17th International Laser Physics Workshop (LPHYS’08)

June 30 – July 4, 2008, Trondheim, Norway

PROGRAM

http://www.lasphys.com
17th International Laser Physics Workshop
(LPHYS’08)
June 30 – July 4, 2008, Trondheim, Norway

ORGANIZED BY:
A.M. Prokhorov General Physics Institute, Russian Academy of Sciences (RAS), Moscow, Russia
Norwegian University of Science and Technology (NTNU), Trondheim, Norway
The international journal Laser Physics
The international journal Laser Physics Letters
International Laser Center, Moscow State University, Moscow, Russia

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Irina Sorokina  Department of Physics, NTNU
Helge Weman  Department of Electronics and Telecommunications, NTNU
Background
The total number of participants is expected to be about 400. In the past, participation was typically from over 30 countries.

Proceedings
The Workshop materials accepted by the Steering and Advisory & Program Committees (plenary, invited, and contributed) will be published in # 2 and in # 4 of the international journal Laser Physics, 2009 (vol. 19). The total length of manuscript, including figures, tables and references, is limited to twenty-five pages. The rules of the manuscript preparation can be found on the Laser Physics web site:

http://www.lasphys.com

Two hard copies (no e-mail versions of papers please) of manuscripts to be published in the Laser Physics journal can be either given to Prof. Igor V. Yevseyev, the Deputy Editor-in-Chief of Laser Physics, during LPHYS'08 or mailed to:

Prof. Igor V. Yevseyev
Department of Theoretical Physics
Moscow State Engineering Physics Institute
31, Kashirskoe Shosse
Moscow 115409
Russia

Two hard copies of your manuscripts are to be received by the Editorial Office of the journal Laser Physics in Moscow not later than on October 1, 2008.
Please point out the number of your report according to the Program of the Workshop.

The Steering Committee of LPHYS'08 kindly asks the participants to simultaneously send the e-mail versions of their manuscripts to the following e-mail address: lphys08@lasphys.com.

The possible rapid publication of your scientific results in the journal Laser Physics Letters

The Steering Committee of LPHYS'08 would like to bring your attention to the following possibility. If you feel that your manuscript deserves super-rapid publication, you can send it only by e-mail staffeditor@lasphys.com to another journal, the journal Laser Physics Letters. In case your manuscript receives positive reports of referees, its on-line version will appear two weeks after the acceptance of the paper. The information concerning your manuscript submission and instructions for manuscript preparation for the journal Laser Physics Letters can be found on:

http://www.lasphys.com

Scientific Seminars

The Workshop consists of the following seminars (organized by the respective co-chairs) which feature invited plenary talks, invited lectures, contributed and poster reports. The official Workshop language is English.

Seminar 1  Modern Trends in Laser Physics
Co-Chairs: Thomas Feurer (Switzerland), Franz X. Kärtner (USA), Fredrik Laurell (Sweden), and Kirill A. Prokhorov (Russia)

Seminar 2  Strong Field & Attosecond Physics
Co-Chairs: Wilhelm Becker (Germany), Jens Biegert (Spain), and Mikhail V. Fedorov (Russia)

Seminar 3  Biophotonics
Co-Chairs: Sergey A. Gonchukov (Russia), Jürgen Lademann (Germany), and Mikael Lindgren (Norway)
Seminar 4  Physics of Lasers  
Co-Chairs: Markus Pollnau (The Netherlands), Gunnar Rustad (Norway), and Ivan A. Shcherbakov (Russia)

Seminar 5  Nonlinear Optics and Spectroscopy  
Co-Chairs: See Leang Chin (Canada), Christos Flytzanis (France), and Vladimir A. Makarov (Russia)

Seminar 6  Physics of Cold Trapped Atoms  
Co-Chairs: Lev P. Pitaevskii (Italy), Vyacheslav I. Yukalov (Russia), and Eugene Zaremba (Canada)

Seminar 7  Quantum Information and Computation  
Co-Chairs: Marco Genovese (Italy), Sergey P. Kulik (Russia), and Leong Chuan Kwek (Singapore)

Seminar 8  Laser Nanotechnologies  
Co-Chairs: Pavel K. Kashkarov (Russia), Vitali I. Konov (Russia), and Helge Weman (Norway)

Seminar 9  Fiber Lasers  
Co-Chairs: Evgeni M. Dianov (Russia), Hans G. Limberger (Switzerland), and David N. Payne (UK)
# Meeting Format and Location of the Events

