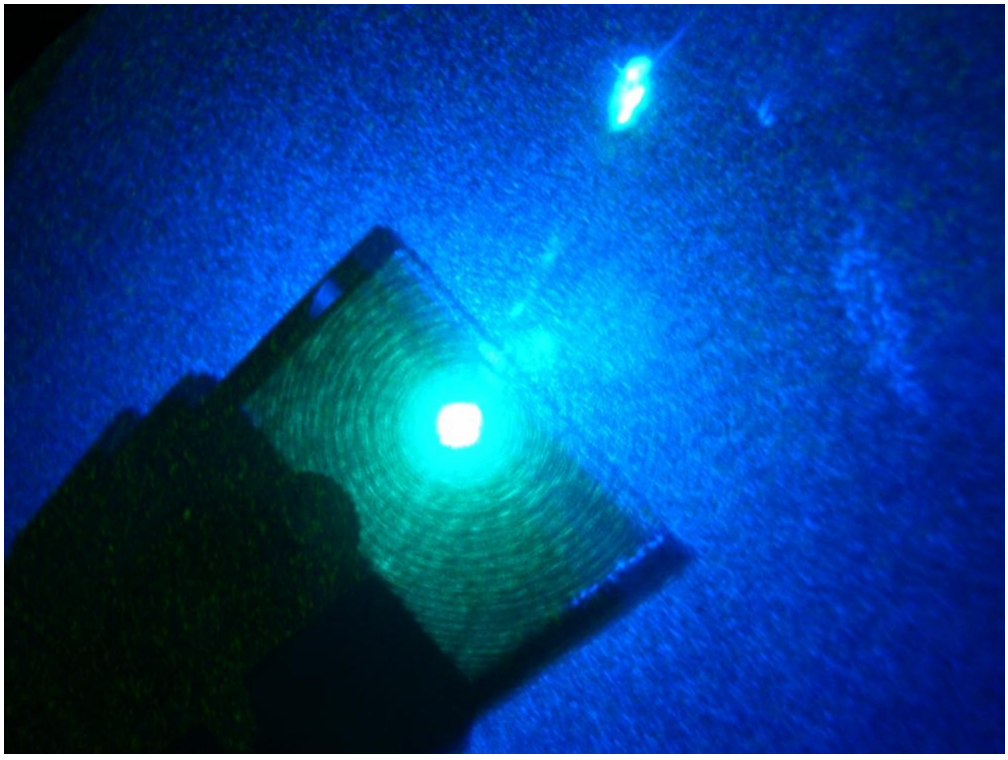
Northern Optics 2009
Program

26–28 August 2009
Hotel Crowne Plaza, Vilnius, Lithuania



Organized by the
Lithuanian Physical Society

in collaboration with the

Danish Optical Society
Estonian Physical Society
Swedish Optical Society
Finnish Optical Society
Latvian Physical Society
Norwegian Physical Society

www.no2009.ff.vu.lt

Northern Optics 2009 (NO 2009) is the fourth conference in the Northern Optics series. The previous meetings were held in Uppsala in 2000, Espoo in 2003, and Bergen in 2006. The aim of the meeting is to bring together optical scientists and people from the optics industry and optics companies in the Nordic and Baltic countries.

The conference is organized by Vilnius University and Institute of Physics (Vilnius) on behalf of the Lithuanian Physical Society in collaboration with the Danish Optical Society, Finnish Optical Society, Estonian Physical Society, Latvian Physical Society, Swedish Optical Society and Norwegian Physical Society.

The NO 2009 technical program include plenary talks, invited talks, contributed talks, poster sessions and exhibition. It is organized in similar way as the previous Conference held in Bergen in 2006.

The fields covered by conference are:

1. Optics in life sciences.
2. Optical metrology and advanced imaging.
3. Lasers, nonlinear optics, quantum optics.
4. Optical sensors, guided wave optics, surface plasmons.
5. Optics in communication, microoptical devices.
6. Nanophotonics, material optics.
7. Lasers and light in material processing (including micro-processing).
8. High intensity lasers and high intensity phenomena.

Exhibition

An important part of the meeting is the exhibition, where companies present their products and services and meet their users and customers.

International Program Committee

Prof. Algis Petras PISKARSKAS, Vilnius University, Lithuania (chair)
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Contact address

NO 2009
Laser Research Centre
Vilnius University
Sauletekio al. 10
LT-10223, Vilnius
Lithuania

Fax: +370 5 2366006
E-mail: no2009@ff.vu.lt
Web: www.no2009.ff.vu.lt

Publications

The materials of the Conference will be published in Lithuanian Journal of Physics. The deadline for submitting the completed texts of reports is October 15, 2009.

