284
<i>M. D. Yakovin, D. V. Yakovin, A. V. Gribanov</i>	
EXPLOITING HYSTERESIS EFFECT FOR ELECTRONIC ADJUSTING OF FIBER MODE-LOCKED LASER	285
<i>E. Kuprikov, A. Kokhanovskiy, S. Kobtsev, S. Turitysin</i>	
CAPABILITY OF FREQUENCY CONVERSION IN BGGs AND BGGSE CRYSTALS	286
<i>S. G. Grechin, P. P. Nikolaev, A. A. Ionin, I. O. Kinyaevskiy, A. M. Sagitova, Yu. M. Andreev</i>	
COMPARISON OF MID-IR NONLINEAR CRYSTALS WITH INTEGRAL FIGURE OF MERIT	287
<i>A. A. Ionin, I. O. Kinyaevskiy, A. M. Sagitova</i>	

OPTIMIZATION OF ANGULAR DISTRIBUTIONS OF TERAHERTZ WAVES GENERATED IN LASER-DRIVEN NONLINEAR-OPTICAL PROCESSES.....	288
<i>T. I. Novikova, A. A. Leontyev, D. A. Markov, R. E. Zakirov, G. Kh. Kitaeva</i>	
EFFECTIVE COHERENT ANTI-STOKES COMPONENTS GENERATION USING BIHARMONIC PUMPING IN THE GIGAHERTZ RANGE	289
<i>A. D. Kudryavtseva, V. I. Savichev, M. A. Shevcherko, N. V. Tcherniega, S. F. Umanskaya</i>	
TEMPERATURE DEPENDENCE OF OPTICAL PHONONS IN GUANYLUREA HYDROGEN PHOSPHITE CRYSTAL IN THE TERAHERTZ FREQUENCY RANGE.....	290
<i>A. Sinko, I. Ozheredov, A. Balakin, P. Solyankin, V. Manomenova, E. Rudneva, N. Sorokina, N. Kozlova, A. Voloshin, A. Shkurinov</i>	
ROGUE WAVES IN LASER WITH POSITIVE OPTOELECTRONIC FEEDBACK	291
<i>A. A. Krents, N. E. Molevich, E. A. Yarunova</i>	
INVESTIGATE OF HYBRID MODE-LOCKED IN A LONG-CAVITY YTTERBIUM-DOPED FIBER LASER.....	292
<i>I. V. Zhlyuktova, V. A. Kamynin, N. R. Arutyunyan, A. S. Pozharov, E. D. Obraztsova, V. B. Tsvetkov</i>	
LASER-INDUCED DAMAGE THRESHOLD OF DARK YELLOW PHASE BAGA4SE7 CRYSTAL AT 1053 NM.....	293
<i>A. A. Boyko, E. Yu. Eryshin, N. Yu. Kostyukova, D. B. Kolker, A. I. Kostyukov, I. B. Miroshnichenko, D. V. Badikov, V. V. Badikov</i>	
NONLINEAR PULSE COMBINING AND COMPRESSION USING TWISTED HEXAGONAL MULTI-CORE FIBERS.....	294
<i>I. S. Chekhovskoy, O. V. Shtyrina, A. M. Rubenchik, S. Wabnitz, M. P. Fedoruk</i>	
MODE CONVERTER BASED ON TAPERED INSERTION OF SPECIAL FIBER	295
<i>O. V. Ivanov, D. D. Bakurov</i>	
SELF-MIXING EFFECTS IN A MODULATED VCSEL IN THE BISTABILITY DOMAIN INDUCED BY OPTICAL FEEDBACK.....	296
<i>V. N. Chizhevsky, S. A. Karuseichik</i>	
PERIODICALLY-POLLED KTIOASO4 STRUCTURES FOR OPTICAL PARAMETRIC OSCILLATOR PUMPED BY 1053 NM DPSS NANOSECOND LASER.....	297
<i>E. Y. Erushin, A. A. Boyko, N. Yu. Kostyukova, L. I. Isaenko, A. Akhmathanov, V. Shur, D. B. Kolker</i>	
THE INFLUENCE OF THE PRE-PLASMA EFFECT ON THE ENHANCEMENT OF THE THZ WAVES GENERATION DURING LIQUID JETS DOUBLE PULSE EXCITATION WITH VARIOUS LASER PULSE PARAMETERS	298
<i>E. A. Ponomareva, A. O. Ismagilov, A. A. Gendrina, S. E. Putilin, A. N. Tsyarkin, S. A. Kozlov</i>	
STIMULATED RAMAN SCATTERING SPECTRUM NARROWING UNDER PICOSECOND PULSE TRAIN PUMPING.....	299
<i>S. M. Pershin, E. V. Shashkov, N. S. Vorobiev, M. Ya. Grishin, M. A. Davydov, A. N. Fedorov</i>	
49-FOLD SELF-PHASE MODULATION INDUCED SPECTRUM COMPRESSION OF PICOSECOND PULSES IN DISPERSION-SHIFTED TELECOM FIBER.....	300
<i>A. A. Krylov, A. K. Senatorov, Yu. P. Yatsenko</i>	

APPLICABILITY OF THE ROTATING WAVE APPROXIMATION TO A MULTILEVEL ATOMIC SYSTEM DRIVEN BY A POLYCHROMATIC FIELD.....	301
<i>A. G. Antipov, E. N. Borisov, N. I. Matveeva, S. A. Pulkin, S. V. Uvarova, V. I. Yakovleva</i>	
DESIGNING OF A FIBER MODE-LOCKED LASER CAVITY BY STOCHASTIC OPTIMIZATION ALGORITHM.....	302
<i>A. Kokhanovskiy, E. Kuprikov, I. Popkov, A. Bednyakova, D. Khudozhitkova, S. Smirnov, S. Koltsev, S. Turitysin</i>	
SPECTRAL ENHANCEMENT OF PS PULSES IN PHOSPHOR-SILICATE RAMAN OSCILLATOR.....	303
<i>A. Kokhanovskiy, A. Ivanenko, S. Smirnov, S. Koltsev</i>	
MAPPING OF THE PULSE STATES OF A FIBER LASER WITH IONIC LIQUID GATED CARBON NANOTUBE SATURABLE ABSORBER.....	304
<i>A. Kokhanovskiy, I. Petenev, K. Serebrenikov, A. Ivanenko, S. Koltsev, S. Turitysin, A. A. Mkrtchyan, Yu. Gladush, A. G. Nasibulin</i>	
Z-SCAN MEASUREMENTS OF THE MULTIPHOTON ABSORPTION COEFFICIENT AND NONLINEAR REFRACTIVE INDEX OF ZNTE AND GAP IN THE NEAR-IR.....	305
<i>E. A. Burova, S. B. Bodrov, B. V. Shishkin, A. I. Korytin, I. E. Ilyakov, M. I. Bakunov</i>	
OPTICAL SECOND HARMONIC GENERATION BY NONLINEAR MIXING OF FEMTOSECOND LASER RADIATION AND TERAHERTZ FIELD IN GASES.....	306
<i>E. A. Burova, S. B. Bodrov, Yu. A. Sergeev, A. I. Korytin, M. I. Bakunov, A. N. Stepanov</i>	
OPTICAL HARMONIC GENERATION IN THE VICINITY OF MOLECULAR RESONANCES BY MID-IR LASER FIELD.....	307
<i>E. A. Migal, S. Yu. Stremoukhov, F. V. Potemkin</i>	
SELF-RECONSTRUCTION OF FEMTOSECOND LASER FILAMENT AFTER FREE PROPAGATION IN LINEAR MEDIUM.....	308
<i>A. E. Dormidonov, V. P. Kandidov, S. V. Chekalin, V. O. Kompanets</i>	
CHIRP MEASUREMENT WITH FM DISCRIMINATOR.....	309
<i>T. O. Bazarov, D. D. Starykh, A. N. Dorozhkin, O. E. Nanii, V. N. Treshchikov</i>	
CLASSICAL AND NONCLASSICAL PROPERTIES OF OPTICAL SOLITONS PROPAGATING IN TELLURITE FIBERS.....	310
<i>A. A. Sorokin, E. A. Anashkina, A. V. Andrianov</i>	
AVALANCHE-LIKE UP-CONVERSION AT NONLINEAR COUPLING OF PUMPING CHANNELS: EFFECT OF IONS CONCENTRATION.....	311
<i>I. A. Khodasevich, A. S. Grabtchikov, M. V. Korolkov, D. S. Mogilevtsev, E. V. Kolobkova</i>	
SOLITON COLLISION AND RESHAPING OF EIGENVALUE SPECTRUM USING LOCAL PERTURBATION.....	312
<i>P. A. Mavrin, A. I. Koniuhov, A. A. Sysoliatin</i>	
THZ PULSE GENERATION IN ZNGEP2 WITH NEAR-IR PUMPING.....	313
<i>D. M. Lubenko, V. F. Losev, E. A. Sandabkin, G. V. Lanskiy, Yu. M. Andreev, D. M. Ezhov</i>	
LASER-INDUCED DAMAGE THRESHOLD OF BARIUM CHALCOGENIDES CRYSTALS AT 2091 NM.....	314
<i>N. Yu. Kostyukova, A. A. Boyko, I. D. Eranov, D. B. Kolker, O. L. Antipov, E. Yu. Erushin, A. I. Kostyukov, D. V. Badikov, V. V. Badikov</i>	

