

PROGRAM

**The 11-th Russian-Chinese Symposium
on Laser Physics and Laser Technologies**

**The Conference on Lasers and Laser Technologies
for Students and Young Investigators**

ORGANIZERS

Tomsk State University, Tomsk, Russia

Harbin Institute of Technology, Harbin, China

High Current Electronics Institute SB RAS, Tomsk, Russia

V.V. Zuev Institute of Atmospheric Optics SB RAS, Tomsk, Russia

P.N. Lebedev Physical Institute of the Russian Academy of Sciences, Moscow, Russia

*Siberian Physical-Technical Institute at Tomsk State University, Tomsk,
Russia*

MEDIA SPONSORS

Photonics Journal

Laser Association

**Symposium is devoted to the 135th anniversary of
National research Tomsk state university and
the 20th anniversary of carrying out
the Russian-Chinese Symposiums**

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PROGRAM

THE 11-TH RUSSIAN-CHINESE SYMPOSIUM ON LASER PHYSICS AND LASER TECHNOLOGIES

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PROGRAM

THE CONFERENCE ON LASERS AND LASER TECHNOLOGIES FOR YOUNG INVESTIGATORS AND STUDENTS

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PROGRAM

REGISTRATION

Friday May 10, 9.00 – 10.00

Location

Tomsk State University, main building, assembly hall
pr. Lenin, 36

PROGRAM

Friday, 10 May 2013 10:00 – 10:15 OPENING SESSION <p style="text-align: center;">Keynote Address</p> <p style="text-align: center;"><i>Prof. George V. Mayer</i>, chairman, rector, Tomsk State University <i>Prof. Anatoly N Soldatov</i>, co-chairman, Tomsk State University <i>Prof. Zhiwei Lu</i>, Harbin Institute of Technology, Harbin <i>Prof. Nikoly Ya. Shaparev</i>, Institute of Computational Modeling SB RAS, Krasnoyarsk</p>	
10:30 – 13:15. PLENARY SESSION Chairs: <i>Anatoly N. Soldatov and Zhiwei Lu</i>	
10.15 – 10.30 <i>invited</i>	History of Russian-Chinese (Chinese- Russian) symposium on laser physics and laser technologies <p style="text-align: center;"><i>N.Ya. Shaparev</i>¹, <i>A.N. Soldatov</i>², <i>V.N. Ochkin</i>³</p> <p style="text-align: center;">¹<i>Institute of Computational Modeling SB RAS, Krasnoyarsk</i> ²<i>Tomsk State University, Tomsk</i> ³<i>P.N. Lebedev Physical Institute of the Russian Academy of Sciences, Moscow</i></p>
10.30 – 10.55 <i>invited</i>	Runaway electrons preionized diffuse discharges (REP DD) and their application for pumped of gas lasers <p style="text-align: center;"><i>V.F. Tarasenko</i></p> <p style="text-align: center;"><i>Institute of High Current Electronics SB RAS, Tomsk</i></p>
10.55 – 11.20 <i>invited</i>	Doped GaSe crystals: physical properties and application <p style="text-align: center;"><i>Yu. Andreev</i>¹, <i>G. Lanski</i>¹, <i>K. Kokh</i>², <i>A. Soldatov</i>³, <i>A. Shaiduko</i>¹</p> <p style="text-align: center;">¹<i>Institute of Monitoring of Climatic and Ecological Systems of SB RAS, Tomsk</i> ²<i>Institute of Geology and Mineralogy SB RAS, Novosibirsk</i> ³<i>Tomsk State University, Tomsk</i></p>
11.20 – 11.50 <i>invited</i>	Fast brillouin optical fiber sensor for distributed dynamic measurement based on differential double-pulse <p style="text-align: center;"><i>Yongkang Dong</i>, <i>Dexin Ba</i>, <i>Taofei Jiang</i>, <i>Dengwang Zhou</i>, and <i>Zhiwei Lu</i></p> <p style="text-align: center;"><i>Institute of Opto-Electronics, Harbin Institute of Technology, Harbin</i></p>
11.50 – 12.00 COFFEE BREAK	
12.00 – 12.25 <i>invited</i>	Lidar remote sensing of the atmosphere <p style="text-align: center;"><i>V.D. Burlakov</i>, <i>S.I. Dolgii</i>, <i>A.P. Malikov</i>, <i>G.G. Matvienko</i>, <i>A.V. Nevzorov</i>, <i>A.N. Soldatov</i>, <i>O.A. Romanovskii</i>, <i>O.V. Kharchenko</i>, <i>S.V. Yakovlev</i> <i>V.V. Zuev Institute of Atmospheric Optics SB RAS, Tomsk</i></p>
12.25 – 12.50 <i>invited</i>	The development of organic optical materials for organic and quantum electronics <p style="text-align: center;"><i>T.N. Kopylova</i>, <i>G.V. Mayer</i></p> <p style="text-align: center;"><i>Tomsk State University, Tomsk</i></p>

