ILLA/LTL '2009 Program

Sunday, October 18, 2009

Arrival, Registration, Sightseeing Program

Monday, October 19, 2009

9.0.11.30 Registration

13.00-15.00 Lunch

15.00-17.00 Opening Ceremony

19.30 Welcome Party

Tuesday, October 20, 2009

Hall A: Session ILT ALT1: Industrial Laser Technologies, Advanced Laser Technologies for Material Processing

9.00-9.20 **ADVANCES IN SLS/SLM AND SLC TECHNOLOGIES *(INVITED)***
Yu. Chivel
Institute of Physics, Belarus

9.20-9.35 **TECHNOLOGIES AND PHYSICAL MECHAMISMS OF LASER 3D SYNTHESIS OF METALLIC POWDER MATERIALS *(ORAL)***
V.Ya. Panchenko, V.S.Golubev, ***V.V. Vasiltsov****, M.G. Galushkin, I.N. Ilyichev*
Institute on Laser and Information Technologies, RAS, Russia

9.35-9.55 **CONTACT LASER ULTRASONIC EVALUATION FOR QUANTITATIVE CHARACTERIZATION OF MATERIAL STRUCTURE *(INVITED)***
A.A. Karabutov[1]*, E.V. Savateeva*[2]*, A.N. Zharinov*[3]*, A.A. Karabutov Jr.*[3]
[1]*M.V.Lomonosov Moscow State University International Laser Center, Russia*
[2]*Institute on Laser and Information Technologies, Russian Academy of Science, Russia*
[3]*M.V.Lomonosov Moscow State University Physical Department, Russia*

9.55-10.15 **USING LASERS FOR NANOMANIPULATION WITH COLLABORATIVE TOOLS FOR EFFICIENT ASSEMBLY IN A BOTTOM-UP APPROACH *(INVITED)***
Suat Topcu
LIRIS / LISV- University of Versailles (l'UVSQ), France

10.15-10.35 **NANO- AND MICROSCALE STRUCTURES INDUCED BY CONTROLLED LASER HEATING OF THE CARBON MATERIAL SURFACE *(INVITED)***
S.M. Arakelian*, S.V. Kutrovskaya, A.O. Kucherik, V.G. Prokoshev*
Vladimir State University, Russia

Tuesday, October 20, 2009

Hall B: Session ULP SA 1: Ultrashort Laser Pulses – Science and Applications

9.00-9.20 **INTERACTION POWERFUL PICOSECOND 10-μM LASER RADIATION WITH GASEOUS MEDIA: PULSE DURATION CONTROL AND ENERGETIC PARTICLE PRODUCTION *(INVITED)***

Gordienko V.M., *Platonenko V.T.*
Physics Faculty and International Laser Center M.V. Lomonosov Moscow State University, Russia

9.20-9.40 **FILAMENTATION OF INTENSITY FEMTOSECOND PULSES IN OPTICALLY TRANSPARENT GASEOUS AND SOLID STATE MEDIA *(INVITED)***

E.V. Pestryakov, *V.I. Trunov, E.F. Martynovich, S.A. Frolov*
Institute of Laser Physics SB RAS, Novosibirsk, Russia

9.40-10.00 **NS LASER PLASMAS FOR COMBUSTION INITIATION *(INVITED)***

Ernst Wintner
TU Wien, Austria

10.00-10.15 **ELECTRON ACCELERATION BY PEARL (PETAWATT PARAMETRIC RUSSIAN LASER) *(ORAL)***

Shaykin Andrey
Institute of Applied Physics of the Russian Academy of Sciences (IAP RAS), Russia

10.15-10.30 **MULTI-FILAMENTATION OF HIGH-POWER FEMTOSECOND LASER PULSES IN AIR: OPTICAL AND ACOUSTIC PROBING *(ORAL)***

S.I. Kudryashov, *A.A. Ionin, S.V. Makarov, L.V. Seleznev, D.V. Sinitsyn*
P.N. Lebedev Physical Institute of RAS, Russia

Tuesday, October 20, 2009

Hall A: Session ILT ALT2: Industrial Laser Technologies, Advanced Laser Technologies for Material Processing

11.30-11.50 **THIN FILMS FABRICATION FOR NANO- AND OPTOELECTRONICS BY THE PLD METHOD *(INVITED)***

Novodvorsky O.A.
Institute on Laser and Information Technologies of the Russian Academy of Sciencies (ILIT RAS), Russia

11.50-12.10 **ZnO LAYERS PREPARED BY PLD *(INVITED)***

Jaroslav Bruncko
International Laser Center, Slovak Republic

12.10-12.25 **CARBON NITRIDE FILM SYNTHESIS BY DEPOSITION OF SPECIES CREATED UNDER PULSED LASER GRAPHITE ABLATION IN NITROGEN ATMOSPHERE *(ORAL)***