<table>
<thead>
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<th>Event</th>
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<td>July 4</td>
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<td><strong>Plenary Sessions (PS)</strong></td>
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**Seminar 7**

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**Seminar 9**

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**Poster Sessions**

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<td>Seminars 1-3</td>
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<tr>
<td>July 2</td>
<td>19.00-20.00</td>
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### Scientific Program – Schedule

#### Monday, June 30, 2008

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#### Tuesday, July 1, 2008

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### Thursday, July 3, 2008

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Friday, July 4, 2008

Coffee Break

Lunch

Closing Remarks
Plenary Sessions

Monday, June 30
PLENARY SESSION (PS1)
Chair: J.H. Eberly (USA)
09.00-09.45 Michael Bass (Orlando, USA)
Gain Guided, Index Anti Guided Fiber Lasers

PLENARY SESSION (PS2)
Chair: K.A. Prokhorov (Russia)
09.45-10.30 Franz X. Kärtner (Cambridge, USA)
Femtosecond Lasers: Tools for Attosecond Science

Tuesday, July 1
PLENARY SESSION (PS3)
Chair: H.G. Limberger (Switzerland)
09.00-09.45 Konstantin L. Vodopyanov (Stanford, CA, USA)
New Light from Gallium Arsenide: Efficient THz-Wave Generation from Periodically-Inverted GaAs

PLENARY SESSION (PS4)
Chair: V.I. Yukalov (Russia)
09.45-10.30 Randall G. Hulet (Houston, USA)
Pairing and Superfluidity in an Atomic Fermi Gas

Wednesday, July 2
PLENARY SESSION (PS5)
Chair: M.V. Fedorov (Russia)
09.00-09.45 Stephen E. Harris (Stanford, CA, USA)
Generation of Biphotos with Controllable Waveforms
PLENARY SESSION (PS6)
Chair: S.P. Kulik (Russia)
09.45-10.30 Jeffrey H. Shapiro (Cambridge, MA, USA)
Imaging with Phase-Sensitive Light: What Is Quantum and What Is Not

Thursday, July 3
PLENARY SESSION (PS7)
Chair: G. Huber (Germany)
09.00-09.45 Martin E. Fermann (Ann Arbor, MI, USA)
Ultrafast Fiber Lasers in Advanced Technology and Science

PLENARY SESSION (PS8)
Chair: M. Pollnau (The Netherlands)
09.45-10.30 Günter Huber (Hamburg, Germany)
Diode Pumped Solid-State Lasers in the Near Infrared and Visible Spectral Region

Friday, July 4
PLENARY SESSION (PS9)
Chair: O. Hunderi (Norway)
09.00-09.45 Christian Kurtsiefer (Singapore, Singapore)
What Can You Do with Photonic Qubits?

Friday, July 4
Closing Remarks
Chair: V.I. Yukalov (Russia)
18.50-19.00
Seminar 1
Modern Trends in Laser Physics

Monday, June 30

Seminar 1.1
Chair: F. Laurell (Sweden)
11.00-11.25 1.1.1 J.H. Eberly and B.D. Clader (Rochester, NY, USA)
Two-pulse area theorems: pure and mixed state media
11.25-11.50 1.1.2 M.G. Raymer and C.C. Leary (Eugene, Oregon, USA)
Single-photon spin-orbit interaction in optical fiber
11.50-12.10 1.1.3 P. Saari (Tartu, Estonia)
Airy pulse – a new member of family of localized waves
12.10-12.30 1.1.4 G. Koganov and R. Shuker (Beer Sheva, Israel)
Phase sensitive quantum interference phenomena on ac Stark allowed transitions
12.30-12.50 1.1.5 S.T. Müller, D.V. Magalhães, A. Bebeachibuli, K.M.F. Magalhães, and V.S. Bagnato (São Carlos, Brazil)
A mathematical model for the contrast of the Ramsey Fringes for an expanding cloud of cold atoms
12.45-14.00 Lunch

Seminar 1.2
Chair: K.M.F. Magalhães (Brazil)
14.00-14.25 1.2.1 S.I. Bozhevolnyi (Odense M, Denmark)
Subwavelength waveguiding by surface plasmon polaritons
14.25-14.50 1.2.2 S. Blair (Salt Lake City, UT, USA)
Nonlinear optics of sub-wavelength apertures
14.50-15.15 1.2.3 A.K. Popov (Stevens Point, WI, USA), S.A. Myslivets (Krasyansk, Russia), and V.M. Shalaev (West Lafayette, IN, USA)
Coherent control in negative-index metamaterials
15.15-15.35 1.2.4 V. Sandoghdar (Zurich, Switzerland)
Cavity-free coherent coupling of photons and emitters
15.35-15.55 1.2.5 P. Bermel, Zh. Wang, Y. Chong, A. Rodriguez, J.D. Ioannopoulos, and M. Soljačić (Cambridge, MA USA)
Novel phenomena in nonlinear photonic crystals
15.55-16.15 1.2.6 P. Hommelhoff (Garching, Germany, and Stanford, USA), C. Kealhofer, S. Foreman, and M. Kasevich (Stanford, CA, USA)
Extreme localization of electrons in space and time
16.15-16.45 Coffee break