PROGRAM

12.50 – 13.15 <i>invited</i>	Effective selection of TEM₀₀ mode in powerful Nd:YVO₄ laser with diode pumping 808 nm <i>V.I. Donin, D.V. Yakovin, M.D. Yakovin</i> <i>Institute of Automation and Electrometry SB RAS, Novosibirsk</i>
13.15 – 14.30 LUNCH	
14.30 – 18.00 PLENARY SESSION (continued) Chairs: Zhiwei Lu and Nikolay Ya. Shaparev	
14.30 – 14.45 <i>invited</i>	Scattering of resonant radiation in an expanding sphere <i>N.Ya. Shaparev</i> <i>Institute of Computational Modeling SB RAS, Krasnoyarsk</i>
14.45 – 15.10 <i>invited</i>	The experimental study of the KrF excimer laser ASE pulse compression by the way of quenching method <i>Pengyuan Du, Dianyang Lin, Zhiwei Lu</i> <i>National Key Laboratory of Tunable Laser Technology, Harbin Institute of Technology, Harbin</i>
15.10 – 15.35 <i>invited</i>	Electronic states and spectral properties of the ordered molecular systems <i>V.Ya. Artyukhov, G.V. Mayer</i> <i>Tomsk State University, Tomsk</i>
15.35 – 16.00 <i>invited</i>	Dynamic reflection holograms in photorefractive crystals: physical aspects and applications for adaptive interferometry <i>S.M. Shandarov</i> <i>Tomsk State University of Control Systems and Radioelectronics, Tomsk</i>
16.00 – 16.15 COFFEE BREAK	
16.15 – 16.40 <i>invited</i>	Multiwavelength multimedia metal vapor lasers <i>A.N. Soldatov</i> <i>Tomsk State University, Tomsk</i>
16.40 – 17.05 <i>invited</i>	Phototransformation toxic organic compounds under the influence of excilamps <i>O.N. Tchaikovskaya, I.V. Sokolova, G.V. Mayer, E.A. Sosnin</i> <i>Tomsk State University, Tomsk</i>
Saturday, 11 May 2013	
09.00 – 13.00 MORNING SESSION Chairs: Victor F. Tarasenko and Wuliji Hasi	
09.00 – 09.20 <i>invited</i>	Hybrid multi-terawatt laser system of visible spectral range <i>V.F. Losev</i> <i>Institute of High Current Electronics SB RAS, Tomsk</i>