Kuzyakov Yu.Ya.*, Varakin V.N., Moskvitina E.N.*
M.V. Lomonosov Moscow State University, Chemistry Department, Laser Chemistry Division, Russia

12.25-12.40 **INTERACTION BETWEEN ABLATIVE PLASMA AND TARGET DURING DEEP NANOSECOND LASER ABLATION OF GRAPHITE: THERMAL OR MECHANICAL EFFECTS? *(ORAL)***

S.I. Kudryashov[1] *A.V. Bulgakov*[2,] *N.M. Bulgakova*[2,] *A.B. Evtushenko*[2,3]*, Yu.G. Shukhov*[2]*, A.A. Tikhov*[1]
[1]*P.N. Lebedev Physical Institute of RAS,* [2]*Institute of Thermophysics, SB RAS,* [3]*Novosibirsk State University, Russia*

Tuesday, October 20, 2009

Hall B: Session ULP SA 2: Ultrashort Laser Pulses – Science and Applications

11.30-11.50 **DIELECTRIC PROPERTIES OF CHIRAL –LOW-DIMENSIONAL MEDIA IN THE TERAHERTZ FREQUENCY RANGE *(INVITED)***

Shkurinov A.P.
Physics Faculty and International Laser Center, M.V.Lomonosov State University, Russia

11.50-12.05 **TIME-RESOLVED DIAGNOSIS OF FEMTOSECOND LASER INDUCED MICROPLASMA EVOLUTION IN A BULK OF SOLIDS BY THIRD HARMONIC GENERATION TECHNIQUE *(ORAL)***

F.V. Potemkin*, V.M. Gordienko, P.M. Mikheev*
Physics Faculty and International Laser Center M.V. Lomonosov Moscow State University, Russia

12.05-12.20 **HIGH INTENSITY AND ULTRAFAST PULSE LASER DAMAGE OF SEMICONDUCTOR MATERIALS *(ORAL)***

Tzveta Apostolova*[1], Sergey I. Kudryashov[2] and Andrei A. Ionin[2]*
[1]Institute of Nuclear Research and Nuclear Energy, Bulgarian Academy of Sciences, Bulgaria
[2]P.N. Lebedev Physical Institute, RAS, Russia

12.20-12.35 **INVESTIGATION OF FORMATION NANOSTRUCURIZED THIN FILMS IN PROCESSES OF FEMTOSECOND LASER DEPOSITION *(ORAL)***

*Gerke M.N, Kutrovskay S.V., Kucherik A.O****., Prokoshev V.G****., Arakelian S.M.*
Vladimir State University, Russia

Tuesday, October 20, 2009

Hall A: Session NLSA HPLA 1: Novel Laser Systems and Applications, High-Power Lasers and Applications

15.00-15.20 **MODELING OF LASING IN CHEMICAL OXYGEN-IODINE LASERS WITH UNSTABLE RESONATORS *(INVITED)***

B. D. Barmashenko

Ben-Gurion University of the Negev, Israel

15.20-15.40 **RECENT STUDIES OF THE CHEMICAL OXYGEN-IODINE LASER OPERATION MECHANISM *(INVITED)***

K. Waichman[1], B.D. Barmashenko[2] and ***S. Rosenwaks[2]***

[1]Physics Department, NRCN, Israel

[2]Ben-Gurion University of the Negev, Israel

15.40-15.55 **TRANSVERSE GAS FLOW RADIO FREQUENCY SLAB DISCHARGE GENERATOR OF SINGLET DELTA OXYGEN *(ORAL)***

Andrey A.Ionin[1], Yury M.Klimachev[1], Oleg A.Rulev[1], ***Leonid V.Seleznev[1]****, Dmitry V.Sinitsyn[1], Igor V.Kochetov[2], Anatoly P.Napartovich[2]*

[1]P.N. Lebedev Physical Institute of RAS, Russia

[2]Troitsk Institute for Innovation and Fusion Research, Russia

15.55-16.10 **POSSIBILITY OF INCREASING OF THE EXCIMER LASER EMISSION TIME DURATION *(ORAL)***

*Malashin M.V.****, Khasaya R.R.****, Khomich V. U., Yamschikov V.A.*

Institute for Electrophysics and Electric Power, RAS, Russia

Tuesday, October 20, 2009

Hall B: Session SN OA: Semiconductor nanoclusters for optoelectronic applications