THERMAL SHIFT OF RESONANT FREQUENCIES IN SILICA AND TELLURITE MICROSPHERES: MODELING AND EXPERIMENT	315
<i>M. P. Marisova, A. V. Andrianov, V. V. Dorofeev, E. A. Anashkina</i>	
A NEW SCHEME OF THZ GENERATION BY TILTED-PULSE-FRONT PUMPING OF A LINBO3 PLANE-PARALLEL PLATE	316
<i>S. B. Bodrov, E. A. Burova, M. I. Bakunov, A. N. Stepanov</i>	
TERAHERTZ RADIATION EMISSION AS A RESULT OF FEMTOSECOND LASER BEAM INTERACTION WITH LIQUID METAL DROPLETS	317
<i>P. M. Solyankin, B. V. Lakatos, V. V. Medvedev, M. S. Krivokorotov, I. A. Kotelnikov, A. P. Shkurinov</i>	
A FIBER BUNDLE FABRICATION FROM CRYSTALS OF THE AGR - TLBR0.4610.54 SYSTEM FOR LASER TECHNOLOGY	318
<i>A. A. Yuzhakova, D. D. Salimgareev, L. V. Zhukova, A. E. Lvov, A. S. Korsakov</i>	
PHOTONIC CRYSTAL FIBER MODELING WITH DIFFERENT INSERTS RINGS BASED ON CRYSTAL SYSTEM AGR-TLI	319
<i>A. A. Yuzhakova, D. D. Salimgareev, A. E. Lvov, L. V. Zhukova, A. S. Korsakov</i>	
TWO-PHOTON ABSORPTION IN NA ₂ W ₂ O ₇ CRYSTAL	320
<i>D. S. Chunaev, V. E. Shukshin, P. G. Zverev, V. N. Shlegel, V. D. Grigorieva</i>	
SOURCE OF NARROWLY DIRECTED THZ RADIATION FOR REMOTE SENSING SYSTEMS	321
<i>E. A. Sandabkin, D. M. Lubenko, V. F. Losev</i>	
CHARACTERIZATION OF SILICON WHISPERING GALLERY MODE RESONATOR USING SELF-INJECTION LOCKING REGIME	322
<i>A. E. Shitikov, O. V. Benderov, N. M. Kondratiev, V. E. Lobanov, I. A. Bilenko</i>	
TRANSIENT STIMULATED RAMAN AMPLIFICATION OF THE IR SUPERCONTINUUM WING IN KGW	323
<i>P. Mackonis, A. M. Rodin, A. Petrulenas, V. Girdauskas, A. Michailovas</i>	
<u>R9: OPTICAL NANOMATERIALS</u>	
STOPPING EFFECT IN GROWTH KINETICS OF III-V NANOWIRES	324
<i>D. P. Wilson, F. Glas, R. R. Lapierre, V. G. Dubrovskii</i>	
STRESS FIELD IN CORE-SHELL NANOWIRES WITH 3D DILATATIONAL EIGENSTRAIN PRISM CORE	325
<i>S. A. Krasnitskii, A. M. Smirnov, M. Yu. Gutkin, A. E. Romanov</i>	
AXIAL HETEROSTRUCTURE FORMATION IN GAINP NANOWIRES	326
<i>A. A. Koryakin, V. G. Dubrovskii</i>	
FLEXIBLE SUSPENDED MEMBRANES OF GAP NANOWIRES	327
<i>Y. Berdnikov, V. Neplokh, V. Fedorov, A. D. Bolshakov, V. Yu. Mikhailovskii, D. Mitin, A. G. Nasibulin, R. M. Islamova, G. E. Cirlin, I. S. Mukhin, V. G. Dubrovskii</i>	
GETE THIN FILM – MATERIAL FOR OPTIC DEVICES OF MID AND FAR-INFRARED RANGES	328
<i>V. V. Ionin, N. N. Eliseev, A. A. Burtsev, A. V. Kiselev, M. A. Pankov, V. A. Mikhalevsky, A. A. Lotin</i>	

NANOSTRUCTURED ELEMENTS FOR HOLOGRAPHIC SOLAR CONCENTRATORS AND LASER BEAMS SPLITTERS	329
<i>P. P. Sokolov, N. D. Vorzobova</i>	
CARBON LUMINESCENCE STRUCTURE CATALYSTS FOR ORGANIC DYES DEGRADATION	330
<i>A. M. Abramova, A. A. Bakal, M. S. Stepuhovitch, I. Y. Goryacheva</i>	
CRYSTALLIZATION AND SPECTROSCOPY OF TRANSPARENT GLASS-CERAMICS WITH TM:YNBO4 NANOCRYSTALS	331
<i>A. V. Yukhnouskaya, O. S. Dymshyts, S. S. Zapalova, E. V. Vilejshikova, I. P. Alekseeva, M. Ya. Tsenter, A. A. Zhilin, A. A. Volokitina, K. V. Yumashev, A. M. Malyarevich, P. A. Loiko</i>	
DIAMOND-NAGDF4: EU AND DIAMOND-YAG: CE COMPOSITES AS PHOTO- AND X-RAY LUMINESCENT MATERIALS FOR PHOTONICS	332
<i>S. V. Kuznetsov, V. S. Sedov, A. K. Martyanov, V. Yu. Proydakova, I. S. Chikulina, D. S. Vakalov, V. A. Tarala, A. A. Khomich, S. Ch. Batygov, V. G. Ralchenko, V. V. Voronov, P. P. Fedorov</i>	
DOWN-CONVERSION LUMINESCENCE STUDIES OF CAF ₂ , SRF ₂ , BA ₄ Y ₃ F ₁₇ , GDF ₃ , YF ₃ , NAYF ₄ DOPED YB OR PR/CE/EU IONS FOR PHOTONICS	333
<i>S. V. Kuznetsov, A. S. Nizamutdinov, V. Yu. Proydakova, E. I. Madirov, V. V. Voronov, A. D. Yapyntsev, V. K. Ivanov, M. A. Marisov, V. A. Kamynin, S. A. Filatova, V. V. Semashko, P. P. Fedorov</i>	
DONOR CENTRES INVOLVED INTO DOWNCONVERSION IN YB-DOPED MOLYBDATE AND TUNGSTATE SINGLE CRYSTALS	334
<i>A. I. Titov, K. A. Subbotin, D. A. Lis, E. V. Chernova, V. A. Smirnov, O. K. Alimov, E. V. Zharikov, I. A. Shcherbakov</i>	
EFFECT OF CEO ₂ ON BISMUTH ACTIVE CENTERS IN BI ₂ O ₃ -GEO ₂ GLASSES	335
<i>I. V. Stepanova, O. B. Petrova, K. S. Serkina, L. M. Savenko</i>	
EFFECT OF EXTRA LASER IRRADIATION ON THE PHOTOCATALYTIC PROPERTIES OF TiO ₂ OBTAINED BY PULSED LASER ABLATION	336
<i>Z. P. Fedorovich, E. D. Fakhrutdinova, V. A. Svetlichnyi</i>	
FACTORS INFLUENCING THE LENGTH DISTRIBUTIONS OF VAPOR-LIQUID-SOLID NANOWIRES	337
<i>N. V. Sibirev, Y. Berdnikov, X. Ren, V. G. Dubrovskii</i>	
STABILIZATION OF WURTZITE CRYSTAL PHASE IN ARSENIDE NANOWIRES VIA ELASTIC STRESS	338
<i>N. V. Sibirev, Y. S. Berdnikov, V. N. Sibirev, V. G. Dubrovskii</i>	
NIOBIUM AND TANTALUM-ANODIC-OXIDE NANOCOLUMN ARRAYS FOR 2-D REFLECTIVE PHOTONIC-CRYSTALS	339
<i>Andrei Pligovka, Ulyana Turavets, Aliaksandr Hoha, Sergeiy Zavadski, Alexander Poznyak</i>	
HIGHLY TRANSPARENT CRYSTALLINE CERAMIC BASED ON TWO SOLID SOLUTIONS OF THE AGR - TLI SYSTEM	340
<i>L. V. Zhukova, A. E. Lvov, D. D. Salimgareev, A. A. Yuzhakova, D. A. Belousov, A. S. Korsakov</i>	
LUMINESCENT GLASS WITH LEAD PEROVSKITE QUANTUM DOTS FOR SOLAR CONCENTRATORS	341
<i>K. Oreshkina, V. Dubrovin, Y. Sgibnev, N. Nikonorov, A. Babkina, E. Kulpina, K. Zyryanova</i>	