Northern Optics 2009 Program

Wednesday, 26 August 2009

Time	Title / activity	
9:00-10:00	**Registration Material Pick-up (*Hall D*)**	
9:30-10:00	**Poster Placement (*Hall C&D*)** Poster authors for the Wednesday poster session P1 are to set up their posters at this time	
10:00	**Opening (*Hall A*)** **Benediktas Juodka**, Rector of Vilnius University **Algis Piskarskas**, Vilnius University	
	JOINT SESSION 1 (*Hall A*) Chair: Valdas SIRUTKAITIS, Vilnius University	
10:15	**(*Plenary I*) Extreme light physics**, G. Mourou; Laboratoire d'Optique Appliquèe, France	
11:00	**Wednesday Poster Overview** Poster authors are asked to give 2 minute/ 2 viewgraph overviews of their posters in the order they appear in the program (28 posters)	
12:00	**Exhibitors Overview** Exhibitors are asked to give 2 minute/ 2 viewgraph overview (13 exhibitors)	
12:30	**Lunch**	
	PARALLEL SESSION 1 (*Hall A*) Chair: Valdas PASISKEVICIUS, Royal Institute of Technology, Sweden	**PARALLEL SESSION 2(*Hall B*)** Chair: Ricardas ROTOMSKIS, Vilnius University Institute of Oncology
13:45	**(*Invited 1*) 12.5-mJ CEP-stable OPCPA at 1.5 µm,** S. Ališauskas[1], V. Smilgevičius[1], A. Piskarskas[1], O. D. Mücke[2], A. J. Verhoef[2], A. Pugžlys[2], A. Baltuška[2], J. Pocius[3], L. Giniūnas[3], R. Danielius[3], N. Forget[4]; [1]Department of Quantum Electronics, Vilnius University, Lithuania; [2]Photonics Institute, Vienna University of Technology, Austria; [3]Light Conversion Ltd, Lithuania; [4]„Fastlite", France	**(*Invited 3*) Skin optics as a tool for distant health assessment**, J. Spigulis; Bio-optics and Fiber Optics Laboratory, Institute of Atomic Physics and Spectroscopy, University of Latvia, Latvia
14:15	**(*Invited 2*) High-intensity interactions of femtosecond laser pulses with transparent solids**, V. Kudriašov, E. Gaižauskas, D. Paipulas, V. Sirutkaitis; Laser Research Center, Vilnius University, Lithuania	**(*Invited 4*) ANITA: FTIR air monitoring on the international space station: Operation and results**, A. Honne, H. Schumann-Olsen, K. Kaspersen; SINTEF ICT, Norway
14:45	**Optical rogue waves in the femtosecond regime,** M. Erkintalo[1], G. Genty[1], J. Dudley[2]; [1]Optics Laboratory, Tampere University of Technology, Finland; [2]Université de Franche-Comté, Institut FEMTO-ST, France [**O-1**]	**ANITA: FTIR air monitoring on the international space station: Preparations for operation,** A. Honne, H. Schumann-Olsen, K. Kaspersen; SINTEF ICT, Norway [**O-4**]
15:00	**Amplification of picosecond pulses from gain-switched laser diodes in Ytterbium-doped fibers,** L. Petravičiūtė, S. V. Marchese, V. Romano, T. Feurer; Institute of Applied Physics, University of Bern, Switzerland [**O-2**]	**Combining low-coherence reflectometry, laser ablation and fluid collection in a fiber**, A. Sudirman[1], G. Björk[2], W. Margulis[1]; [1]Acreo, Sweden; [2]Royal Institute of Technology, Sweden [**O-5**]
15:15	**Cryogenic cooling of Ytterbium fiber lasers for increased efficiency and stability,** P. Jelger, K. Seger, V. Pasiskevicius, F. Laurell; Department of Applied Physics, Royal Institute of Technology, Sweden [**O-3**]	**Measurements on LED as an energy efficient illumination source**, G. Werner, H. Skoogh, A. Andersson, P. O. Hedekvist, L. Å. Norsten, J. Elfström; SP Technical Research Institute of Sweden, Sweden [**O-6**]

15:30	**Coffee / Poster session P1/ Exhibition (*Hall C&D*)**
17:30	**End of poster session and exhibition**
19:00	**Excursion to Vilnius Old town and Vilnius University** (Participants must arrive to the main building of Vilnius University in Old town by address Universiteto str. 3)
20:00–22:00	**Reception at Vilnius University**