15.00-15.20 **OPTICAL PROPERTIES OF SILICON NANOCRYSTALS IN SILICON DIOXIDE MATRIX OVER WIDE RANGES OF EXCITATION INTENSITY AND ENERGY *(INVITED)***

Timoshenko V.
M.V. Lomonosov Moscow State University, Russia

15.20-15.40 **PHASE TRANSFORMATION, STRUCTURE, OPTICAL, ELECTRICAL AND LUMINESCENT PROPERTIES OF SILICON NANOCLUSTERS IN SILICON SUBOXIDE MATRIX: PERCOLATION APPROACH *(INVITED)***

V.N. Seminogov[1], *V.I. Sokolov*[1], *V.N. Glebov*[1], *A.M. Malyutin*[1], *E.V. Troitskaya*[1], *S.I. Molchanova*[1], *G.A. Dubrova*[1], *A.S. Akhmanov*[1], *V.Ya. Panchenko*[1], *V.Yu. Timoshenko*[2], *D.M. Zhigunov*[2], *P.A Forsh*[2], *O.A. Shalygina*[2], *N.E. Maslova*[2], *S.S. Abramchuk*[2], *P.K. Kashkarov*[2]
1Institute on Laser and Information Technologies RAS, Russia
2Faculty of Physics, M.V. Lomonosov Moscow State University, Russia

15.40-16.00 **SIZE CONTROLLED SI NANOCRYSTALS FOR OPTICS AND ELECTRONICS *(INVITED)***

M.Zacharias
University of Freiburg, Germany

16.00-16.15 **SPATIAL LIGHT LOCALIZATION IN GROOVED SILICON MATRIX *(ORAL)***

S.A. Dyakov[1], *D.A. Mamichev*[1], *A.V. Emelyanov*[1], *V.Yu. Timoshenko*[1], *P.K. Kashkarov*[1], *E. V. Astrova*[2], *T. S. Perova*[3]
1Moscow State University, Faculty of Physics, Russia
2Ioffe Physical Technical Institute, RAS, Russia
3Dept. of Electronic and Electrical Engineering, Trinity College Dublin, Ireland

POSTERS SESSION ILT ALT

Industrial Laser Technologies, Advanced Laser Technologies for Material Processing.

1. A.A. Lotin, O.A. Novodvorsky, E.V. Khaydukov
Institute on Laser and Information Technologies, RAS
"The nonlinear optical amplification observed in the rod structures and multiple quantum wells based on ZnO" (Poster)

2. V.S.Mayorov, S.V.Mayorov, M.D.Khomenko, R.V.Grishaev
Institute on Laser and Information Technologies, RAS
"RESIDUAL STRAIN STUDY IN LASER CUTTING" (Poster)

3. E. Drakaki, B. Klingenberg, I. Tsilikas, E. Zoros, M. Kandyla and A.A.Serafetinides
University of Athens, Greece
"Laser cleaning of corroded metal coins using laser techniques" (Poster)

4. V.V. Vasiltsov, M.G. Galushkin
Institute on Laser and Information Technologies, RAS
"Optimization of laser beam parameters and process variables in cutting metals with powerful fiber lasers" (Poster)

5. Peter Petrov
Institute of Electronics, Bulgarian Academy of Sciences Sofia, Bulgaria
"CO_2 laser beam welding of low alloyed steels" (Poster)

6. Antipov A.A., Kutrovskay S.V., Kucherik A.O., Nogtev D.S., Prokoshev V.G., Arakelian S.M.
Vladimir State University, Russia
"Deposition of metals particles on a surface of materials from colloidal systems under action of laser radiation" (Poster)

7. Kucherik A.O., Prokoshev V.G., Tarasov R.E., Arakelian S.M.
Vladimir State University, Russia
"Investigation of modification surface at laser action by method of 3D-relief reconstruction" (Poster)

8. Evseev A (1), Kamayev S (1), Kotzuba E. (1), Markov M (1), Michrin V (2), Novikov M (1), Surovtsev M (2).
[1]Institute on Laser and Information Technologies, RAS, [2]OAO R&D Inst. "Yarsintez", Yaroslavl, Russia
"Development of photo-curable composition and technique for thin-layer (till 10 μm) objects manufacturing" (Poster)

9. Antipov A.A, Kutrovskay S.V., Kucherik A.O., Prokoshev V.G., Arakelian S.M.
Vladimir State University, Russia
"Forming of extended nanostructures massive at laser action" (Poster)

10. Ye. A. Cherebilo[1], O. A. Novodvorsky[1], V. Ya. Panchenko[1], O. D. Khramova[1], L. S. Parshina[1], C. Wenzel[2], N. Trumpaicka[2], J. W. Bartha[2]