STRUCTURE AND LUMINESCENT PROPERTIES OF SOLID SOLUTIONS IN THE PBF2–EUF3 AND PBF2–ERF3 SYSTEMS.....	342
<i>M. N. Mayakova, V. A. Smirnov, K. I. Runina, A. V. Khomyakov, O. B. Petrova</i>	
NOVEL TRANSPARENT GLASS-CERAMICS BASED ON FE ²⁺ :MGAL ₂ O ₄ SPINEL NANOCRYSTALS	343
<i>V. S. Bukina, L. R. Basyrova, O. S. Dymshits, I. P. Alekseeva, M. Ya. Tsenter, S. S. Zapalova, A. A. Khubetsov, A. A. Volokitina, A. A. Zhilin, P. A. Loiko</i>	
OPTICAL PROPERTIES OF CU,F-DOPED TiO ₂ NANOTUBE ARRAY FILMS	344
<i>A. N. Morozov, A. S. Vasilév, Thant Zin Phyo, I. A. Pochitalkina</i>	
SHAPING OPTICAL MICRORESONATORS ON THE SURFACE OF OPTICAL FIBERS WITH NEGATIVE EFFECTIVE RADIUS VARIATIONS	345
<i>D. V. Krisanov, I. D. Vatnik, D. V. Churkin</i>	
SUBSTRATES FOR METAL-ENHANCED CHEMILUMINESCENCE (MEC) IMPROVED VIA LASER TREATMENT	346
<i>D. R. Dadadzhanov, T. A. Vartanyan, I. A. Gladskikh, M. A. Baranov, A. Karabchevsky</i>	
SYNTHESIS AND CHARACTERIZATION OF CUINS ₂ NANOPARTICLES	347
<i>E. A. Kozlova, V. I. Kochubey</i>	
ZN-ZNO CORE-SHELL NANOPARTICLES: NUMERICAL SIMULATIONS AND EXPERIMENTAL REALIZATION	348
<i>D. R. Dadadzhanov, M. G. Gushchin, I. A. Gladskikh, N. B. Leonov, T. A. Vartanyan</i>	
THE APPROACHES TO THE SYNTHESIS OF PROMISE UP-AND DOWN-CONVERSION LUMINESCENCE MATERIALS	349
<i>E. Trusova, Y. Tratsiak, T. Salamakha</i>	
<u>R10: NONLINEAR AND QUANTUM INTEGRATED OPTICS</u>	
REDUCTION OF INSTABILITIES IN LITHIUM NIOBATE INTEGRATED ACOUSTO-OPTIC FREQUENCY SHIFT MODULATORS	350
<i>A. V. Varlamov, P. M. Agrusov, I. V. Il'ichev, V. V. Lebedev, A. V. Shamrai</i>	
DUAL WAVELENGTH COUPLER FOR SECOND-HARMONIC GENERATION IN GALLIUM PHOSPHIDE MICRODISKS.....	351
<i>A. Lorenzo-Ruiz, C. Cornet, A. Beck, Y. Léger</i>	
GHOST POLARIMETRY BASED ON ENTANGLED QUANTUM STATES.....	352
<i>D. P. Agapov, I. A. Belovolov, S. A. Magnitskiy, A. S. Chirkin</i>	
QUANTUM CORRELATION OF OPTICAL-TERAHERTZ BIPHOTONS GENERATED VIA SPONTANEOUS PARAMETRIC DOWN-CONVERSION	353
<i>A. A. Leontyev, K. A. Kuznetsov, A. M. Rudyak, P. A. Prudkovskii, G. Kh. Kitaeva</i>	
POLARIZATION-ENTANGLED PHOTON PAIRS GENERATION VIA INTERFERENCE OF NONORTHOGONAL QUANTUM STATES.....	354
<i>D. N. Frolovitsev, S. A. Magnitskiy</i>	
QUADRATIC OPTICAL FREQUENCY COMBS: TOWARDS A NEW PLATFORM FOR MULTI-OCTAVE MICROCOMBS	355
<i>S. Wabnitz, T. Hansson, P. Parra-Rivas, F. Leo, M. Erkintalo, S. Mosca, M. Parisi, I. Ricciardi, M. De Rosa</i>	

QUANTUM TEMPERATURE SENSOR BASED ON SUPERRADIANT PHASE-TRANSITION.....	356
<i>A. Y. Bazhenov, A. P. Alodjants</i>	
SPECTRAL BROADENING OF FEMTOSECOND OPTICAL VORTICES UNDER FILAMENTATION IN A MEDIUM WITH ANOMALOUS GROUP VELOCITY DISPERSION	357
<i>E. V. Vasilyev, S. A. Shlenov, V. P. Kandidov, V. O. Kompanets, S. V. Chekalin, R. V. Skidanov</i>	
QUANTUM CORRELATIONS OF SOLITONS IN NONLINEAR KERR WAVEGUIDE ARRAYS.....	358
<i>V. O. Martynov, V. O. Munyaev, L. A. Smirnov</i>	
FREQUENCY CONVERSION OF LASER RADIATION IN PURE, MIXED AND ACTIVATED KTP CRYSTALS AND THEIR ISOMORPHS	359
<i>S. V. Gagarskiy, S. G. Grechin, P. Y. Druzhinin, K. Kato, D. G. Kochiev, P. P. Nikolaev, N. Umemura</i>	
FREQUENCY NONCRITICAL PHASE MATCHING FOR NONLINEAR FREQUENCY CONVERSION OF LASER RADIATION.....	360
<i>S. G. Grechin, D. G. Kochiev</i>	
USING AN EXTRACAVITY ACOUSTO-OPTIC FREQUENCY MODULATOR TO STABILIZE THE OFFSET FREQUENCY OF THE FIBER OPTICAL COMB GENERATOR	361
<i>N. A. Koliada, V. S. Pivtsov, D. Yu. Primakov, S. A. Farnosov, A. S. Dychkov, S. A. Kuznetsov, A. A. Filonov</i>	
EXCITATION DYNAMICS OF AN ATOMIC ENSEMBLE LOCATED IN A WAVEGUIDE	362
<i>A. S. Kuraptsev, I. M. Sokolov</i>	
CLUSTER EFFECTS ON NONLINEAR AND LINEAR PROPERTIES OF SUPERCRITICAL FLUIDS.....	363
<i>E. I. Mareev, V. A. Aleshkevich, F. V. Potemkin, A. P. Sviridov, V. M. Gordienko</i>	
GENERATION AND REGISTRATION OF POLARIZATION-ENTANGLED PHOTON PAIRS IN THE PRESENCE OF THE MIGDALL EFFECT.....	364
<i>D. N. Frolovtsev, S. A. Magnitskiy</i>	
BEATING HEISENBERG LIMIT WITH MOVING MATTER-WAVE SOLITONS	365
<i>D. V. Tsarev, Ngo-The Vinh, A. P. Alodjants</i>	
ELECTRICALLY SWITCHABLE PLANAR LIQUID-CRYSTAL ELEMENTS FOR APPLICATIONS OF INTEGRATED PHOTONICS	366
<i>O. S. Kabanova, I. I. Rushnova, E. A. Melnikova, A. L. Tolstik</i>	
METHODS OF GENERALIZED RAMSEY SPECTROSCOPY IN OPTICALLY DENSE POLYATOMIC ENSEMBLES.....	367
<i>K. A. Barantsev, T. Zanon-Willette, A. N. Litvinov</i>	
IMPROVING METROLOGICAL CHARACTERISTICS IN QUANTUM FREQUENCY STANDARD WITH LASER PUMPING	368
<i>A. P. Valov, N. A. Lukashev, V. V. Davydov, V. A. Kruglov, V. S. Reznik, V. Yu. Rud</i>	
GENERATION OF OPTICAL HARMONICS IN FIBER-COUPLED SEMICONDUCTING POLYTHIOPHENE FILMS	369
<i>A. V. Ivanenko, S. I. Trashkeev, N. T. Vasenin, B. N. Nyushkov, L. V. Kulik, D. A. Nevostruev, S. M. Kobtsev</i>	

DIRECT LASER MODIFICATION OF THIN TITANIUM FILM FOR FINE-TUNING OF PHOTONIC LITHIUM NIOBATE CIRCUITS.....	370
<i>A. V. Tronev, M. V. Parfenov, I. V. Ilichev, P. M. Agruzov, A. M. Ionov, N. N. Orlova, S. I. Bozhko, A. V. Shamrai</i>	
SUPERCONDUCTING SINGLE-PHOTON DETECTOR ON LITHIUM NIOBATE WAVEGUIDES	371
<i>A. V. Tronev, M. V. Parfenov, I. V. Ilichev, P. M. Agruzov, A. M. Ionov, A. I. Klimov, S. I. Bozhko, A. V. Shamrai</i>	
Y-BRANCHING SPLITTER FABRICATED IN LINBO3 BY PROTON EXCHANGE AND FEMTOSECOND LASER WRITING.....	372
<i>Sergey Kostritskii, Yuri Korkishko, Vaycheslav Fedorov, Nikolai Skryabin</i>	
VOLUME BRAGG GRATING FABRICATION BY FEMTOSECOND LASER PULSES.....	373
<i>A. S. Chernikov, R. V. Chkalov, D. G. Vasilchenkova</i>	

SY: 6TH INTERNATIONAL SYMPOSIUM ON LASERS IN MEDICINE AND BIOPHOTONICS

SYP: SYMPOSIUM PLENARY

RECENT PROGRESS IN THE USE OF NANODIAMONDS IN ONCOLOGY FOR ACTIVE TARGETING DELIVERY OF CHEMOTHERAPEUTIC DRUGS	374
<i>E. Osawa, E. Chow, D. Ho, H. Huang, T. Tanaka</i>	