Thursday, 27 August 2009

Time	Title / activity	
8:15-8:30	**Poster Placement** Poster authors for the Thursday poster session P2 are to set up their posters at this time	
	JOINT SESSION 2 (*Hall A*) Chair: Audrius PUGZLYS, Vienna University of Technology, Austria	
8:30	**(*Plenary II*) Technologies for high power fiber lasers: the next generation**, A. Galvanauskas; Center for Ultrafast Optical Science, University of Michigan, USA	
9:15	**Thursday Poster Overview** Poster authors are asked to give 2 minute/ 2 viewgraph overviews of their posters in the order they appear in the program (29 posters)	
10:15	**Exhibition/coffee**	
	PARALLEL SESSION 3 (*Hall A*) Chair: Henryk FIEDOROWICZ, Military University of Technology, Poland	**PARALLEL SESSION 4 (*Hall B*)** Chair: Peeter SAARI, University of Tartu, Estonia
11:00	**(*Invited 5*) Counter-propagating parametric interactions in nanostructured ferroelectrics,** G. Strömqvist, V. Pasiskevicius, C. Canalias; Department of Applied Physics, Royal Institute of Technology (KTH), Sweden	**(*Invited 6*) Modeling of laser beam propagation through strong turbulence,** S. Nicolas, G. Arisholm; Norwegian Defence Research Establishment (FFI), Norway
11:30	**2-, 3- and 4-pass Ytterbium-doped fiber amplifier,** K. Regelskis, N. Gavrilin, G. Račiukaitis; Institute of Physics, Lithuania [**O-7**]	**Scattering of the highly focused vector beams from the spherical nanoparcticle,** P. Banzer[1], T. Bauer[1], G. Leuchs[1], S. Orlov[1,2], U. Peschel[1]; [1]Max Planck Institute for the science of light, Germany; [2]Department of Quantum Electronics, Vilnius University, Lithuania [**O-14**]
11:45	**Use of a transversely chirped volume Bragg grating for tuning a Yb:KYW Laser**, K. Seger, B. Jacobsson, V. Pasiskevicius, F. Laurell; Laser Physics, KTH – Royal Institute of Technology, Sweden [**O-8**]	**Four wave mixing from radiating Band-gap solitons,** K. Staliūnas[1], A. Savickas[2], E. Gaižauskas[2]; [1]Universtitat Politecnica de Catalunya, Barselona; [2]Vilnius University, Laser Research Centre, Lithuania [**O-15**]
12:00	**Short pulse laser diode pumped solid-state Q-switched Nd minilasers: modeling, experiments and applications,** A.S. Dement'ev, E. Murauskas, K. Račkaitis, N. Slavinskis; Institute of Physics, Lithuania [**O-9**]	**Bilayer lens based on transformation optics,** W. Yan, M. Yan, M. Qiu; Laboratory of Optics, Photonics and Quantum Electronics, Department of Microelectronics and Applied Physics, Royal Institute of Technology (KTH), Sweden [**O-16**]
12:15	**Tandem optical parametric oscillator mid-infrared laser source,** M. Henriksson[1,2], L. Sjöqvist[1], V. Pasiskevicius[2], F. Laurell[2]; [1]Laser Systems Group, FOI – Swedish Defence Research Agency, Sweden; [2]Laser Physics, KTH – Royal Institute of Technology, Sweden [**O-10**]	**Dynamics of the reflection and transmission processes of a light beam carrying the orbital angular momentum at a plane interface,** V.G. Fedoseyev; Institute of Physics, University of Tartu, Estonia [**O-17**]
12:30	**Lunch**	

	JOINT SESSION 3 (*Hall A*) Chair: Steen Grüner HANSON, Danish Technical University, Denmark	
13:45	**(*Plenary III*) Laser spectroscopy applied to environmental and medical research**, S. Svanberg; Lund Laser Centre, Lund University, Sweden	
	PARALLEL SESSION 5 (*Hall A*) Chair: Steen Grüner HANSON, Danish Technical University, Denmark	**PARALLEL SESSION 6 (*Hall B*)** Chair: Pekka HÄNNINEN, University of Turku, Finland
14:30	**(*Invited 7*) Time-and-space-domain study of diffracting and "non-diffracting" light pulses,** P. Saari[1], P.Bowlan[2], H. Lukner[1], M. Lõhmus[1], P. Piksarv[1], R. Trebino[2]; [1]University of Tartu, Institute of Physics, Estonia; [2] Georgia Institute of Technology, School of Physics, USA	**(*Invited 9*) GaSb-based heterostructures for high power and ultrafast laser operation,** J. Paajaste[1], S. Suomalainen[1], R. Koskinen[1], A. Härkönen[1], S. Kivistö[1], M. Guina[1,2], O. G. Okholnikov[1], M. Pessa[1]; [1]Optoelectronics Research Centre, Tampere University of Technology, Finland; [2]RefleKron Ltd, Finland
15:00	**(*Invited 8*) Phase-matched frequency conversion through parametric four-wave interaction in transparent isotropic solid-state media,** A. Dubietis, J. Darginavičius, G. Tamošauskas, G. Valiulis, A. Piskarskas; Department of Quantum Electronics, Vilnius University, Lithuania	**(*Invited 10*) Silicon photodiodes as efficient detectors of light,** E. Ikonen; Metrology Research Institute, Helsinki University of Technology (TKK) and Centre for Metrology and Accreditation (MIKES), Finland
15:30	**Directly recording diffraction phenomena in time domain,** M. Lõhmus[1], P. Bowlan[2], R. Trebino[2], H. Valtna-Lukner[1], P. Piksarv[1], R. Saari[1]; [1]University of Tartu, Institute of Physics, Estonia; [2]Georgia Institute of Technology, School of Physics, USA [**O-11**]	**Terahertz emission from InSb surface excited by femtosecond laser radiation,** V. L. Malevich[1], G. V. Sinitsyn[1], A. Krotkus[2]; [1]Institute of Physics, National Academy of Sciences of Belarus, Belarus; [2]Semiconductor Physics Institute, Lithuania [**O-18**]
15:45	**Generation of Bessel-Gauss pulses using a passively Q-switched diode-pumped Nd:YLF laser,** R. Tommila, A. Hakola, T. Kajava; Department of Applied Physics, Helsinki University of Technology, Finland [**O-12**]	**Time-resolved digital holography: tool for direct observations of ultra-fast phenomena,** A. Melninkaitis, A. Vanagas, T. Balčiūnas, V. Sirutkaitis; Vilnius University, Laser Research Center, Lithuania [**O-19**]
16:00	**Image formation of radially and temporally truncated Bessel beams,** O. Rebane, M. Lõhmus, P. Saari; University of Tartu, Institute of Physics, Estonia [**O-13**]	**Time-correlated single-photon time-of-flight range profiling and imaging,** L. Sjöqvist, M. Henriksson, P. Jonsson, O. Steinvall; Laser System Group, FOI-Swedish Defence Research Agency, Sweden [**O-20**]
16:15	**Coffee /Poster session P2/ Exhibition (*Hall C&D*)**	
18:00	**End of poster session and exhibition**	
19:30	**Conference dinner (*Hotel Crowne Plaza Vilnius*)**	