[1]*Institute on Laser and Information Technologies, RAS,* [2]*Dresden University of Technology, Institute of Semiconductor and Microsystems Technology, Germany*
"Thermal annealing influence on properties of nitrogen and phosphorus doped ZnO thin films fabricated by pulsed laser deposition" (Poster)

11. L. S. Parshina[1], O. A. Novodvorsky[1], V. Ya. Panchenko[1], O. D. Khramova[1], Ye. A. Cherebilo[1], C. Wenzel[2], N. Trumpaicka[2], J. W. Bartha[2]
[1]*Institute on Laser and Information Technologies, RAS,* [2]*Dresden University of Technology, Institute of Semiconductor and Microsystems Technology, Germany*
Photoluminescence spectra of nitrogen and phosphorus doped ZnO thin films fabricated by pulsed laser deposition" (Poster)

12. Khaydukov E.V., Rocheva V.V., Lotin A.A. Novodvorsky O.A., Panchenko V.Ya
Institute on Laser and Information Technologies, RAS
"The CBPLD method for the silicon films deposition" (Poster)

13. Rocheva V.V., Khaydukov E.V., Lotin A.A., Novodvorsky O.A., Khramova O.D.
Institute on Laser and Information Technologies, RAS
"Morfology of the amorphous Si thin films received at various deposition temperatures by the CBPLD method" (Poster)

14. A.F. Mukhamedgalieva[1], A.M.Bondar'[1], A.A.Ionin[2], Yu.M.Klimachev[2], D.V.Sinitsyn[2], V.D.Zworykin[2]
[1]*M.V. Lomonosov Moscow State University,* [2]*P.N.Lebedev Physical Institute, RAS*
"The peculiarity of laser ablation of quartz, fused silica and natural silicates induced by pulsed CO_2 laser irradiation" (Poster)

15. V.A. Karasev, V.S. Golubev, E.O. Filippova
Institute on Laser and Information Technologies, Russian Academy of Sciences
"Investigation of microrelief structure of cut surface in gas-assisted laser separation of materials" (Poster)

16. V.A. Karasev, V.S. Golubev, E.O. Filippova
Institute on Laser and Information Technologies, Russian Academy of Sciences
"Thermal efficiency and effective coefficient of laser radiation energy absorption in gas-assisted laser cutting of low-carbon steel in atmosphere of nitrogen and air" (Poster)

17. V.G. Niziev[1], F.Kh. Mirzade[1], A.V. Koldoba[2]
[1]*Institute on Laser and Information Technologies, RAS,* [2]*Institute of Applied Mathematics, RAS*
"Numerical modeling of crystallization at selective laser sintering of fine-dyspersated metal powders" (Poster)

18. Khramova O.D.[1], Novodvorsky O.A.[1], Khaydukov E.V.[1], Poroykov A. Yu.[2], Rocheva V.V.[1], Zuev D.A.[1], Dvorkin V.V.[2], Akhmanov A.S.[1], Panchenko V.Ya.[1]
[1]*Institute on Laser and Information Technologies, Russian Academy of Sciencies,* [2]*D.V. Skobeltsyn Institute of Nuclear Physics Lomonosov Moscow State University*
"Surface modification of crystalline silicon created by 532 nm nanosecond Nd:YAG laser pulses" (Poster)

POSTERS SESSION ULP SA

Ultrashort Laser Pulses – Science and Applications.

1. S.I. Kudryashov, A.A. Ionin, L.V. Seleznev, D.V. Sinitsyn
P.N. Lebedev Physical Institute of RAS
"Femtosecond laser microstructuring inside bulk transparent materials: optical and acoustic studies" (Poster)

2. A.A. Ionin[1], S.I.Kudryashov[1], S.V.Makarov[1], Yu.N.Novoselov[1], L.V.Seleznev[1], D.V.Sinitsyn[1], A.E.Ligachev[2], E.V.Golosov[3], Yu.R.Kolobov[3]
[1]P.N. Lebedev Physical Institute of RAS, [2]Prokhorov General Physics Institute of RAS, [3]Belgorod University, Russia
"Femtosecond laser fabrication of subwavelength quasi-periodic structures on Ti surface: topology evolution and physical processes" (Poster)

Wednesday, October 21, 2009

Hall A: Session NLSA HPLA 2: Novel Laser Systems and Applications, High-Power Lasers and Applications

9.00-9.20 **MODELING OF HIGH-POWER OPERATION OF 2 μM CO-DOPED Tm, Ho SOLID-STATE LASERS *(INVITED)***

***O. A. Louchev*[1]**, *Y. Urata*[1], *M. Umoto*[2], *N. Saito*[2] *and S. Wada*[2]
[1]*Megaopto Co. Ltd., RIKEN Cooperation Center, Japan*
[2]*Solid-State Optical Science Research Unit, RIKEN, Japan*