SYA: ADVANCED LASER MEDICAL SYSTEMS AND TECHNOLOGIES

THULIUM-DOPED FIBER LASERS WITH DIRECT PUMPING. MEDICAL PERSPECTIVES	375
<i>A. A. Kolegov, A. V. Lappa, G. S. Sofienko, E. A. Belov, D. N. Bagavetdinov, A. O. Leshkov, Y. V. Ivchenko, E. G. Akulinin, I. V. Krochek, I. A. Abushkin, S. V. Sergiyko, A. E. Anchugova, A. S. Zarezina</i>	
OPTIMIZATION OF THE ENDOVENOUS LASER COAGULATION USING TWO-MICRON LASER RADIATION	376
<i>S. A. Artemov, A. N. Belyaev, O. S. Bushukina, S. A. Khrushchalina, S. V. Kostin, A. A. Lyapin, P. A. Ryabochkina, A. D. Taratynova</i>	
STUDY OF LASER RADIATION BLOOD PLASMA HEATING AND COAGULATION	377
<i>V. P. Minaev, V. Yu. Bogachev, K. A. Kaperiz, N. V. Minaev</i>	
OPTICAL COHERENCE TOMOGRAPHY OF BRAINS: EX VIVO STUDY OF HEALTHY AND MALIGNANT TISSUES.....	378
<i>I. N. Dolganova, P. V. Aleksandrova, N. A. Naumova, P. V. Nikitin, K. I. Zaytsev, S. T. Beshplav, V. V. Tuchin</i>	
OPTICALLY-CONTROLLED MEASUREMENTS OF CRYODESTRUCTION OF BIOLOGICAL TISSUES USING SAPPHIRE SHAPED CRYSTALS	379
<i>I. N. Dolganova, A. K. Zotov, I. A. Shikunova, K. I. Zaytsev, V. N. Kurlov</i>	
1.55 μ M LASER-INDUCED BOILING TECHNOLOGY IN THE TREATMENT OF BONE CYSTS IN CHILDREN	380
<i>I. A. Abushkin, V. M. Chudnovsky, V. G. Abushkina</i>	

EMBRYO MICROSURGERY WITH FEMTOSECOND LASER: NOVEL TECHNIQUES FOR ASSISTED REPRODUCTIVE TECHNOLOGIES.....	381
<i>I. V. Ilina, M. A. Filatov, Y. V. Khramova, D. S. Sitnikov</i>	
LASER MASS SPECTROMETRY OF VOLATILE ORGANIC COMPOUNDS FOR DIAGNOSIS OF PATHOLOGICAL PROCESSES.....	382
<i>A. B. Bukharina, M. Y. Kochevalina, A. V. Pento, Ya. O. Simanovsky, E. I. Rodionova, S. M. Nikiforov</i>	
DEVELOPMENT OF NOVEL MEDICAL INSTRUMENTS BASED ON SAPPHIRE SHAPED CRYSTALS.....	383
<i>V. N. Kurlov, I. N. Dolganova, I. A. Shikunova, G. M. Katyba, M. A. Shcherina, A. K. Zotov, K. I. Zaytsev</i>	
HIGH-EFFICIENT DFG OF FIBER LASERS RADIATION IN THE SPECTRAL REGION OF 3UM FOR SOFT TISSUE ABLATION	384
<i>I. A. Larionov, A. S. Gulyashko, D. A. Alekseev, V. A. Tyrtshmyy</i>	
EVALUATION OF BLUE DIODE LASER ALONE AND IN COMBINATION WITH TM FIBER LASER AS A TOOL FOR LAPAROSCOPIC SURGERY	385
<i>V. A. Arkhipova, M. E. Enikeev, E. E. Laukhtina, A. V. Kurkov, V. A. Andreeva, I. V. Yaroslavsky, G. B. Altshuler</i>	
THEORETICAL AND EXPERIMENTAL STUDY OF TEMPERATURE FIELDS AND TISSUE RESPONSE IN FRACTIONAL LASER REGENERATION OF CARTILAGE.....	386
<i>A. A. Kovalenko, V. A. Andreeva, E. N. Sobol, I. V. Yaroslavsky</i>	
INFLUENCE OF LASER IRRADIATION TO THE STRUCTURE OF DENTAL IMPLANT SURFACE DURING PROFESSIONAL ORAL HYGIENE.....	387
<i>S. V. Tarasenko, S. I. Repina, R. D. Garipov, E. A. Morozova</i>	
ULTRA-PRECISE MINIMALLY INVASIVE LASER SURGERY WITH PICOSECOND LASER PULSES	388
<i>V. A. Arkhipova, V. A. Andreeva, I. V. Yaroslavsky, G. B. Altshuler</i>	
OPTO-THERMAL COMPUTER MODELING OF LASER-STONE INTERACTION DURING LASER LITHOTRIPSY.....	389
<i>E. Startseva, V. Andreeva, I. Yaroslavsky</i>	
OPTIMIZING LASER LITOTRIPSY WITH SUPER-PULSE TM FIBER LASER THROUGH CONTROLLING PULSE SHAPE AND MODULATING PULSE SEQUENCE.....	390
<i>A. A. Kovalenko, V. A. Andreeva, I. V. Yaroslavsky, G. B. Altshuler</i>	
THERMO-MECHANICAL MECHANISM OF LASER-ASSISTED MICROSTRUCTURE ALTERATION IN CARTILAGINOUS TISSUE.....	391
<i>O. I. Baum</i>	
NEW LASER TECHNOLOGY FOR OPEN-ANGLE GLAUCOMA TREATMENT	392
<i>O. I. Baum, A. A. Gamidov, O. V. Khomchik, P. D. Gavrilina</i>	
NUMERICAL MODELING OF HEATING OF THE SKIN OF DIFFERENT PHOTOTYPES OF THE DUAL-WAVELENGTHS COPPER VAPOR LASER RADIATION.....	393
<i>Igor V. Ponomarev, Sergey B. Topchiy, Aleksandra E. Pushkareva, Svetlana V. Klyuchareva</i>	

THE USE OF THE MULTI-WAVE LASER MEDICAL DEVICE "LIVADIA" FOR THE TREATMENT OF INFLAMMATION OF THE EPITHELIAL PILONIDAL CYST IN CHILDREN AND ADULTS	394
<i>O. V. Tikhonevich, A. A. Sirotkin, G. P. Kuzmin, N. E. Gorbatova, A. V. Brynsev, M. A. Dvornikova, A. G. Kuzmina, V. P. Kurilov</i>	
LASER SURGICAL APPARATUS FOR PRECISION TISSUE DISSECTION, WITH THE POSSIBILITY OF CONTROLLED HEMOSTASIS.....	395
<i>O. V. Tikhonevich, A. A. Sirotkin, G. P. Kuzmin, N. E. Gorbatova</i>	
DEVELOPMENT OF A LASER MEDICAL DEVICE FOR THE SELECTIVE REMOVAL OF PATHOLOGICAL VASCULAR.....	396
<i>O. V. Tikhonevich, A. A. Sirotkin, N. E. Gorbatova, G. P. Kuzmin, M. V. Remennikova, D. A. Seleznev</i>	
EFFECT OF HIGH-POWER PULSES OF TERAHERTZ RADIATION ON CELL VIABILITY	397
<i>D. S. Sitnikov, I. V. Ilina, V. A. Revkova, M. A. Konoplyannikov, V. A. Kalsin, V. P. Baklaushev</i>	
MATHEMATICAL MODEL OF WELD FORMATION DURING LASER WELDING OF BIOLOGICAL TISSUES.....	398
<i>D. I. Ryabkin, A. Y. Gerasimenko</i>	
CHARACTERIZATION OF NANOPARTICLE EMISSION DURING LASER CLADDING WITH STAINLESS STEEL POWDER.....	399
<i>A. Nagy, Sz. Kugler, I. Kreisz, A. Czitrovszky</i>	
LASER INDUCED ENDOGENOUS FLUORESCENCE OF SKIN LIPOFUSCIN IN PATIENTS SUFFERING FROM KELOID SCARS.....	400
<i>I. A. Raznitsyna, V. V. Andreeva, A. A. Gerzhik, M. B. Makmatov-Rys, D. A. Rogatkin, D. A. Kulikov, A. M. Sipkin</i>	
COMPARISON OF THE RESULTS OF ENDOVENOUS LASER COAGULATION (EVLG) USING 2- μ M RADIATION AND VARIOUS TYPES OF FIBER.....	401
<i>S. A. Artemov, A. N. Belyaev, O. S. Bushukina, S. A. Khrushchalina, S. V. Kostin, A. A. Lyapin, P. A. Ryabochkina, A. D. Taratynova</i>	
<u>SYB: LASER INTERACTION WITH CELLS AND TISSUES: CLINICAL IMAGING AND SPECTROSCOPY</u>	
STUDY OF THE IMPACT OF OPTICAL CLEARING ON SKIN ABSORPTION, SCATTERING AND AUTOFLUORESCENCE PROPERTIES	402
<i>W. Blondel, S. Zaytsev, V. Colas, G. Khairallah, P. Rakotomanga, C. Soussen, E. Genina, C. Daul, V. Tuchin, M. Amouroux</i>	
OPTICAL PROPERTIES OF BRAIN STRUCTURES THAT COULD BE MET BY NEUROSURGEON	403
<i>K. A. Achkasova, K. S. Yashin, A. A. Moiseev, E. B. Kiseleva, M. M. Karabut, E. V. Zagaynova, N. D. Gladkova</i>	
TEMPORAL CORRELATION TRANSFER IN A HEAD MODEL.....	404
<i>V. L. Kuzmin, A. Y. Valkov, Y. A. Zhavoronkov</i>	