Friday, 28 August 2009

Time	Title / activity	
	JOINT SESSION 4 (*Hall A*) Chair: Olav Gaute HELLESØ, University of Tromsø, Norway	
8:30	**(*Plenary IV*), Three-dimensional laser structuring of materials**, S. Juodkazis; Research Institute for Electronic Science, Hokkaido University, Japan	
	PARALLEL SESSION 7 (*Hall A*) Chair: Olav Gaute HELLESØ, University of Tromsø, Norway	**PARALLEL SESSION 8 (*Hall B*)** Chair: Valentin ORLOVICH, B. I. Stepanov Institute of Physics, Belarus
9:15	**(*Invited 11*) Light and environment modulated spectral features of quantum dots**, S. Bagdonas[1], G.	**(*Invited 12*) Tunable microwave generation using novel fiber laser cavity,** P. Rugeland[1], Z.

	Streckyte[1], R. Rotomskis[1,2]; [1]Vilnius University, Laser Research Center, Lithuania; [2]Laboratory of Biomedical Physics, Vilnius University Institute of Oncology, Lithuania	Yu[1], O. Tarasenko[1], G. Tengstrand[2], W. Margulis[1]; [1]Acreo, Sweden; [2]Saab Avitronics, Sweden
9:45	**Simulation of localization microscopy method utilized quantum dot blinking**, J. Forma[1], A. Engbert[2], P. Hänninen[2], J. Toivonen[1]; Optics Laboratory, Tampere University of Technology, Finland; Laboratory of Biophysics, University of Turku, Finland [**O-21**]	**High-resolution phase contrast microscopy in the soft x-ray range,** U. Vogt, O. von Hofsten, M. Bertilson, M. Lindblom, A. Holmberg, H. M. Hertz; Biomedical and X-ray Physics, Department of Physics, Royal Institute of Technology, Albanova University Center, Sweden [**O-28**]
10:00	**Computer controlled light source for multispectral imaging**, L. Fauch, V. Teplov, E. Nippolainen[2] A. A. Kamshilin; Department of Physics, University of Kuopio, Finland [**O-22**]	**'Laserless' FTIR spectrometer design comprising a voice coil motor and linear encoder**, K. H. Haugholt, J. Tschudi, K. A. H. Bakke, M. O'Farrell, O. Løvhaugen, M. Hjelstuen, R. Johannessen; SINTEF ICT, Norway [**O-29**]
10:15	(***Invited 13***) **Diagnostics and Treatment of Tumours using Laser Techniques,** K. Svanberg[1,2]; [1]Department of Oncology, Lund University Hospital, Lund University, Sweden; [2]Lund University Medical Laser Centre, Lund University, Sweden	**Measuring distance to fast moving objects with semitransparent or multiple scattering surfaces,** I. S. Sidorov, D. V. Semenov, E. Nippolainen, A. A. Kamshilin; Department of Physics, University of Kuopio, Finland [**O-30**]
10:30		
10:45	**Exhibition/coffee (*Hall C&D*)**	
	PARALLEL SESSION 9 (*Hall A*) Chair: Odd LØVHAUGEN, SINTEF, Norway	**PARALLEL SESSION 10 (*Hall B*)** Chair: Janis SPIGULIS, University of Latvia, Latvia
11:30	(***Invited 14***) **3D photofabrication by femtosecond laser pulses and its applications in biomedicine,** A. Ovsianikov, B. N. Chichkov; Laser Zentrum Hannover e.V., Nanotechnology Department, Germany	(***Invited 15***) **Second-harmonic generation based absolute probes of surface chirality,** M. J. Huttunen, M. Erkintalo, M.Kauranen; Department of Physics, Tampere University of Technology, Finland
12:00	**Laser plasma source of extreme ultraviolet (EUV) for micro- and nanoprocessing polymers,** H. Fiedorowicz, A. Bartnik, R. Jarocki, J. Kostecki, R. Rakowski, A. Szczurek, M. Szczurek, P. Wachulak; Institute of Optoelectronics, Military University of Technology, Poland [**O-23**]	**Light confinement in optical fibers using surface plasmon polaritons**, F. Renna[1], G. Brambilla[1], D. Cox[2]; [1]Optoelectronics Research Centre (ORC), University of Southampton, UK; [2]Advanced Technology Institute, University of Surrey, UK [**O-31**]
12:15	**Laser nanostructuring of polymers for application in microoptics, photonics, and micromechanics**, M. Malinauskas, V. Purlys, A. Zukauskas, M. Rutkauskas, K. Belazaras, H. Gilbergs, K. Stankeviciute, G. Bickauskaite, D. Paipulas, A. Melninkaitis and R. Gadonas; Vilnius University, Department of Quantum Electronics and Laser Research Center, Lithuania [**O-24**]	**Modeling of optical and electronic properties of semiconductor nanowires**, G. K. Svendsen[1], M.-A. Dupertuis[2], H. Weman[1], J. Skaar[2]; [1]Department of Physics, Norwegian University of Science and Technology (NTNU), Norway; [2]Laboratory of Physics of Nanostructures, Switzerland [**O-32**]
12:30	**Laser applications for removing dielectric layers for front side metallisation of crystalline silicon solar cells**, V. Juzumas[1], J. Janušonis[1], T. Balčiūnas[2], V. Sabonis[2]; [1]Vilnius University, Applied Research Institute for Prospective Technologies, Lithuania; [2]Altechna Co. Ltd., Lithuania [**O-25**]	**Characterization of inclined GaSb nanocones by Mueller matrix ellipsometry,** I. S. Nerbø[1], M. Kildemo[1], S. Leroy[2], E. Søndergård; [1]Applied Optics Group, Department of Physics, Norwegian University of Science and Technology (NTNU), Norway; [2]UMR 125 Unité mixte CNRS/Saint-Gobain Laboratoire Surface du Verre et Interfases, France [**O-33**]
12:45	**Transformation in thin metal films induced by laser irradiation,** G. Račiukaitis, M. Gedvilas, B. Voisiat, E. Molotokaitė, K. Regelskis; Laboratory for Applied Research, Institute of Physics,	**Distributed feedback laser diodes implemented with nanoimprint lithography,** J. Telkkälä, J. Viheriälä, A. Laakso, T. Leinonen, M. Dumitrescu, M. Pessa;