PROGRAM

09.20 – 09.40	<p>Analysis of there sidual phase distortion value forhigh aberration with laser guide star <i>L.A. Bol'basova, V.P. Lukin</i> <i>V.V. Zuev Institute of Atmospheric Optics SB RAS, Tomsk</i></p>
09.40 – 10.00	<p>High power Ho:YAG laser pumped by two orthogonally polarized Tm:YLF lasers <i>Bao-Quan Yao, Ying-Jie Shen, Zheng Cui, Xiao-Ming Duan, You-Lun Ju, and Yue-Zhu Wang</i> <i>National Key Laboratory of Tunable Laser Technology, Harbin Institute of Technology, Harbin</i></p>
10.00 – 10.20	<p>Assessment of potential possibilities of cloud sensing with a terahertz free-electron laser <i>A.A.Lisenko¹, S.V. Babchenko¹, B.A.Kargin², E.G.Kablukova²</i> ¹<i>V.V. Zuev Institute of Atmospheric Optics SB RAS, Tomsk</i> ²<i>Institute of Computational Mathematics and Mathematical Geophysics SB RAS, Novosibirsk</i></p>
10.20 – 10.30	<p>Formation of high-frequency discharge in the active metal vapor lasers with longitudinal pumping <i>N.A. Yudin, I.D. Kostyrya, Yu.P. Polunin, N.N. Yudin</i> <i>Tomsk State University, Tomsk</i></p>
10.30 – 10.50	<p>Experimental studies on a new methodical level of laser heat treatment of various metal alloys <i>A.G. Malikov</i> <i>Khristianovich Institute of Theoretical and Applied Mechanics SB RAS, Novosibirsk</i></p>
10.50 – 11.10	<p>Determiation of the concentrations of H₂O and CO₂ on the absorption spectra of gas mixtures in the range of 2.4 - 3.85 μm, registered with the photoacoustic spectrometer based on optical parametric oscillator <i>O.Yu. Nikiforova, Yu.N. Ponomarev, A.I. Karapuzikov, D.B. Kolker, I.V. Sherstov</i> <i>V.V. Zuev Institute of Atmospheric Optics SB RAS, Tomsk</i> <i>Institute of Laser Physics SB RAS, Novosibirsk</i> <i>Novosibirsk State Technical University, Novosibirsk</i> <i>Special technology Ltd., Novosibirsk</i></p>
11.10 – 11.30	<p>Photophysics of I₂-substituted BODIPY: the time resolved study <i>I.P. Pozdnyakov¹, Yu.V. Aksenova², A.A. Melnikov³, R.T. Kuznetsova², V.P. Grivin¹, V.F. Plyusnin¹, M.B. Berezin⁴, A.S. Semeikin⁴, S.V. Chekalin³</i> ¹<i>Institute of Chemical Kinetics and Combustion SB RAS, Novosibirsk</i> ²<i>Siberian Physical-Technical Institute of Tomsk State University, Tomsk</i> ³<i>Institute of Spectroscopy RAS, Troitsk, Moscow region</i> ⁴<i>Institute of Solution Chemistry RAS, Ivanovo</i></p>

PROGRAM

11.30 – 11.50	Optical parametric oscillator in the mid-IR spectrum for molecular spectroscopy <i>M.D. Yakovin, A.A. Boiko</i> <i>Institute of Automation and Electrometry SB RAS, Novosibirsk</i>
11.50 – 12.00	Triplet state properties of the chelate-substituted porphyrinoids studied by laser flash photolysis <i>E.G. Ermolina¹, R.T. Kuznetsova¹, I.P. Pozdnyakov², V.F. Plyusnin², V.P. Grivin², N.N. Semenishyn³</i> ¹ <i>Siberian Physical-Technical Institute of Tomsk State University, Tomsk</i> ² <i>Institute of Chemical Kinetics and Combustion SB RAS, Novosibirsk</i> ³ <i>Israel Institute of Technology, Haifa</i>
12.00 – 13.00 EXCURSION to the museum of physics history 13.00 – 14.00 LUNCH	
<i>The Conference on Lasers and Laser Technologies For Students and Young Investigators</i> 14.00 – 18.00 Chairs: <i>Nikolay A. Yudin and Yongkang Dong</i>	
14.00 – 14.10	Possibility of the beam brightness rise of a nitrogen laser <i>D.M. Lubenko, N.G. Ivanov, V.F. Losev</i> <i>High Current Electronics Institute SB RAS, Tomsk</i>
14.10 – 14.20	Optimum 13.5 nm radiation plasma for He/Xe mixing gases <i>Qiang Xu</i> <i>Harbin Institute of Technology, Harbin</i>
14.20 – 14.30	Efficient UV, visible, IR lasers pumped by high voltage nanosecond discharge <i>N.A. Panchenko, M.I. Lomaev, D.A. Sorokin, V.F. Tarasenko, P.O. Viltovsky</i> <i>High Current Electronics Institute SB RAS, Tomsk</i>
14.30 – 14.40	Industrial production of ferroelectric oxide crystals and the creation of devices based on them <i>I.A. Pargachey, Y.V. Kuleshov, V.A. Krakowsky, L.J. Serebrennikov, S.M. Shandarov, A.A. Tik, A.E. Mandel, G.I. Schwartzman</i> <i>Crystal T Ltd., Tomsk</i>
14.40 – 14.50	The possibility of using high-frequency CuBr-laser for producing active optical systems <i>S.N. Torgaev</i> <i>Tomsk Polytechnic University, Tomsk</i>
14.50 – 15.00	Processing images from the laser monitor <i>M.V. Trigub</i> <i>Tomsk Polytechnic University, Tomsk</i> <i>V.E. Zuev Institute of Atmospheric Optics SB RAS, Tomsk</i>