COMPLEMENTARY FLUORESCENCE AND OPTOACOUSTIC IMAGING FOR MONITORING OF PHOTODYNAMIC THERAPY OF GLIOMA EMPLOYING BPD BASED NANOCONSTRUCTS: PILOT ANIMAL STUDIES	405
<i>I. Turchin, M. Kirillin, D. Kurakina, A. Orlova, V. Plekhanov, E. Sergeeva, P. Subochev, E. Sergeev, V. Perekatova, A. Nerush, D. Yuzhakova, E. Kiseleva, M. Shirmanova, S. Bano, S. Mallidi, T. Hasan</i>	
ON THE ORIGIN OF NIR FLUORESCENCE IN BIOTISSUES	406
<i>E. A. Shirshin</i>	
THE POSSIBILITIES OF OPTICAL METHODS IN THE EARLY DIAGNOSIS OF GLIOMAS.....	407
<i>O. Cherkasova, A. Mankova, M. Konnikova, P. Solyankin, D. Vrazhnov, Yu. Kistenev, A. Sinko, Y. Peng, E. L. Zavjalov</i>	
MULTI-FACTOR MODELING OF OCT-SCAN FORMATION IN THE PRESENCE OF SCATTERER MOTIONS.....	408
<i>A. L. Matveyev, L. A. Matveev, A. A. Sovetsky, A. A. Zykov, A. A. Moiseev, G. V. Gelikonov, A. Vitkin, V. Y. Zaitsev</i>	
OVERCOMING THE ABBE DIFFRACTION LIMIT IN THZ SPECTROSCOPY AND IMAGING OF SOFT BIOLOGICAL TISSUES.....	409
<i>K. I. Zaytsev, N. V. Chernomyrdin, G. M. Katyba, I. N. Dolganova, V. N. Kurlov</i>	
STUDY OF DRY PELLETS OF BLOOD PLASMA USING THZ SPECTROSCOPY	410
<i>A. Lykina, M. Konnikova, M. Chernyaeva, P. Gavrilova, I. Mustafin, E. Domracheva, V. Anfertev, D. Vrazhnov, V. Prischepa, Y. Toropova, D. Korolev, A. Shkurinov</i>	
STUDY OF TEMPERATURE DEPENDENCE ON THZ TRANSMISSION OF ALBUMIN SOLUTION	411
<i>M. Konnikova, M. Nazarov, O. Cherkasova</i>	
LINE CURVATURE ALGORITHM IN LASER EKTACYTOMETRY OF RED BLOOD CELLS	412
<i>S. Yu. Nikitin, V. D. Ustinov, S. D. Shishkin, M. S. Lebedeva</i>	
STUDYING SLOW-DEFORMATION PHENOMENA IN CARTILAGINOUS SAMPLES USING OPTICAL COHERENCE ELASTOGRAPHY.....	413
<i>Yu. M. Alexandrovskaya, O. I. Baum, A. A. Sovetsky, A. L. Matveyev, L. A. Matveev, E. N. Sobol, V. Yu. Zaitsev</i>	
MONITORING OF PROCESSES INVOLVING WHITE BLOOD CELLS USING ENDOGENOUS FLUORESCENCE	414
<i>B. P. Yakimov, A. N. Semenov, M. A. Gogoleva, S. A. Rodionov, A. V. Priezzhev, E. A. Shirshin</i>	
DEVELOPMENT OF PHOTODYNAMIC THERAPY PROTOCOLS WITH ASSISTANCE OF OPTICAL MONITORING TECHNIQUES.....	415
<i>M. Yu. Kirillin, A. V. Khilov, D. A. Kurakina, M. A. Shakhova, E. A. Sergeeva, A. G. Orlova, A. E. Meller, A. M. Mironycheva, A. S. Malygina, I. L. Shlivko, N. Yu. Orlinskaya, I. V. Turchin, S. V. Gamayunov</i>	
HIGH RESOLUTION RAMAN DETECTION OF $^{12}\text{CO}_2$ AND $^{13}\text{CO}_2$ ISOTOPES IN HUMAN BREATH.....	416
<i>A. V. Polishchuk, V. V. Kurikova, K. M. Grigorenko, V. V. Vitkin</i>	
MULTI-MODAL IMAGING IN LIVE CELL MICROSCOPY	417
<i>H. Schneckenburger, V. Richter, C. Cremer</i>	

OCE-BASED QUASISTATIC ELASTO-SPECTROSCOPY TO CHARACTERIZE TUMORS BY THEIR LINEAR AND NONLINEAR ELASTICITY	418
<i>A. A. Plekhanov, E. V. Gubarkova, M. A. Sirotkina, A. A. Sovetsvkiy, A. L. Matveyev, L. A. Matveev, N. D. Gladkova, E. V. Zagaynova, V. Y. Zaitsev</i>	
LASER-OPTIC METHODS FOR REVEALING MOLECULAR AND MICRORHEOLOGIC MECHANISMS OF INTERACTION OF BLOOD COMPONENTS AND RELATED IMPAIRMENT OF METABOLISM AT CARDIOVASCULAR DISEASES	419
<i>A. V. Priezzhev, A. E. Lugovtsov, A. N. Semenov, P. B. Ermolinskiy, Kisung Lee, Sehyun Shin, S. Yu. Nikitin</i>	
TWO APPROACHES IN MONTE CARLO SIMULATION OF LASER LIGHT TRANSPORT IN TURBID BIOLOGICAL MEDIA.....	420
<i>A. P. Tarasov, D. A. Rogatkin</i>	
ACCELERATION OF MONTE CARLO SIMULATION OF LIGHT TRANSPORT IN TISSUES USING DISK-DETECTOR GEOMETRY IN THE BACKSCATTERING PROBLEM.....	421
<i>A. P. Tarasov</i>	
COMPARATIVE STUDY OF DIFFERENT TYPES OF FIXED HISTOLOGICAL SAMPLES USING DIGITAL HOLOGRAPHIC MICROSCOPY	422
<i>A. A. Zhikhoreva, A. V. Belashov</i>	
RECONSTRUCTION OF OPTICAL PARAMETERS FOR BLOOD PLASMA PELLETS USING PULSE TERAHERTZ HOLOGRAPHY METHOD	423
<i>E. L. Odlyanitskiy, M. S. Kulya, Q. Cassar, I. A. Mustafin, V. N. Trukhin, D. V. Korolev, Y. V. Kononova, P. Mounaix, J. P. Guillet, N. V. Petrov, O. A. Smolyanskaya</i>	
DETERMINATION OF EGG YOLK OPTICAL PROPERTIES AT VARIOUS TEMPERATURES USING MODIFIED INTEGRATING SPHERES METHOD	424
<i>T. K. Karpova, N. V. Kovalenko, G. A. Aloian, O. A. Ryabushkin</i>	
SENSITIVITY OF THE LASER DOPPLER FLOWMETRY AND INCOHERENT OPTICAL FLOWMETRY TO LOW-FREQUENCY BLOOD FLOW OSCILLATIONS.....	425
<i>D. G. Lapitan, D. A. Rogatkin</i>	
DESIGN OF THE ACOUSTO-OPTICAL SYSTEM FOR LASER TRAPPING OF MICROSCOPIC PARTICLES.....	426
<i>M. A. Vinogradov, A. A. Yablokova, P. A. Nosov</i>	
REVERSIBLE IMMOBILIZATION FOR SYNTHESIS OF BARCODING PARTICLES.....	427
<i>D. S. Andreev, A. G. Bakanov, B. L. Zubailov</i>	
THE LASER RADIATION PRESSURE ON NANOCAPSULES (THE ABILITY TO MOVE).....	428
<i>N. G. Kokodii, S. V. Pogorelov, V. A. Timaniuk, I. V. Krasovskiy</i>	
MOBILE LASER DEVICE FOR EXPRESS DIAGNOSTICS OF RED BLOOD CELLS SIZE DISTRIBUTION	429
<i>A. E. Lugovtsov, G. S. Kalenkov, A. E. Shtanko, V. D. Ustinov, P. S. Vinnikov, S. Yu. Nikitin, A. V. Priezzhev</i>	