	Lithuania [**O-26**]	ORC, Tampere University of Technology, Finland [**O-34**]
13:00	**Laser beam shaping, characterization and application for laser micro machining,** R. Buividas[1,2], G. Šlekys[2]; [1]Vilnius University, Department of Quantum Electronics, Laser Research Center, Lithuania; [2]Altechna Co. Ltd., Lithuania [**O-27**]	**Formation of self-polymerized nano-membranes by femtosecond laser pulses,** M. Malinauskas[1], A. Ovsianikov[2], X. Shizhou[2], B. N. Chichkov[2], R. Gadonas[1]; [1]Vilnius University, Department of Quantum Electronics, Laser Research Center, Lithuania; [2]Laser Zentrum Hannover e.V., Germany [**O-35**]
13:15	**Lunch**	
	JOINT SESSION 5 (*Hall A*) Chair: Gediminas RAČIUKAITIS, Institute of Physics, Lithuania	
14:30	**(*Plenary V*) Nanoscopy with focused light**, Stefan W. Hell; Max Planck Institute for Biophysical Chemistry, Department of NanoBiophotonics, Germany	
15:15-15:30	**Concluding remarks** Valdas SIRUTKAITIS, Vilnius University	

Wednesday Poster Session P1 – 26 August, 2009

Lasers, Nonlinear Optics, Quantum Optics

Lasers and Light in Materials Processing (Including Micro-processing)

P1-1 **Simultaneous dual-wavelength generation from vertical external-cavity surface - emitting semiconductor lasers,** S. Ranta[1], T. Leinonen[1], A. Härkönen[1], A. Laakso[1], Yu. Morozov[2], and M. Pessa[1]; [1]Optoelectronics Research Centre, Tampere University of Technology, Finland; [2]Institute of Radioengineering and Electronics of Russian Academy of Sciences, Russia

P1-2 **Photoluminescence and relaxation of metamorphic tensile GaInP layers grown on GaAs,** L. Toikkanen, T. Hakkarainen, A. Schramm, A. Tukiainen, M. Guina, and M. Pessa; Optoelectronics Research Centre, Tampere University of Technology, Finland

P1-3 **Short-cavity diode-pumped Nd:YLF laser with GaAs Q-switch,** S. Beranek, E. Räikkönen, A.Hakola, and T. Kajava; Department of Applied Physics, Helsinki University of Technology, Finland

P1-4 **Characterization of Kerr nonlinearities in undoped and Yb-doped $KRE(WO_4)_2$RE=Y, Yb, Gd, Lu crystals,** N. Thilmann[1], G. Strömqvist[1], M. C. Pujol[2], V. Pasiskevicius[1], V. Petrov[3], F. Diaz[2]; [1]Laser physics, KTH – Royal Institute of Technology, Sweden; [2]Física Cristal lografia de Materials i Nanomaterials, Universitat Roviva i Virgili, Spain; [3]Max-Born-Institute for Nonlinear Optics and Short Pulse Spectroscopy, Germany

P1-5 **Raman amplification bandwidth in KGW crystal at femtosecond excitation,** O. V. Buganov, A. S. Grabtchikov, V. A. Orlovich, S. A. Tikhomirov; B. I. Stepanov Institute of Physics NAS of Belarus, Belarus

P1-6 **Intracavity frequency sum mixing in diode pumped solid state laser with SRS self-conversion,** A. Demidovich[1], A. Kananovich[2], A. Grabtchikov[2]; M. Danailov[1], V. Orlovich[2]; [1]LaserLab ELETTRA-Sincrotrone, Italy; [2]Institute of Physics, National Academy of Sciences of Belarus, Belarus