PROGRAM

15.00 – 15.10	Gas medium excitation with an inductive discharge <i>K.V. Sukharnikov, F.A. Gubarev, V.B. Sukhanov</i> <i>Tomsk Polytechnic University, Tomsk</i> <i>V.E. Zuev Institute of Atmospheric Optics SB RAS, Tomsk</i>
15.10 – 15.20	Optical methods of non-destructive testing <i>E.Z. Dashinimaeva¹, M.V. Trigub^{1,2}, G.S. Evtushenko¹</i> ¹ <i>Tomsk Polytechnic University, Tomsk</i> ² <i>V.E. Zuev Institute of Atmospheric Optics SB RAS, Tomsk</i>
15.20 – 15.30	Self-mode-locking in TEA CO₂-laser <i>D.V. Beloplotov</i> <i>Tomsk State University, Tomsk</i>
15.30 – 15.40	Comparative analysis of semiconductor and thyatron pump sources <i>I.V. Krasnikov¹, M.V. Trigub^{1,2}, G.S. Evtushenko¹</i> ¹ <i>Tomsk Polytechnic University, Tomsk</i> ² <i>V.E. Zuev Institute of Atmospheric Optics SB RAS, Tomsk</i>
15.40 – 16.00 COFFEE BREAK	
16.00 – 17.00 ROUND-TABLE DISCUSSION	
SYMPOSIUM CLOSING CEREMONY	

Saturday, 11 May 2013	
09.00 – 12.00 POSTER SESSION	
Chairs: <i>Anna V. Vasilieva and Pengyuan Du</i>	
P1	Automation parameter control output radiation KrF-laser <i>M.V. Andreev, Yu.N. Panchenko</i> <i>High Current Electronics Institute SB RAS, Tomsk</i>
P2	UV induced degradation of chlorophenoxyacetic acids <i>N.O. Vershinin^{1,2}, O.N. Tchaikovskaya^{1,2}, I.V. Sokolova², E.A. Karetnikova³</i> ¹ <i>Siberian Physical-Technical Institute of Tomsk State University, Tomsk</i> ² <i>Tomsk State University, Tomsk</i> ³ <i>Institute of Water and Ecological Problems of the Far Eastern Branch of Russian Academy of Sciences, Khabarovsk</i>
P3	Determination of trace drotaverine hydrochloride in saline <i>J.G. Zuzkova, V.E. Prokopyev</i> <i>Institute of Pharmacology RAMS, Tomsk</i>
P4	Chirped pulse amplification in XeF(C-A) excimer amplifier <i>M.V. Ivanov, V.F. Losev, N.G. Ivanov, Y.N. Panchenko, S.V. Alekseev</i> <i>High Current Electronics Institute SB RAS, Tomsk</i>