SYC: PHOTONICS AND NANOBIO TECHNOLOGY

LUMINESCENT NANOPARTICLES AS LABELS FOR BIOASSAY.....	430
<i>I. Yu. Goryacheva, A. A. Kokorina, A. M. Abramova, D. V. Shpuntova, E. A. Mordovina, D. V. Tsyupka, A. S. Novikova, D. D. Drozd, P. S. Pidenko, T. S. Ponomaryeva, P. D. Strokin, A. N. Mitrophanova, O. A. Goryacheva</i>	
ULTRASENSITIVE INTERFEROMETRIC AND MAGNETIC ANALYTICAL SYSTEMS FOR SIMULTANEOUS EXPRESS DETECTION OF MULTIPLE DISEASE BIOMARKERS.....	431
<i>A. V. Orlov, A. V. Pushkarev, E. N. Mochalova, N. V. Guteneva</i>	
DIGITAL HOLOGRAPHIC MICROSCOPY AND TOMOGRAPHY IN RESEARCH OF CELLULAR RESPONSE TO PHOTODYNAMIC TREATMENT.....	432
<i>I. V. Semenova</i>	
"TWO-WAY ROAD": HOW DO QDS AFFECT THE CELLS AND HOW DO THE CELLS AFFECT QDS?	433
<i>E. S. Kornilova, I. K. Litvinov, E. A. Leontieva, A. O. Orlova, T. N. Belyaeva</i>	
MULTIMODAL UPCONVERSION NANOPARTICLES WITH CONTROLLED DRUG RELEASE AS DRUG DELIVERY SYSTEM.....	434
<i>P. A. Demina, N. V. Sholina, R. A. Akasov, N. A. Arkharova, Y. V. Grigoriev, I. M. Asharchuk, A. V. Nechaev, E. V. Khaydukov, A. N. Generalova</i>	
RATIONAL DESIGN OF NANOPARTICLE-BASED AGENTS FOR EFFECTIVE TARGETED DRUG AND GENE DELIVERY TO EUKARYOTIC CELLS	435
<i>E. N. Mochalova</i>	
NANOPHOTONIC APPROACHES TO BIOSENSING APPLICATIONS	436
<i>A. Rakovich, S. Po, M. P. Do Carmo, M. Zhao, E. Leggett, S. Carter-Searjeant, H. Walker, A. Lauri, S. Anguiano, M. L. Guyon, A. Reynoso, L. Urbano, E. Cortes, P. A. Huidobro, P. Manning, A. Fainstein, S. A. Maier, M. L. Pedano, M. Green</i>	
MAGNETIC AND GOLD NANOPARTICLES OPTIMIZED FOR CANCER TREATMENT VIA CELL HITCHHIKING.....	437
<i>M. N. Yakovtseva, O. Betzer, A. V. Lunin, E. N. Mochalova, M. Beiderman, M. Motiei, S. D. Zvereva, O. B. Proushinskaya, T. Sadan, R. Popovtzer, M. P. Nikitin</i>	
CONJUGATED POLYMER NANOPARTICLES AS MULTI-MODAL PHOTODYNAMIC THERAPY PROBES.....	438
<i>M. Zhao, E. Leggett, S. Carter-Searjeant, S. Po, M. P. Carmo, L. Urbano, P. Manning, M. Green, A. Rakovich</i>	
FOULING-PROOF REAL-TIME OPTOSENSORS FOR POLYVALENCY-BASED CHARACTERIZATION OF CIRCULATING ANTIBODIES.....	439
<i>A. V. Pushkarev, K. G. Shevchenko, B. G. Gorshkov, N. V. Zhukov, N. N. Orlova, V. A. Bragina</i>	
PLASMONIC CONTROL OF ANALYTE MOTION	440
<i>M. P. Carmo, S. Po, M. Zhao, A. Lauri, P. A. Huidobro, A. Rakovich</i>	
ELECTROCONDUCTIVITY OF CARTILAGE IN THE TEMPERATURE RANGE FROM -10°C TO 50°C WITH LASER HEATING.....	441
<i>E. M. Kasianenko, A. I. Omelchenko</i>	

OPTICAL LABEL-FREE METHOD FOR INVESTIGATION OF POLYVALENT ANTIGEN-ANTIBODY INTERACTIONS FOR DIAGNOSTICS OF HEPATITIS B	442
<i>V. A. Bragina, V. R. Cherkasov, A. V. Babenyshev, A. G. Burenin, D. O. Novichikhin, N. V. Guteneva</i>	
PLASMONIC SILVER NANOPARTICLES FOR THERANOSTICS OF HER2-POSITIVE CANCER.....	443
<i>V. O. Shipunova, M. M. Belova, P. A. Kotelnikova, S. M. Deyev</i>	
BIOCOMPATIBLE CANCER-TARGETED MULTIMODAL BIOIMAGING AGENTS SYNTHESIZED VIA ACID-PROMOTED TRANSFORMATION	444
<i>A. V. Lunin, S. M. Dolotova, S. P. Krechetov, D. V. Rogozhnikov, V. R. Cherkasov</i>	
BIOSENSING AND THERANOSTICS USING FUNCTIONALIZED MAGNETIC AND PLASMONIC NANOPARTICLES	445
<i>P. I. Nikitin</i>	
GOLD NANORODS-BASED OLIGONUCLEOTIDES CARRIER QUANTITATIVE CHARACTERISATION.....	446
<i>H. J. Laszewski, B. Palpant, M. Buckle, C. Nogues</i>	
PROSPECTIVE OF LASER-INDUCED FLUORESCENCE AS A NON-INVASIVE TOOL FOR ECOTOXICOLOGICAL ASSESSMENTS	447
<i>A. B. Utkin, B. Duarte, M. T. Cabrita</i>	
FLUORESCENCE TIME-RESOLVED SPECTROSCOPY AND MACROSCOPY OF TUMORS.....	448
<i>V. Shcheslavskiy, M. Shirmanova, M. Lukina, E. Kiseleva, A. Gavrina, W. Becker</i>	
EXPLORING TUMOR-STROMA INTERACTIONS USING COMBINED AUTOFLUORESCENCE AND SHG IMAGING	449
<i>M. V. Shirmanova, M. M. Lukina, N. I. Druzhkova, V. V. Dudenkova, A. I. Gavrina, V. E. Zagainov, N. I. Ignatova, E. V. Zagaynova</i>	
ACOUSTIC DETECTION OF NANOPARTICLE STRUCTURAL STABILITY IN PHYSIOLOGICAL MEDIA AFTER THEIR LASER IRRADIATION	450
<i>I. V. Zelepukin, A. A. Popov, A. V. Kabashin, S. M. Deyev, A. V. Zvyagin</i>	
HYBRID PLASMONIC-SERS BASED BIOSENSING	451
<i>S. Po, M. P. Carmo, M. Zhao, S. Anguiano, M. L. Guyon, A. Reynoso, E. Cortes, S. Maier, A. Fainstein, L. Pedano, A. Rakovich</i>	
PLASMON RESONANCE ENHANCED NONTOXIC NANOAGENTS FOR IN VIVO DETECTION OF ANTIBIOTIC RESISTANT BACTERIA.....	452
<i>E. L. Kolychev, A. Ringaci, A. A. Kotov, K. G. Shevchenko, M. P. Nikitin</i>	
MULTIMODAL MAGNETIC METAL-ORGANIC FRAMEWORK NANOPARTICLES FOR BIOIMAGING AND GENE KNOCKDOWN.....	453
<i>A. V. Babenyshev, R. O. Melikov, V. R. Cherkasov, E. L. Kolychev</i>	
PRECISE QUANTITATIVE ANALYSIS OF CELL TARGETING BY PARTICLE-BASED AGENTS USING IMAGING FLOW CYTOMETRY AND DEEP LEARNING OBJECT DETECTION.....	454
<i>I. A. Kotov, E. N. Mochalova, E. L. Kolychev</i>	
INDUCED FLUORESCENCE TECHNIQUES FOR PLANT PHENOTYPING	455
<i>A. B. Utkin, A. Cartaxana, A. Figueiredo, J. Marques Da Silva</i>	

MULTI-PARAMETER LABEL-FREE BIOSENSING WITH SELF-ASSEMBLED SMART BIOLAYERS THAT TRANSFORM EACH SENSING CHANNEL INTO A MULTIPLEX CHANNEL.....	456
<i>A. V. Pushkarev, E. N. Mochalova, A. G. Burenin, N. V. Guteneva, P. I. Nikitin</i>	
NOVEL METHOD OF FLUORESCENCE IMAGING FOR HIGH-SENSITIVE IN VIVO INVESTIGATION OF BIODISTRIBUTION OF VARIOUS NANOPARTICLES IN LABORATORY ANIMALS.....	457
<i>A. V. Pushkarev, S. L. Znoyko, D. O. Novichikhin, N. N. Orlova, B. G. Gorshkov</i>	
PHOTOMODIFICATION OF GOLD NANOSTARS UNDER NANOSECOND LASER PULSES.....	458
<i>V. A. Khanadeev, S. A. Kushneruk, A. V. Simonenko, G. G. Akchurin, N. G. Khlebtsov</i>	
INFLUENCE OF MICROENVIRONMENT ON THE OPTICAL PROPERTIES OF QUANTUM DOTS BASED ON INP/ZNS AND CDSE/ZNS	459
<i>I. K. Litvinov, T. N. Belyaeva, E. A. Leontieva, A. O. Orlova, E. S. Kornilova</i>	
THE EVALUATION OF TUMOR VASCULARIZATION AS A PROGNOSTIC FACTOR OF PLASMONIC PHOTOTHERMAL THERAPY EFFICIENCY	460
<i>A. B. Bucharskaya, G. N. Maslyakova, M. L. Chekhonatskaya, N. B. Zakharova, G. S. Terentyuk, N. A. Navolokin, B. N. Khlebtsov, N. G. Khlebtsov, V. D. Genin, A. N. Bashkatov, E. A. Genina, V. V. Tuchin</i>	
HYBRID MAGNETIC NANOPARTICLES SYNTHESIZED BY THE SOLVOTHERMAL METHOD AS PROMISING AGENTS FOR BIOMEDICAL APPLICATIONS.....	461
<i>A. N. Kozyrina, A. A. Sizikov, A. Ringaci, A. V. Popova, D. V. Rogozhnikov, E. L. Kolychev</i>	
BIOCOMPATIBLE AND HIGHLY LUMINESCENT QUANTUM DOTS FOR BIOIMAGING	462
<i>A. A. Sizikov, A. Ringaci, S. M. Dolotova, R. O. Melikov, V. R. Cherkasov</i>	
MULTIFUNCTIONAL MAGNETIC PARTICLE-BASED NANOCARRIERS WITH EASILY MODIFIABLE SURFACE FOR IN VIVO TRANSFECTION	463
<i>A. V. Yaremenko, A. Ringaci, S. D. Zvereva, D. A. Lifanov, T. V. Yaremenko, A. A. Tamgin, V. R. Cherkasov, M. P. Nikitin</i>	
MULTIMODAL NANOPARTICLES FOR SIMULTANEOUS DELIVERY OF THERAPEUTIC AGENTS OF DIFFERENT NATURE.....	464
<i>A. Ringaci, A. V. Yaremenko, K. G. Shevchenko, S. D. Zvereva</i>	
MULTIPARAMETRIC CHARACTERIZATION AND QUANTITATIVE DETECTION OF EXTRACELLULAR VESICLES BY A COMBINATION OF OPTICAL AND MAGNETIC TECHNIQUES.....	465
<i>S. L. Znoyko, I. Nazarenko, L. Paniushkina, E. B. Khomyakova, E. N. Mochalova, E. G. Evtushenko, V. N. Lavrenkova, V. A. Bragina, B. G. Gorshkov</i>	
OPTICALLY CONTROLLED DESIGN OF BI-FUNCTIONAL AGENTS FOR DEVELOPMENT OF COMPETITIVE IMMUNOASSAYS OF ENHANCED SENSITIVITY	466
<i>S. L. Znoyko, A. G. Burenin, V. A. Bragina, A. I. Nikitin, G. M. Sorokin, E. L. Kolychev</i>	
THE INFLUENCE OF MICROWAVE RADIATION ON THE PORE SIZE IN A BILAYER LIPID MEMBRANE.....	467
<i>D. G. Artemova</i>	
IMPLEMENTATION OF OPTICAL PULSE DENSITOMETRY SENSOR	468
<i>I. N. Kolokolnikov, I. I. Lavrenyuk, E. A. Savchenko, E. K. Nepomnyashchaya, E. N. Velichko</i>	