9.20-9.40 **199 NM LIGHT SOURCE USING A FIBER/BULK HYBRID AMPLIFIER FOR ADVANCED INSPECTION APPLICATION *(INVITED)***

Yoshiharu Urata
Megaopto Co., Ltd. RIKEN (Institute of Physical and Chemical Research), Japan

9.40-10.00 **RF DISCHARGE SLAB CARBON MONOXIDE LASER: A COMPACT SOURCE OF LASER RADIATION WITHIN ~2.5 – 4.0 AND ~5.0 - 6.5 MICRON *(INVITED)***

Andrey A.Ionin*, Andrey Yu.Kozlov, Leonid V.Seleznev and Dmitry V.Sinitsyn*
The Lebedev Physical Institute of the Russian Academy of Sciences, Russia

10.00-10.15 **STUDY OF SPATIAL-TEMPORAL CHARACTERISTICS OF CR^{4+}: YAG Q-SWITCHED DIODE –PUMPED ND:YAG LASER *(ORAL)***

***Margarita Deneva*[1]**, *Dimitar Dimitrov*[1], *Marin Nenchev*[1], *Johannes Tauer*[2], *Ernst Wintner*[2]
[1]*Technical University-Sofia, Bulgaria,*
[2]*Photonics Institute, Vienna University of Technology, Austria*

Wednesday, October 21, 2009

Hall B: Session LTMP NBA1: Laser Technologies for Medical Physics and Biomedicine, Nanoparticles for Biomedical Applications

9.00-9.20 **MOLECULAR LIBRARIES: FABRICATION, LASER PROCESSING AND APPLICATIONS *(INVITED)***

A.Nesterov-Muller, *F.Breitling, R.Bischoff, V.Stadler*
Department of Chip-Based Peptide Libraries, German Cancer Research Centre, Germany

9.20-9.40 **NONLINEAR OPTICAL IMAGING OF NANOPARTICLE PENETRATION IN HUMAN SKIN *(INVITED)***

A. V. Zvyagin[1*], *X. Zhao[1], Z. Song[1], T. Kelf[1], W. Sanchez[2], M. S. Roberts[2]*
[1]MQ Photonics Centre, Physics & Engineering, Macquarie University, Australia,
[2]Therapeutics Research Unit, School of Medicine, The University of Queensland, Princess Alexandra Hospital, Australia

9.40-9.55 **STUDY OF A PENETRATION OF A LASER LIGHT IN HUMAN DENTAL CHANNELS *(ORAL)***

P. Uzunova[1], ***T. Uzunov[2]****, M. Deneva[3], M. Nenchev[3,4]*
[1]Faculty of Medicine – Medical University, Sofia, Bulgaria
[2]Faculty of stomatology – Medical University, Sofia, Bulgaria
[3]Technical University – Sofia, Bulgaria,
[4]IE-Bulgarian Academy of Science, Bulgaria

9.55-10.10 **BASIC PHYSICAL PROCESSES AND PERSPECTIVES OF FEMTOSECOND LASER EYE MICRO-SURGERY *(ORAL)***

A.A. Ionin[1], S.E. Kozhushko[1], S.I. Kudryashov[1], ***L.V. Seleznev[1]****, D.V. Sinitsyn[1], S.D. Zakharov[1], A.V. Alekhin[2], V.G. Likhvantseva[2], M.V. Samoylov[2]*
[1]P.N. Lebedev Physical Institute of RAS, Russia
[2]Central Clinics of RAS, Russia

10.10-10.25 **ESTIMATION OF THERMAL INFLUENCE OF ULTRA-VIOLET LIGHT ON HUMAN SKIN THAT CONTAINS TiO_2 NANOPARTICLES *(ORAL)***

I.Krasnikov[1]*, A. Seteikin[1], A. Popov[2]*
[1]Amur State University, Russia,
[2]University of Oulu, Finland, International Laser Center, M.V. Lomonosov Moscow State University, Russia

Wednesday, October 21, 2009

Hall A: Session NLSA HPLA 3: Novel Laser Systems and Applications, High-Power Lasers and Applications

11.30-11.45 **LASER MODES WITH AXIALLY SYMMETRIC POLARIZATION (SELECTIVE PROBLEMS OF GENERATION AND APPLICATIONS)** ***(ORAL)***