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P5	<p style="text-align: center;">The active media for tuning lasers on the base of boron fluoride complexes with derivatives of dipyrromethene</p> <p style="text-align: center;"><i>R.T. Kuznetsova¹, Yu.V. Aksenova¹, T.A. Solodova, T.N. Kopylova¹, E.N. Telminov¹, G.V. Mayer¹, M.B. Berezin², A.S. Semeikin³, S.L. Yutanova², S.M. Arabei⁴, T.A. Pavich⁵, K.N. Soloviov⁵</i></p> <p style="text-align: center;">¹<i>Tomsk State University, Tomsk</i> ²<i>Institute of Solution Chemistry RAS, Ivanovo</i> ³<i>Ivanovo State University of Chemical Technology, Ivanovo</i> ⁴<i>Belorussian State Agricultural Technical University, Minsk</i> ⁵<i>Stepanov Physics Institute NANB, Minsk</i></p>
P6	<p style="text-align: center;">Analysis of the diagnostic value of exhaled breath of patients with broncho-pulmonary diseases by laser opto-acoustic spectroscopy</p> <p style="text-align: center;"><i>E.B. Bukreeva, A.A. Bulanava, Yu.V. Kistenev, D.A. Kuzmin, S.A. Tuzikov, E.L. Yumov</i></p> <p style="text-align: center;"><i>V.E. Zuev Institute of Atmospheric Optics SB RAS, Tomsk</i> <i>Cancer Research Institute of RAMS, Tomsk</i> <i>Siberian State Medical University, Tomsk</i></p>
P7	<p style="text-align: center;">Optical properties and second harmonic generation in Er-doped GaSe</p> <p style="text-align: center;"><i>L.-M. Laiming¹, J.-J. Xie¹, J. Guo¹, Yu.M. Andreev^{2,3}, T.I. Izaak³, K.A. Kokh⁴, G.V. Lanski^{2,3}, I.N. Lapin³, A.V. Shaiduko^{2,3}, V.A. Svetlichnyi³</i></p> <p style="text-align: center;">¹<i>Changchun Institute of Optics, Fine Mechanics and Physics of CAS, Changchun</i> ²<i>Institute of Monitoring of Climatic and Ecological Systems SB RAS, Tomsk</i> ³<i>Tomsk State University, Tomsk</i> ⁴<i>Institute of Geology and Mineralogy of SB RAS, Novosibirsk</i></p>
P8	<p style="text-align: center;">Determination of equilibrium constants of naphthalene's interaction with irradiated peat's humic acids</p> <p style="text-align: center;"><i>L.V. Nechaev</i></p> <p style="text-align: center;"><i>Tomsk State University, Tomsk</i></p>
P9	<p style="text-align: center;">Formation of the short pulse duration in electric discharge TEA CO₂ laser</p> <p style="text-align: center;"><i>A.V. Puchikin, V.V. Dudarev, V.F. Losev, Yu.N. Panchenko, A.V. Pavlinsky</i></p> <p style="text-align: center;"><i>High Current Electronics Institute SB RAS, Tomsk</i></p>
P10	<p style="text-align: center;">Speckle interferometry method for surface vibration analysis</p> <p style="text-align: center;"><i>A.A. Sakashev, F.A. Gubarev, G.S. Evtushenko</i></p> <p style="text-align: center;"><i>Tomsk Polytechnic University, Tomsk</i> <i>V.E. Zuev Institute of Atmospheric Optics, Tomsk</i></p>
P11	<p style="text-align: center;">Spectral and luminescent properties of Nile Red in solutions and in SiO₂ sol-gel films</p> <p style="text-align: center;"><i>L.G. Samsonova, N.I. Selivanov</i></p> <p style="text-align: center;"><i>Tomsk State University, Tomsk</i></p>