IMAGE PROCESSING SYSTEM OF BIOLOGICAL LIQUIDS FOR MEDICAL DIAGNOSTICS.....	469
<i>M. A. Baranov, E. N. Velichko, E. A. Savchenko</i>	
LASER SCATTERING TECHNIQUE FOR BLOOD SERUM ANALYSIS	470
<i>E. K. Nepomnyashchaya, E. N. Velichko, E. A. Savchenko</i>	
MULTI-MODAL NANOSTRUCTURES FOR MEASURING ULTRA-LOW CONCENTRATIONS OF ANALYTES IN COMPLEX MEDIUMS	471
<i>V. A. Bragina, A. G. Burenin, N. V. Zhukov</i>	
SYNTHESIS OF FLUORESCENT AND MAGNETIC LIPOSOMES AND THEIR APPLICATION FOR OPTICAL DETECTION OF MIGRATING CANCER CELLS	472
<i>D. Rogozhnikov, A. V. Babenyshev, A. Yu. Kovaleva, M. N. Yakovtseva, A. V. Lunin, D. A. Lyfanov, M. P. Nikitin</i>	
NOVEL MAGNETO-OPTICAL SENSORS BASED ON ANISOTROPIC MAGNETIC NANOMATERIALS FOR DETECTING BIOLOGICAL AGENTS.....	473
<i>D. O. Novichikhin, A. G. Burenin, A. R. Alekbarova, A. V. Orlov</i>	
DEVELOPMENT OF RAPID MULTIPARAMETRIC METHODS OF MOLECULAR BIOSENSING FOR EARLY DIAGNOSTICS AND MONITORING OF ONCOLOGY DISEASES	474
<i>D. O. Novichikhin, A. G. Burenin, I. A. Bakhratov, P. I. Nikitin</i>	
THREE-DIMENSIONAL MODULAR BIOSENSOR FOR EXPRESS DETERMINATION OF SEVERAL CARDIAC MARKERS.....	475
<i>N. V. Guteneva, A. V. Pushkarev, E. N. Mochalova, S. V. Miziev, N. V. Danilova, A. V. Orlov</i>	
HIGH-SENSITIVE IMMUNOANALYTICAL PLATFORM BASED ON IRON OXIDE NANOPARTICLES AND MAGNETIC BEADS CONTAINING COMPOSITE NANOMATERIALS.....	476
<i>A. V. Orlov, A. R. Alekbarova, N. V. Guteneva, S. L. Znoyko</i>	
<u>SYD: PHOTODYNAMIC PROCESSES IN BIOLOGY AND MEDICINE</u>	
BIOMEDICAL IMAGE PROCESSING WITH THIN FILMS OF BACTERIORHODOPSIN FOR BREAST CANCER DIAGNOSTICS	477
<i>D. V. G. L. N. Rao</i>	
PHOTODYNAMIC THERAPY IN THE COMBINED TREATMENT OF BREAST CANCER INTRADERMAL METASTASES	478
<i>M. Gelfond, S. Kondratiev, E. Tkachenko, V. Semiglazov, T. Semiglazova, V. Ivanov, K. Usova, N. Brish</i>	
DYNAMICS OF PATIENT-SPECIFIC MALIGNANT CELLS DEATH AT PHOTODYNAMIC TREATMENT IN VITRO	479
<i>A. A. Zhikhoreva, A. V. Belashov, N. A. Avdonkina, I. A. Baldueva, A. B. Danilova, M. L. Gelfond, T. L. Nekhaeva, I. V. Semenova, O. S. Vasyutinskii</i>	
LASER-SPECTROSCOPIC METHODS, DEVICES AND TOOLS FOR PRECISE DIAGNOSIS, TREATMENT AND INTRAOPERATIVE NAVIGATION IN ONCOLOGY	480
<i>V. B. Loschenov</i>	
MECHANISMS OF SHUNGITE NANOCARBON INTERACTIONS WITH BIOLOGICAL MOLECULES.....	481
<i>N. N. Rozhkova, A. S. Goryunov, S. S. Rozhkov</i>	

TIME-RESOLVED MICROSCOPY AND PHOTO-MECHANICAL ACTION ON BIO-RELATED OBJECTS	482
<i>G. Ferrini</i>	
OXYGEN ACTIVATION IN AERATED SOLVENTS BY RED AND INFRARED LASER RADIATION: MEASUREMENT OF THE ABSORPTION SPECTRA OF DISSOLVED OXYGEN MOLECULES	483
<i>A. A. Krasnovsky, A. S. Kozlov, A. S. Benditkis, S. E. Goncharov</i>	
PHOTOPHYSICAL ASPECTS OF CORNEAL CROSS-LINKING. CHALLENGES AND PROSPECTS	484
<i>V. A. Serebryakov, E. V. Boiko, V. G. Maslov, M. V. Melekhova, G. V. Papayan, T. K. Krisko</i>	
APPLICATION OF DIGITAL HOLOGRAPHIC AND FLUORESCENCE MICROSCOPY FOR INVESTIGATION OF LIVE CELLS RESPONSE TO PHOTODYNAMIC TREATMENT USING RADACHLORIN PHOTOSENSITIZER	485
<i>A. V. Belashov, A. A. Zhikhoreva, T. N. Belyaeva, E. S. Kornilova, I. V. Semenova, O. S. Vasyutinskii</i>	
NANODRUG CONJUGATE IMPROVES PHOTODYNAMIC ACTION ON LUNG CANCER STEM CELLS	486
<i>Anine Crous, Heidi Abrahamse</i>	
INVESTIGATION OF ANISOTROPIC RELAXATION IN EXCITED BIOMOLECULES IN THE PICO- AND SUBPICOSECOND TIME DOMAIN.....	487
<i>O. S. Vasyutinskii</i>	
COMPARATIVE STUDY OF THE PHOTOCATALYTIC AND BACTERICIDAL PROPERTIES OF COATINGS BASED ON METAL OXIDES NANOPARTICLES	488
<i>S. K. Evstropiev, I. V. Bagrov, A. N. Baranov, I. M. Belousova, K. V. Dukelskii, A. V. Karavaeva, V. M. Kiselev, N. V. Nikonorov</i>	
POLARIZED FLUORESCENCE IN NADH IN WATER/METHANOL SOLUTIONS UPON EXCITATION WITH FEMTOSECOND LASER PULSES	489
<i>I. A. Gorbunova, M. E. Sasin, N. O. Bezverkhni, J. Rubayo-Soneira, O. S. Vasyutinskii</i>	
DUAL-WAVELENGTH FLUORESCENCE IMAGING FOR PHOTODYNAMIC THERAPY PLANNING AND MONITORING	490
<i>A. V. Khilov, D. A. Kurakina, E. A. Sergeeva, M. A. Shakhova, A. G. Orlova, A. M. Mironycheva, A. S. Malygina, I. V. Turchin, I. L. Shlivko, M. Yu. Kirillin</i>	
ULTRASENSITIVE TRANSIENT TIME-RESOLVED MONITORING OF ANISOTROPIC RELAXATION IN NADH WITH SUB-PICOSECOND RESOLUTION	491
<i>Y. M. Beltukov, I. M. Gadzhiev, I. A. Gorbunova, M. E. Sasin, O. S. Vasyutinskii</i>	
ON THE PHOTOSTABILITY OF COMPLEXES OF AMPHIPHILIC WATER-SOLUBLE PHOTOSENSITIZERS WITH ALBUMIN	492
<i>I. V. Bagrov, I. M. Belousova, A. V. Dadeko, V. M. Kiselev, T. K. Krisko, T. D. Murav'Eva, A. M. Starodubtsev</i>	
OXYGEN SENSITIVE GRAPHENE-BASED CARBON FILMS	493
<i>A. A. Kovalchuk, N. N. Rozhkova, A. V. Prikhodko</i>	
DYNAMICS OF PPIX ACCUMULATION IN A549, HELA AND 3T3 CELL LINES	494
<i>D. A. Gorbenko, A. V. Belashov, T. N. Belyaeva, E. S. Kornilova, I. V. Semenova, O. S. Vasyutinskii</i>	