V.G. Niziev
Institute on Laser and Information Technologies, RAS, Russia

11.45-12.00 **EFFICIENT STABLE 3D RESONATORS IN INDUSTRIAL CO_2 LASERS WITH FAST TRANSVERSE GAS FLOWING** ***(ORAL)***

V.P. Yakunin[1], A.N. Grezev[2], ***N.G. Turkin[3]***
[1]Institute on Laser and Information Technologies RAS, Russia
[2]Laser Complexes JSC, Russia
[3]Troitsk Institute of Innovation and Fusion Research, Russia

12.00-12.15 **HIGH-POWER CO_2 LASER WITH UNSTABLE CONFOCAL OFF-AXIS RESONATOR OF THE TYPE OF "OPTICAL CYLINDER** ***(ORAL)***

M.G. Galushkin[1], V.P. Yakunin[1], ***N.G. Turkin[2]***
[1]Institute on Laser and Information Technologies RAS, Russia
[2]Troitsk Institute of Innovation and Fusion Research, Russia

12.15-12.30 **FREQUENCY CONVERSION OF CO LASER RADIATION** ***(ORAL)***

Yury M. Andreev[1], Andrey A. Ionin[2], Igor O. Kinyaevskiy[2], ***Yuriy M. Klimachev[2]****, Andrey A. Kotkov[2], Andrey Yu. Kozlov[2], Alexander N. Morozov[3]*
[1]Institute of Monitoring of Climatic and Ecological Systems, SB RAS, Russia
[2]P.N.Lebedev Physical Institute of RAS, Russia
[3]Siberian Physics-Technical Institute of Tomsk State University, Russia

Wednesday, October 21, 2009

Hall B: Session LTMP NBA 2: Laser Technologies for Medical Physics and Biomedicine, Nanoparticles for Biomedical Applications

11.30-11.50 **LASER APPLICATIONS IN PHOTODYNAMIC MEDICINE *(INVITED)***
Herbert Stepp
Laser Researchlaboratory, LIFE Center University Clinic Munich, Germany

11.50-12.10 **PHOTONICS AND LASER-OPTICAL TECHNOLOGIES OF GAS EXCHANGE PROCESSES IN BIOLOGICAL TISSUE *(INVITED)***
Mustafo Asimov
Institute of Physics National Academy of Science of Belarus, Belarus

12.10-12.25 **OPTOACOUSTIC METHOD FOR MEASUREMENT OF THE LOCAL LIGHT ABSORPTION COEFFICIENT IN BIOLOGICAL TISSUES *(ORAL)***
Pelivanov I.M., Barskaya M.I., Podymova N.B., Khokhlova T.D.,
Karabutov A.A.
International Laser Center of MSU, Russia

12.25-12.40 **LOCAL FLUORESCENCE SPECTROSCOPY FOR CLINICAL APPLICATION *(ORAL)***
Natalia Bulgakova[1], *Victor Sokolov*[2]
[1]*M.A. Prokhorov General Physics Institute of Russian Academy of Science, Russia*
[2]*P.A. Hertzen Moscow Research Oncological Institute, Russia*

Wednesday, October 21, 2009

Hall A: Session ILT ALT3: Industrial Laser Technologies, Advanced Laser Technologies for Material Processing

15.00-15.20 **LASER ASSITSTED METAL FORMING WITH PARTICULAR ATTENTION PAID TO HYDROFORMING *(INVITED)***

Alexander Kratky
University of Technology, Vienna, Austria

15.20-15.40 **EXPERIMENTAL SEARCH OF SCALING LAWS FOR LASER-OXYGEN CUTTING OF MILD STEEL BASED ON SIMILARITY CRITERIA *(INVITED)***

A.M. Orishich, ***V.B. Shulyatyev****, A.G. Malikov*
Khristianovich Institute of Theoretical and Applied Mechanics SB RAS, Russia

15.40-15.55 **PROGRAM SYSTEM FOR LASER CUTTING *(ORAL)***

Vladimir S. Mayorov[1]*, Sergey V. Mayorov*[1]*, Sergei M. Komarov*[2]
[1]*Institute on Laser and Information Technologies, RAS, Russia*
[2]*Ukrainian Academy of Printing, Ukraine*

15.55-16.10 **IMPORTANCE OF GASES IN LASER CUTTING *(ORAL)***

Mario Boschini
SIAD S.p.A., Italy

Wednesday, October 21, 2009

Hall B: Session LS PM D: Laser Spectroscopy, Precision Measurements, and Diagnostics

15.00-15.15 **THE EFFECT OF NONLOCALITY ON THE PROPAGATING SURFACE PLASMON SPECTROSCOPY (KRETSCHMAN CONFIGURATION)** ***(ORAL)***