PROGRAM

P12	<p style="text-align: center;">Investigation of the influence of geometrical structures laurdan (9 dodecanoyl-dimethylamino-1-naphthalene) and sold (6-propionyl-2-dimethylamino naphthalene) on the photophysical parameters of the molecule</p> <p style="text-align: center;"><i>T.Yu. Titova</i> <i>Tomsk State University, Tomsk</i></p>
P13	<p style="text-align: center;">The study of spectral-luminescent properties of molecular forms of rhodamine B, and a number of molecules of dye pirrometenovyh ab initio, TDDFT and INDO methods</p> <p style="text-align: center;"><i>A.N. Sinel'nikov, V.Ya. Artyukhov</i> <i>Tomsk State University, Tomsk</i></p>
P14	<p style="text-align: center;">Determination of electron density Ne, electron temperature Te and reduced electric field E/N in the plasma of the high-voltage nanosecond discharge by the spectral methods</p> <p style="text-align: center;"><i>D.A. Sorokin</i> <i>Tomsk State University, Tomsk</i></p>
P15	<p style="text-align: center;">Ternary and quaternary GaSe solid solution crystals</p> <p style="text-align: center;"><i>Yu. Andreev¹, G. Lanskii¹, K. Kokh², A. Soldatov³, A. Shaiduko¹</i> <i>¹Institute of Monitoring of Climatic and Ecological Systems of SB RAS, Tomsk</i> <i>²Institute of Geology and Mineralogy SB RAS, Novosibirsk</i> <i>³Tomsk State University, Tomsk</i></p>
P16	<p style="text-align: center;">ASE pulse compression using optical breakdown clipping technology in liquid medium</p> <p style="text-align: center;"><i>Pengyuan Du, Danyang Lin, Zhiwei Lu</i> <i>National Key Laboratory of Tunable Laser Technology,</i> <i>Harbin Institute of Technology, Harbin</i></p>
P17	<p style="text-align: center;">Tunable time delay in double-ring resonant system</p> <p style="text-align: center;"><i>Jing Zhang^{1,2}, Yundong Zhang¹, Zhongfan Liu² and Zhiqing Feng²</i> <i>¹National Key Laboratory of Tunable Laser Technology,</i> <i>Institute of Optoelectronics, Harbin Institute of Technology, Harbin</i> <i>²School of</i> <i>Physics and Materials Engineering,</i> <i>Dalian Nationalities University, Dalian</i></p>
P18	<p style="text-align: center;">Phase-matched high harmonic generation in N₂ gas cell</p> <p style="text-align: center;"><i>Lu Faming¹, Zhang Sheng², Xia Yuanqin¹, Chen Deying¹, Zhao Yang¹,</i> <i>and Liu Bin¹</i> <i>¹National Key Laboratory of Tunable Laser Technology,</i> <i>Institute of Opto-Electronics, Harbin Institute of Technology, Harbin</i> <i>²Department of physics, Harbin Institute of Technology, Harbin</i></p>

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P19	<p>Spectral characteristics of high harmonic generation in Xe-He mixture <i>Xia Yuanqin¹, Lu Faming¹, Zhang Sheng², Chen Deying¹, Zhao Yang¹, and Liu Bin¹</i> ¹National Key Laboratory of Tunable Laser Technology, Institute of Opto-Electronics, Harbin Institute of Technology, Harbin ²Department of physics, Harbin Institute of Technology, Harbin</p>
P20	<p>Investigation of the possibility of obtaining laser action in vapors of alkali and alkaline earth metals <i>S.S. Loginov, A.B. Suhov, T.M. Gorbunova</i> Tomsk State University, Tomsk</p>
P21	<p>IR laser ablation of biological tissues <i>A.V. Vasilieva, A.N. Soldatov</i> Tomsk State University, Tomsk</p>
P22	<p>Possible applications laser ablation polyamides <i>Ya.A. Loeva, A.V. Vasilieva</i> Tomsk State University, Tomsk</p>
P23	<p>A research on the relation between the integrated three-pulse photon echo signal and the correlation function <i>Zhonghua Zhang, Jia Chen, Yang Zhao, Yuanqin Xia</i> National Key Laboratory of Science and Technology on Tunable Laser Harbin Institute of Technology, Harbin, China</p>
P24	<p>Methods of forming a titanium oxide surface by laser ablation <i>P.A. Goltsova, N.V. Shlyaeva</i> Tomsk State University, Tomsk</p>
P25	<p>A two-photon microscope for large-scale imaging and photobleaching study <i>Bin Liu, Jie Liu, Sheng Zhang, Zhonghua Zhang, Yuanqin Xia</i> National Key Laboratory of Science and Technology on Tunable Laser Harbin Institute of Technology, Harbin, China</p>
P26	<p>Distributed laser thermal cracking <i>P.A. Goltsova, N.V. Shlyaeva</i> Tomsk State University, Tomsk</p>
P27	<p>Optical transmission characteristics of air-core fiber based on the surface plasmon resonance effect of silver sphere <i>Jin Li, Yundong Zhang, Hanyang Li, and Ping Yuan</i> National Key Laboratory of Tunable Laser Technology, Institute of Opto-Electronics, Harbin Institute of Technology, Harbin</p>