P1-7 **Generation of multi-frequency infrared and visible radiation in pulsed microchip laser with Raman conversion and nonlinear sum-mixing,** P. V. Shpak[1], A. A. Demidovich[2], M. B. Danailov[2], A. S. Grabtchikov[1], V. A. Orlovich[1], [1]B. I. Stepanov Institute of Physics NAS Belarus, Belarus; [2]Laser Lab Sincrotrone-Trieste, Italy

P1-8 **Numerical analysis of signal gain and noise figure of S-band Tm-doped W-type fiber amplifier with different pumping configurations,** M. A. Khodasevich, S. A. Koval, G. V. Sinitsyn; B. I. Stepanov Institute of Physics, National Academy of Sciences of Belarus, Belarus

P1-9 **Generation of periodic filament arrays by self-focusing of elliptical ultrashort pulsed laser beams,** V. Jukna, D. Majus, G. Valiulis, A. Dubietis; Department of Quantum Electronics, Vilnius University, Lithuania

P1-10 **Self-compression of 1.5 um CEP stable OPCPA pulses in noble gases to sub-20 fs,** S. Ališauskas[1], V. Smilgevičius[1], A. Piskarskas[1], O. D. Mücke[2], A. J. Verhoef[2], A. Pugžlys[2], A. Baltuška[2], J. Pocius[3], L. Giniūnas[3], R. Danielius[3], N. Forget[4]; [1]Department of Quantum Electronics, Vilnius University, Lithuania; [2]Photonics Institute, Vienna University of Technology, Austria; [3]Ligth Conversion Ltd., Lithuania;[4]„Fastlite“, France

P1-11 **Conical wave spiral beam formation,** V. Jarutis, A. Matijošius, P. Di Trapani and A. Piskarskas; Department of Quantum Electronics, Vilnius University, Lithuania

P1-12 **Four-wave rectification and generation of terahertz radiation in air,** V. Vaičaitis, V. Smilgevičius; Laser Research Center, Vilnius University, Lithuania

P1-13 **Continuum generation in photonic crystal fibre by multi-wavelength amplified subnanosecond light pulses,** A. Čiburys, R. Gadonas, D. Jokšas; Department of Quantum Electronics, Vilnius University, Lithuania

P1-14 **Generation of ultra-broadband pulses in 512 nm pumped femtosecond NOPA setup,** R. Antipenkov, A. Varanavičius, A. P. Piskarskas; Department of Quantum Electronics, Vilnius University, Lithuania

P1-15 **Picosecond Nd:YAG amplification system for pumping of high energy OPCPA,** J. Adamonis[1,2], R. Antipenkov[1], J. Kolenda[2], A. Michailovas[2], A. P. Piskarskas[1], A. Varanavicius[1]; [1]Department of Quantum Electronics, Vilnius University, Lithuania; [2]UAB „Ekspla“, Lithuania

P1-16 **Dynamic properties of passively Q-switched LD-pumped erbium laser,** T. V. Bez'yazychnaya[1], M. V. Bogdanovich[1], V. V. Kabanov[1], G. I. Ryabtsev[1], A. I. Yenzhyieuski[1], A. V. Grigor'ev[2], A. G. Ryabtsev[2], M. A.

Shchemelev[2], A. S. Dement'ev[3]; [1]B.I. Stepanov Institute of Physics, National Academy of Sciences of Belarus, Belarus; [2]Belarusian State University, Belarus; [3]Institute of Physics, Lithuania

P1-17 **Measurements of self- and cross-phase modulation coefficients of the crystals using a modified Z-scan technique,** A. S. Dement'ev, E. Murauskas, K. Račkaitis, N. Slavinskis; Institute of Physics, Lithuania

P1-18 **Numerical modeling of short pulse generation by laser diode pumped solid-state Q-switched lasers using a traveling wave model,** A. S. Dement'ev[1], N. Slavinskis[1], R. Čiegis[2], I. Laukaitytė[2]; [1]Institute of Physics, Lithuania; [2]Vilnius Gediminas Technical University, Lithuania

P1-19 **Optimization of passively Q-switched Yb:YAG micro laser parameters,** V. Stočkus[1,2], V. Smilgevičius[1], G. Šlekys[2]; [1]Vilnius University, Department of Quantum Electronics, Lithuania; [2]Altechna Co. Ltd., Lithuania

P1-20 **Spectrum control of doubly resonant optical parametric oscillator with compensation of signal and idler wave's cavity length,** M. Gecevičius, V. Jarutis, D. Kezys, V. Smilgevičius, A. Piskarskas; Quantum Electronics Department, Vilnius University, Lithuania

P1-21 **High power Yb doped fiber amplifier for OPO pump,** R. Butkus, M. Gecevičius, V. Smilgevičius, A. Piskarskas; Quantum Electronics Department, Vilnius University, Lithuania

P1-22 **Modeling of supercontinuum generation in photonic crystal fiber,** D. Kezys, V. Smilgevičius; Laser Research Center, Vilnius University, Lithuania

P1-23 **Beam shaping with birefringent structures written in silica glass,** M. Beresna, P. Kazansky; Optoelectronics Research Center, University of Southampton, United Kingdom