Seminar 1.3
Chair: N.N. Rubtsova (Russia)
16.45-17.10 1.3.1 B. Jacobsson, V. Pasiskevicius, and F. Laurell (Stockholm, Sweden)
Spectral control of solid-state lasers using volume Bragg gratings
17.10-17.35 1.3.2 U.N. Singh (Hampton, VA, USA)
Overview of NASA’s laser risk reduction program towards technology maturation for Earth and Mars remote sensing application from space
17.35-18.00 1.3.3 M. Jelinek, T. Kocourek (Prague and Kladno, Czech Republic), and J. Kadlec (Brno, Czech Republic)
Hybrid laser- magnetron technology for carbon composite coating
18.00-18.20 1.3.4 D.E. Gen, K.B. Chernyshov, Yu.V. Shemouratov, K.A. Prokhorov, G.Yu. Nikolaeva, P.P. Pashinin, A.A. Kovalchuk, A.N. Klyamkina, and P.M. Nedorezova (Moscow, Russia)
Raman structural study of copolymers of propylene with high olefins

18.20-18.40 1.3.5 A. Semerok (Paris, France) and V. Konov (Moscow, Russia)
Laser ablation of graphite tiles by microsecond laser pulses

18.40-19.00 1.3.6 A. Okhrimchuk, V. Mezentsev, H. Schmitz, and I. Bennion (Birmingham, United Kingdom)
Cascaded nonlinear absorption of femtosecond laser pulses in dielectrics

Tuesday, July 1

Seminar 1.4
Symposium: Coherent Control of the Fundamental Processes in Optics
Chair: M. Fleischhauer (Germany)

11.00-11.30 1.4.1 M.S. Zubairy (College Station, Texas, USA and Doha, Qatar)
Optical sub-wavelength lithography: with and without entanglement

11.30-12.00 1.4.2 W.P. Schleich (Ulm, Germany)
Factorisation of numbers, Schrödinger cats and the Riemann hypothesis

12.00-12.25 1.4.3 Y. Shih (Baltimore, MD, USA)
The physics of ghost imaging

12.25-12.50 1.4.4 U. Leonhard (North Haugh, St Andrews, Fife, UK) and T.G. Philbin (Erlangen, Germany)
Transformation optics

12.45-14.00 Lunch

Seminar 1.5
Symposium: Coherent Control of the Fundamental Processes in Optics
Chair: W.P. Schleich (Germany)

14.00-14.30 1.5.1 M.O. Scully (College Station, TX, USA)
XUV coherent Raman superradiance

14.30-15.00 1.5.2 H. Rabitz (Princeton, USA)
Hiking over quantum control landscapes

15.00-15.25 1.5.3 G. Kurizki, N. Bar-Gill, N. Erez, and G. Gordon (Rehovot, Israel.)
Quantum interferometry based on translational-internal entanglement

15.25-16.50 1.5.4 V.M. Akulin (Orsay, France)
Multipartite entanglement in atomic ensembles, description and control

16.50-16.15 1.5.5 H. Lee (Button Rouge, LU, USA)
Heisenberg-limited optical interferometry: a universal detection scheme

16.15-16.45 Coffee break

Seminar 1.6
Jointly with Symposium on Coherent Control of the Fundamental Processes in Optics
Chair: O. Kocharovskaya (USA)

16.45-17.15 1.6.1 C.H. Keitel, J. Evers, C. Müller (Heidelberg, Germany), Y.I. Salamin (Sharjah, United Arab Emirates), Z. Harman, A. Pálffy (Heidelberg, Germany), T. Bürvenich (Frankfurt am Main, Germany), and A. Shahbaz (Heidelberg, Germany)
Laser-induced particle acceleration and controlled nuclear quantum dynamics
17.15-17.45 1.6.2 J.J. Carroll (Youngstown, Ohio, USA)
Survey of recent tests of induced depletion for nuclear isomers