Z. D. Genchev[1] *and H. Y. Stoyanov*[2]
[1]*Institute of Electronics "E. Djakov", Bulgarian Academy of Sciences, Bulgaria*
[2]*Faculty of Physics, Sofia University "St. Kl. Ohridski", Bulgaria*

15.15-15.30 **NONLINEAR ZEEMAN SPECTROSCOPY OF NITRIC OXIDE IN A STRONG MAGNETIC FIELD** ***(ORAL)***

A.A. Ionin, ***Yu.M. Klimachev****, A.A. Kotkov, A.Yu. Kozlov*
P.N. Lebedev Physical Institute of RAS, Russia

POSTERS SESSION NLSA HPLA

Novel Laser Systems and Applications, High-Power Lasers and Applications

1. K. A. Temelkov[1], N. K. Vuchkov[1], I. Freijo-Martin[2], M. S. Ilieva[3], R. P. Ekov[1], E. P. Atanassov[1], N. Sabotinov[1]
[1]Institute of Solid State Physics, Bulgarian Academy of Sciences, [2]Institute of Solid State Physics, Bulgarian Academy of Sciences, [3]Institute of Physical Chemistry, Bulgarian Academy of Sciences
"Deep ultraviolet cooper ion laser: physics and applications" (Poster)

2. K. A. Temelkov[1], N. K. Vuchkov[1], I. Freijo-Martin[2], L. I. Stoychev[1], R. P. Ekov[1], E. P. Atanassov[1], L. Lyutov[3], N. V. Sabotinov[1]
[1]Metal Vapour Lasers Laboratory, Institute of Solid State Physics, Bulgarian Academy of Sciences, [2]Metal Vapour Lasers Laboratory, Institute of Solid State Physics, Bulgarian Academy of Sciences, [3]Faculty of Chemistry, Sofia University
"Middle infrared laser system: physics and applications" (Poster)

3. M.G. Galushkin[1], V.P. Yakunin[1], N.G. Turkin[2]
[1]Institute on Laser and Information Technologies RAS, [2]Troitsk Institute of Innovation and Fusion Research
"Matching of parameters of thermal gas lens and stable resonator in high-power diffusion-cooled industrial CO_2 lasers" (Poster)

4. M.G.Galushkin[1], K.V. Mitin[2], A.M. Seryogin[2]
[1]Institute om Laser and Information Technologies, RAS, [2]FSUE "SPA Astrophysica"
"Raman laser with low threshold of generation" (Poster)

5. M.G.Galushkin[1], K.V. Mitin[2], A.M. Seryogin[2]
[1]Institute on Laser and Information Technologies, RAS, [2]FSUE "SPA Astrophysica"
"Improvement of Raman laser radiation quality" (Poster)

6. M.G.Galushkin[1], K.V. Mitin[2], A.M. Seryogin[2], D.V.Zelenin[2]
[1]Institute on Laser and Information Technologies, RAS, [2]FSUE "SPA Astrophysica"
"About absolute instability of phase conjugation in SBS media" (Poster)

POSTERS SESSION LTMP NBA

Laser Technologies for Medical Physics and Biomedicine, Nanoparticles for Biomedical Applications

1. Kucherik A.O., Prokoshev V.G., Troitckiy D.P., Arakelian S.M.
Vladimir State University, Russia
"Laser Doppler diagnostics of the capillary blood stream system" (Poster)

2. SORA Sergiu[1], ION Rodica Mariana [1,2]
1- Valahia University, Targoviste, 2- ICECHIM, Bucuresti
"Synthesis of Fe_3O_4 magnetic nanoparticles for embedding in K562 tumoral cells" (Poster)

3. Radu Claudiu Fierascu, Irina Dumitriu, Rodica Mariana Ion
Valahia University of Targoviste, Romania
"NOBLE METAL NANOPARTICLES FOR BIOMEDICAL APPLICATIONS" (Poster)

4.Angelov, I. [a], Gisbrecht, A. [b] , Uzunov ,Tz. [c]
[a] Institute of Organic Chemistry, Bulgarian Academy of Sciences, b Institute of Electronics, Bulgarian Academy of Sciences, [c] Medical University, Bulgaria
"LIGHT CONTROL OF TOOTH BLEACHING PROCESS" (Poster)

5. S.A. Cherebilo[1], A.V. Evseev[1], P.N. Mitroshenkov[2]
[1]Institute on Laser and Information Technologies, RAS, [2]Samara regional clinical hospital
"Laser stereolithography in cosmetic surgery" (Poster)

6. E. Borisova, L. Avramov
Institute of Electronics, Bulgarian Academy of Sciences
"Exogenous sensitizers' applications in photodiagnosis, photodynamic therapy, radiation therapy, and boron neutron capture therapy" (Poster)