ENHANCEMENT OF RAMAN SIGNAL BY THE USE OF BATIO₃ MICROSPHERES 495
I. S. Ruzankina, G. Ferrini

POLARIZED FLUORESCENCE OF ALKYL DERIVATIVES OF FLUORESCHEIN, MITOFLUO
AND C8-FL, IN SOLUTIONS WITH LIPOSOMES 496
*D. M. Beltukova, V. P. Belik, Y. N. Antonenko, A. A. Bogdanov, G. A. Korshunova, E. A.
Kotova, I. V. Semenova, A. G. Smolin, O. S. Vasyutinskii*

SYE: NANOPHOTOTHERANOSTICS

INTRA-ARTICULAR PHOTODYNAMIC THERAPY MECHANISMS FOR
OSTEOARTHRITIS TREATMENT 497
*V. I. Makarov, T. A. Zharova, E. A. Kogan, M. M. Smorchkov, A. V. Lychagin, S. V. Ivannikov,
N. V. Zharkov, V. B. Loschenov*

THE INVESTIGATION OF THE PHOTODYNAMIC EFFICIENCY OF CHLORINE E6 ON A
MODEL OF MULTICELLULAR TUMOR SPHEROIDS USING THE DEVELOPED VIDEO
FLUORESCENT EQUIPMENT 498
*D. S. Farrakhova, Yu. S. Maklygina, D. V. Yakovlev, K. T. Efendiev, A. V. Borodkin, M. V.
Loschenov, L. Bezdetnaya, V. A. Oleinikov, A. D. Plyutinskaya, T. A. Karmakova, A. A.
Pankratov, V. B. Loschenov*

SINGLE-FIBER SYSTEM DEVELOPMENT FOR SIMULTANEOUS PHOTODYNAMIC
THERAPY AND MONITORING THE PHOTOSENSITIZER CONCENTRATION FOR
STEREOTACTIC BRAIN OPERATIONS 499
D. M. Kustov, P. V. Grachev, E. I. Kozlikina, V. B. Loschenov

SHORTWAVE-IRRED EMITTERS FOR BIOLOGICAL IMAGING BASED ON YB-ER-
TM AND YB-ER-HO TRIDOPED CORE-SHELL NAGDF₄ NANOPARTICLES 500
*D. V. Pominova, V. Yu. Proydakova, I. D. Romanishkin, A. V. Ryabova, P. V. Grachev, S. V.
Kuznetsov, V. V. Voronov, P. P. Fedorov, V. B. Loschenov*

YB-ER-DOPED NANOPARTICLES SYNTHESIS TEMPERATURE EFFECT ON
UPCONVERSION LUMINESCENCE LIFETIME 501
I. D. Romanishkin, V. Yu. Proydakova, S. V. Kuznetsov, D. V. Pominova

APPLICATION OF TIME-RESOLVED FLUORESCENCE MICROSCOPY TO ASSESS THE
METABOLIC STATE OF TISSUE MACROPHAGES IN PHOTODYNAMIC THERAPY 502
A. V. Ryabova, I. D. Romanishkin, A. S. Skobeltsin, D. V. Pominova, V. B. Loschenov

THE OPTICAL ESTIMATION OF GLIOMA CELL COMPOSITION USING FLUORESCENCE
LIFETIME IMAGING 503
Yu. S. Maklygina, I. D. Romanishkin, T. A. Savelieva, V. B. Loschenov

AUTOMATIC ATTENUATION CORRECTION TECHNIQUE FOR FLUORESCENT
ANALYSIS OF THE PHOTOSENSITIZER CONCENTRATION IN BIOLOGICAL TISSUES 504
*T. A. Savelieva, M. N. Kuryanova, E. V. Akhlyustina, K. G. Linkov, G. A. Meerovich, V. B.
Loschenov*

LASER SPECTROSCOPIC METHOD FOR ASSESSING THE EFFECTIVENESS OF
PHOTODYNAMIC THERAPY (CONTROLLED PDT) 505
K. T. Efendiev, P. M. Alekseeva, A. A. Shiryaev, K. G. Linkov, V. B. Loschonov

TUMORIGENESIS AND METASTASIS SCHEME FROM PHOTODYNAMIC THERAPY
PERSPECTIVE 506
A. S. Skobeltsin, A. V. Ryabova, Yu. S. Maklygina, V. B. Loschenov

THE APPROACH TO OPTIMIZATION PARAMETERS OF ALUMINIUM PHTHALOCYANINE-BASED NANOPHOTOSENSITIZERS FOR PHOTOTHERANOSTIC	507
<i>S. K. Kiselyova, V. I. Makarov, E. A. Lukyanets, V. B. Loschenov</i>	
ND3+-DOPED NANOPARTICLES FOR VISUALIZATION IN THE TISSUE DEPTH	508
<i>A. V. Ryabova, Yu. V. Orlovskii, E. O. Orlovskaya, A. S. Vanetsev, A. V. Popov, I. D. Romanishkin, P. V. Grachev, V. B. Loschenov</i>	
RAMAN SPECTROSCOPY FOR THE DEVELOPMENT OF A METHOD FOR GLIAL BRAIN TUMORS DIAGNOSTICS	509
<i>L. R. Bikmukhametova, I. D. Romanishkin, T. A. Savelieva, A. V. Orlov, A. V. Kosyrkova, S. A. Goryaynov, A. A. Potapov, V. B. Loschenov</i>	
FLUORESCENCE DIAGNOSTICS AND PHOTODYNAMIC THERAPY OF GRAIN CROPS PATHOGENIC FUNGI	510
<i>E. V. Akhlyustina, I. R. Bikmukhametova, D. V. Pominova, A. V. Ryabova, P. V. Grachev, V. I. Makarov, B. B. Kartabaeva</i>	
LASER-INDUCED FLUORESCENT DIAGNOSTICS AND PHOTODYNAMIC THERAPY OF CERVICAL NEOPLASMS	511
<i>P. M. Alekseeva, K. T. Efendiev, A. A. Shiryayev, L. M. Amirkhanova, K. G. Linkov, V. B. Loschenov</i>	
X-RAY TIME-RESOLVED DIAGNOSTICS OF HOT ELECTRON GENERATION IN SHOCK IGNITION RELEVANT EXPERIMENTS	512
<i>E. D. Filippov, A. S. Martynenko, M. Cervenak, L. Antonelli, F. Baffigi, G. Cristoferetti, L. A. Gizzi, T. Pisarczyk, D. Mancelli, V. Ospina, M. Krus, R. Dudzak, S. A. Pikuz, D. Batani, O. Renner</i>	
<u>PD: POST-DEADLINE</u>	
SILICA-BASED OPTICAL FIBER MODIFIED WITH GD2O3:ND3+ NANOCRYSTALS	513
<i>A. S. Matrosova, N. K. Kuzmenko, S. K. Evstropiev, V. A. Aseev, V. A. Ananyev, V. V. Demidov, N. V. Nikonorov, K. V. Dukelskii</i>	
SOLID-STATE SUB-PICOSECOND MASTER OSCILATOR FOR HIGH-PRESSURE CO2 LASER AMPLIFIER	514
<i>I. O. Kinyaevskiy, V. I. Kovalev, P. A. Danilov, N. A. Smirnov, S. I. Kudryashov, Ya. V. Grudtsyn, A. V. Koribut, L. V. Seleznev, E. E. Dunaeva, A. A. Ionin</i>	
WAVEGUIDE LATTICE BASED INTEGRATED 4X4 MODE MIXER IN FUSED SILICA CHIP	515
<i>S. A. Zhuravitskii, N. N. Skryabin, I. V. Kondratyev, I. V. Dyakonov, M. Yu. Saygin, S. S. Straupe, S. P. Kulik</i>	
TURN-ON DELAY OF QUANTUM CASCADE LASERS UNDER PULSED PUMPING WITH NON-ZERO RISE-TIME	516
<i>E. D. Cherotchenko, V. V. Dudelev, D. A. Mikhailov, A. V. Babichev, A. G. Gladyshev, I. I. Novikov, A. V. Lyutetskiy, S. O. Slipchenko, N. A. Pikhtin, L. Ya. Karachinsky, A. Yu. Egorov, A. N. Baranov, G. S. Sokolovskii</i>	
MACHINE LEARNING AIDED FIBER-OPTICAL SYSTEM FOR LIVER CANCER DIAGNOSIS IN MINIMALLY INVASIVE SURGICAL INTERVENTIONS	517
<i>E. Zherebtsov, M. Zajnulina, K. Kandurova, V. Dremmin, A. Mamoshin, E. Potapova, S. Sokolovski, A. Dunaev, E. U. Rafailov</i>	

Author Index