P1-24 **Surface-texturing of sapphire by femtosecond laser pulses for photonic applications,** T. Kudrius[1,2], S. Juodkazis[2], G. Šlekys[3]; [1]Vilnius University, Department of Quantum Electronics, Lithuania; [2]Research Institute for Electronic Science, Hokkaido University, Japan; [3]Altechna Co. Ltd., Lithuania

P1-25 **Manufacturing of diffractive elements in fused silica by high repetition rate femtosecond Yb:KGW laser pulses**, D. Paipulas, V. Kudriašiov, K. Kuršelis, M. Malinauskas, V. Siruktaitis; Laser Research Center, Vilnius University, Lithuania

P1-26 **Modeling of laser colored stainless steel surfaces by color pixels**, A. Lehmuskero[1], J. Hiltunen[2], V. Kontturi[1], M. Kuittinen[1]; [1]Department of Physics and Mathematics, Univ. of Joensuu, Finland; [2]InFotonics Center Joensuu Univ. of Joensuu, Finland

P1-27 **3D artificial polymer scaffolds for regenerative medicine fabricated by femtosecond laser**, P. Danilevičius[1], M. Malinauskas[1], D. Baltriukienė[2], M. Rutkauskas[1], V. Chorosajev[1], Ž. Kairytė[2], G. Bickauskaite[1], A. Zukauskas[1], V. Purlys[1], D. Paipulas[1], V. Bukelskienė[2] and R. Gadonas[1]; [1]Vilnius University, Department of Quantum Electronics, Laser Research Center, [2]Institure of Biochemistry, Lithuania

P1-28 **Experimental study on femtosecond laser micromachining of grooves in stainless steel**, K.Kuršelis, V.Sirutkaitis; Laser Research Center, Vilnius University, Lithuania

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P2-1 **Multi-spectral mapping of in vivo skin parameters,** D. Jakovels J.Spigulis; Institute of Atomic Physics and Spectroscopy, University of Latvia, Latvia

P2-2 **Wireless optical sensing of fingertip blood pulsations,** E. Kviesis-Kipge, J. Spigulis; Bio-optics and Fibre Optics Laboratory, Institute of Atomic Physics and Spectroscopy, University of Latvia, Latvia

P2-3 **Photocoagulation of blood vessels under influence of diode-pumped thulium laser radiation,** L.E. Batay[1], A. I. Vodchits[1], V. A. Orlovich[1], N. B. Gorbunova[2], T. E. Kuznetsova[2], V. S. Ulastchik[2]; [1]B.I.Stepanov Institute of Physics of NASB, Belarus; [2]Institute of Physiology of NASB, Belarus

P2-4 **Efficient ablation of ex vivo cornea by the fifth harmonic of femtosecond Yb:KGW laser,** E. Gabrytė[1,2], A. Aleknavičius[1], R. Danielius[2], M. Vengris[1]; [1]Vilnius University, Faculty of Physics, Laser Research Centre, Lithuania; [2]Light Conversion, Lithuania

P2-5 **Synthesis of diffractive optical elements and computer generated holograms by full-vectorial beam propagation method,** D. Kezys[1], R. Petruškevičius[1], M. Mikolajūnas[2], V. Grigaliūnas[2], J. Baltrusaitis[3], D. Viržonis[4]; [1]Institute of Physics, Lithuania; [2]Institute of Physical Electronics of Kaunas University of Technology, Lithuania; [3]Department of Chemistry and central Microscopy Research Facility, University of Iowa, USA; [4]Panevezys Mechatronics Center, Lithuania

P2-6 **Short-range ultraviolet laser based standoff detection of chemical warfare agents,** F. Kullander, P. Jonsson, M. Henriksson, G. Olofsson, P. Wästerby; FOI – Swedish Defence Research Agency, Sweden

P2-7 **Applications of high performance infrared imaging,** S. Siikanen, M. Kaarre, M. Juuti; VTT Technical Research Centre of Finland, Optical instruments, Finland

P2-8 **Time-resolved spectroscopy measurements of a laser processed material plasma induced by nanosecond and femtosecond lasers,** O.Balachninaite, A.Baskevicius, V. Sirutkaitis; Vilnius University, Laser Research Center, Lithuania

P2-9 **Q-factor of high refractive index glass microspheres in air and water,** B. J. Husabø, B. S. Ahluwalia, O. G. Hellesø; Department of Physics and Technology, University of Tromsø, Norway

P2-10 **Application of surface plasmons to analysis of amyloid self assembly,** V. Vaicikauskas, Z. Balevicius; Institute of Physics, Lithuania

P2-11 **Raman and optical study of external and internal defects of submicron diamonds for quantum photonics,** A. Kulbickas[1], L. Rasteniene[1], M. Bloomfield[2], A. Zakharov[3], M. Franckevičius[1], R. Vaisnoras[1]; [1]Vilnius Pedagogical University, Lithuania; [2]Renischaw plc, UK.; [3]St. Petersburg Institute for Machine Sciences, Russia

P2-12 **Plasmonic structures for surface-enhanced Raman scattering on the base of silver - coated porous silicon and anodic aluminum oxide,** S. N. Terekhov, A. Yu. Panarin, I. A. Khodasevich, S. P. Zhavavyi, N. I. Mukhurov,V. A. Orlovich; B. I. Stepanov Institute of Physics of NASB, Belarus