7. E. Borisova[1], L. Avramov[2], Tz. Uzunov[3]
[1]Institute of Electronics, Bulgarian Academy of Sciences, [2]Dentistry Department, Medical University-Sofia, Bulgaria
"Combined fluorescence and reflectance detection of tooth caries" (Poster)

8. K. Koev[1], E. Borisova[2], L. Avramov[2]
[1]Department of ophthalmology, Medical University-Sofia, Bulgaria, [2]Institute of Electronics, Bulgarian Academy of Sciences
"He-Ne LOW LEVEL LASER THERAPEUTIC APPPLICATIONS FOR TREATMENT OF IRIDOCYCLITIS ACUTA" (Poster)

9. M.M. Asimov[a], R.M. Asimov[b], A.N. Rubinov[a], S.A. Mamilov[c], Yu.S. Plaksiy[c], S.S. Esman[c], A.I. Gisbrecht[d]
[a]Institute of Physics Academy of Science of Belarus, [b]Applied Systems Ltd, Belarus, [c]Institute of Applied Problems of Physics and Biophysics Academy of Science of Ukraine, [d]Institute of Electronics Bulgarian Academy of Science
"Novel Laser-optical Technology of Photodecomposition of Blood Carboxyhemoglobin and Elimination of Carbon Monoxide Poisoning Effect" (Poster)

10. M.M. Asimov [a], R.M. Asimov [b], A.N. Rubinov [a], A.I. Gisbrecht[c]

[a]*Institute of Physics National Academy of Science of Belarus,* [b]*"Applied Systems Ltd.", Belarus,*
[c]*Institute of Electronics Bulgarian Academy of Science*
"Laser - Optical Methods of Detection and Elimination the Local Tissue Hypoxia: New Approaches in Prediction and Prevention the Risk of Solid Tumor Formation"(Poster)

11. A.V. Evseev
Institute on Laser and Information Technologies
"Computer modeling and laser stereolithography for medical application" (Poster)

POSTERS SESSION LS PM D

Laser Spectroscopy, Precision Measurements, and Diagnostics

1. V.A.Simonova[1], A.A.Karabutov[2], E.V.Savateeva[1], A.N.Zharinov[2], V.Ya.Panchenko[1]
[1]Institute on Laser and Information Technologies, RAS, [2]M.V.Lomonosov Moscow State University International Laser Center
"Focused array transducer for opto-acoustic and laser-ultrasonic tomography" (Poster)

2. A.A.Karabutov[1], E.V.Savateeva[2], M.A.Slepkova[1]
[1]M.V.Lomonosov Moscow State University International Laser Center, [2]Institute on Laser and Information Technologies, RAS
"Contact laser ultrasonic Technique for quantitative evaluation of composites structure" (Poster)

3. Zahary Y. Peshev and Atanaska D. Deleva
Institute of Electronics, Bulgarian Academy of Sciences
"LIDAR STUDY OF THE DYNAMICS OF OROGRAPHIC CLOUDS COVERING MOUNTAINOUS SURFACE" (Poster)

4. A.Akhmanov, I.Voronin
Institute on Laser and Information Technologies, RAS
"Wireless Sensors Networks for Diagnostics and Monitoring in Industry and Ecology" (Poster)

5. Banishev A.F.[1], Banishev A.A.[1], Bolshukhin V.A.[2], Syrov Yu.V.[3], Khort A.M.[3]
[1]Institute on Laser and Information Technologies, RAS, [2]FGUP NII "Platan", Russia, [3]M.V. Lomonosov Moscow State Academy of Fine Chemical Technology, Russia
"Investigation of mechanoluminescence of fine disperse powders for production of mechanical impact detecting elements" (Poster)

6. Atanaska D. Deleva, Zahary Y. Peshev, Lachezar A. Avramov
Institute of Electronics, Bulgarian Academy of Sciences
"LASER REMOTE SENSING OF TROPOSPHERIC AEROSOL FIELDS WITH A COMBINED RAMAN-AEROSOL LIDAR" (Poster)

7. A. Sinno[1], G. Lérondel[2], L. Chassagne[1], S. Blaize[2], P. Ruaux[1], A. Bruyant[2], S. Topçu[1], P. Royer[2] and Y. Alayli[1]
[1]Laboratoire d'Ingénierie des Systèmes de Versailles, Université de Versailles Saint Quentin, France, [2]Laboratoire de Nanotechnologie et d'Instrumentation Optique, Institut Charles Delaunay, Université de Technologie de Troyes, France
"Measurement of waveguide characteristics by enlarged near field optical imaging" (Poster)