P2-13 **Ultra-high resolution optical coherence tomography as a method of quality inspection for printed electronics encapsulation,** J. Czajkowski, T. Prykäri, E. Alarousu, T. Fabritius, R. Myllylä; Optoelectronics and measurement techniques laboratory, University of Oulu, Finland

P2-14 **Photon-to-electron converter with 1 ppm quantum deficiency,** E. Ikonen[1,2], A. Haapalinna[3], M. Sildoja[1], and F. Manoocheri[1,2]; [1]Metrology Research Institute, Helsinki University of Technology (TKK), Finland; [2]Centre for Metrology and Accreditation (MIKES), Finland; [3]Okmetic Oyj, Finland

P2-15 **Fabrication of the μ-fluidic channels and optical control of depth,** T. Tamulevičius[1], M. Andrulevičius[1,2], L. Puodžiukynas[1,2], R. Šeperys[2], V. Morkūnas[1, 2], S. Tamulevičius[1, 2]; [1]Institute of Physical Electronics of Kaunas University of Technology; [2]Kaunas University of Technology, Faculty of Fundamental Science, Lithuania

P2-16 **Rapid photonic microwave measurement using ultra narrow DFB FBG,** P. Rugeland[1], Z. Yu[1], O. Tarasenko[1], G. Tengstrand[2] and W. Margulis[1]; [1]Acreo, Sweden; [2]Saab Avitronics, Sweden

P2-17 **Investigation of electro-optic polymers via all-optical poling and ellipsometry,** G. Seniutinas[1], R. Tomašiūnas[1], Z. Balevičius[2], R. Petruškevičius[2]; [1]Institute of Materials Science and Applied Research, Vilnius University; [2]Institute of Physics, Lithuania

P2-18 **Magnetooptics of opal crystals modified by cobalt nanoparticles,** I. Šimkienė[1], A. Rėza[1], A. Kindurys[1], V. Bukauskas[1], J. Babonas[1], R. Szymczak[2], P. Aleshkevych[2] M. Franckevičius[3], R. Vaišnoras[3]; [1]Semiconductor Physics Institute, Lithuania; [2]Institute of Physics PAN, Warsaw, Poland; [3]Vilnius Pedagogical University, Lithuania

P2-19 **Coherent anti-Stokes Raman scattering spectroscope/microscope based on picosecond parametric oscillator,** A. Dementjev[1], V. Gulbinas[1], M. Kaučikas[2]; [1]Institute of Physics, Lithuania; [2]UAB "EKSPLA", Lithuania

P2-20 **Polarization dependence of holographic recording in glassy azocompounds,** A. Ozols, V. Kokars, P. Augustovs, I. Uiska, K. Traskovskis, G. Mezinskis, A. Pludons, D. Saharov; Faculty of Material Science and Applied Chemistry, Riga Technical University, Latvia

P2-21 **Nanomechanical properties and possible applications of mechanoactivated ZnO coatings,** R. Zabels, F. Muktepavela, M. Chubarov; Institute of Solid State Physics, University of Latvia, Latvia

P2-22 **Photoinduced surface relief modulation in amorphous chalcogenide thin films during holographic recording,** U. Gertners, J. Teteris; Institute of Solid State Physics, University of Latvia, Latvia

P2-23 **Holographic recording in photochrome-chalcogenide composites,** A. Gerbreders[1,2], J. Aleksejeva[1], A. Danilovs[1], J. Teteris[1]; [1]Institute of Solid State Physics, University of Latvia, Latvia; [2]Daugavpils University, Department of Physics, Latvia

P2-24 **Zero index metamaterial cloak,** J. Hao, W. Yan, M. Qiu; Photonics and Microwave Engineering, Royal Institute of Technology (KTH), Sweden

P2-25 **Doped polymeric microstructures for optically active functional devices,** A. Zukauskas, M. Malinauskas, L. Kontenis, V. Purlys, D. Paipulas, M. Vengris and R. Gadonas; Vilnius University, Faculty of Physics, Department of Quantum Electronics, Laser Research Center, Lithuania

P2-26 **Self-polymerization of nano-fibers induced by two-photon absorption,** M. Malinauskas, V. Purlys, M. Rutkauskas, G. Bickauskaite and R. Gadonas; Vilnius University, Physics Faculty, Department of Quantum Electronics, Laser Research Center, Lithuania

P2-27 **LED-Based Light Sources for Decontamination of Food Pathogens,** E. Paškevičiūtė, Z. Vaitonis, and Ž. Lukšienė; Institute of Materials Science and Applied Research, Vilnius University, Lithuania

P2-28 **Novel Advanced Pulsed Light Technology for Decontamination of Meat Matrix from Pathogens,** E. Paškevičiūtė, Ž. Lukšienė, Vytautas Gudelis; Institute of Materials Science and Applied Research, Vilnius University, Lithuania

P2-29 **Modification of antireflective coatings from silica nanoparticles,** A. Beganskiene[1], J. Pilipavicius[1], A. Kareiva[1], A. Melninkaitis[2], V. Sirutkaitis[2]; [1]Vilnius University, Chemistry Department, Lithuania; [2]Vilnius University, Laser Research Center, Lithuania