Production of nuclear isomers via bremsstrahlung radiation of high intensity laser generated electrons

18.10-18.30 1.6.4 A. Pálffy, J. Evers, and C.H. Keitel (Heidelberg, Germany)
Quantum nucleonics with photons and electrons

18.30-18.50 1.6.5 A.A. Zadernovsky (Moscow, Russia)
Two-quantum stimulated emission of gamma radiation

Wednesday, July 2

Seminar 1.7
Symposium: Coherent Control of the Fundamental Processes in Optics
Chair: G. Welch (USA)

11.00-11.30 1.7.1 M.D. Lukin (Cambridge, MS, USA)
Quantum nanophotonics

11.30-12.00 1.7.2 P. Anisimov, C. O’Brien, F. Vagizov (College Station, TX, USA), E. Kuznetsova (Cambridge, MS, USA), R. Akhmedzhanov, Y. Radeonychev (Nizhny Novgorod, Russia), and O. Kocharovskaya (College Station, TX, USA)
Coherent control of the atomic optical and nuclear gamma-ray transitions in solids

12.00-12.25 1.7.3 I. Lorgeré, T. Chaneiliere, J.-L. Le Gouët, A. Louchet (Orsay, France), O. Guillot Noel, R. Marino, and P. Goldner (Paris, France)
Nuclear spin optical control via superhyperfine interaction in rare-earth-doped crystals

12.25-12.50 1.7.4 O. Guillot-Noëla, P. Goldnera, F. Beaudouxa, Y. Le Dua, J. Vincenta, J. Lejaya, A. Amarib, A. Waltherb, L. Rippeb, S. Kröllb, and T. Chaneilièrec (Paris, France; Lund, Sweden; Orsay, France)
Efficient electromagnetically induced transparency in a new praseodymium doped compound: Pr:La2(WO4)3

12.45-14.00  Lunch

Seminar 1.8
Symposium: Coherent Control of the Fundamental Processes in Optics
Chair: M. Lukin (USA)

14.00-14.30 1.8.1 P. Hemmer, S. Zubairy (College Station, TX, USA), J. Wrachtrup, and F. Jelezko, (Stuttgart, Germany)
EIT, dopplerons, and other quantum optical techniques for sub-wavelength imaging

14.30-15.00 1.8.2 A. Delfan, C. La Mela, M. Underwood, P. Marzlin, S.A. Moiseev, and W. Tittel (Calgary, Canada)
Combining quantum memory with state manipulation

15.00-15.25 1.8.3 Y. Yang, J. Xu, H. Chen, and S.-Y. Zhu (Shanghai, China and Hong Kong, China)
Quantum interference enhancement with left-handed materials
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<td>15.25-15.50</td>
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<td>Pump-probe spectroscopy in degenerate two-level atoms with arbitrary strong fields</td>
<td>A.D. Wilson-Gordon, T. Zigdon, and H. Friedman (Ramat Gan, Israel)</td>
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<td>15.50-16.15</td>
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<td>Applications of slow and stopped light</td>
<td>J.C. Howell, R.M. Camacho, P.V. Setu, and C. Broadbent (Rochester, NY, USA)</td>
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12.15-12.40 M. Viteau, A. Chotia (Orsay, France), M. Allegrini (Pisa, Italy),
N. Bouloufa, O. Dulieu, D. Comparat, and P. Pillet (Orsay, France)
Optical pumping and vibrational cooling of molecules

12.45-14.00 Lunch

Seminar 1.11
Symposium: Coherent Control of the Fundamental Processes in Optics
Chair: P. Hemmer (USA)

14.00-14.30 A. Tyryshkin, S. Shankar, S.A. Lyon (Princeton, USA),
J.J.L. Morton, R. Brown, A. Ardavan (Oxford, UK), T. Schenkel, and
J.W. Ager (Berkeley, USA)
Using dynamical decoupling to preserve the coherence of spin qubits in
silicon

14.30-15.00 M. Fleischhauer, Z. Kurucz (Kaiserslautern, Germany), M.D. Lukin
(Cambridge, USA), J. Taylor (Cambridge, USA), and M. Sørensen
(Copenhagen, Denmark)
Protection of qubits in quantum-dot nuclear-spin memories

15.00-15.25 S.F. Yelin, T. Bragdon, R. Rajapakse (Storrs, CT, USA), and
A.-M. Rey (Cambridge, MS, USA)
Single-photon non-linearities using polar molecules

15.25-16.15 M. Afzelius, C. Simon, H. de Riedmatten, and N. Gisin (Geneva,
Switzerland)
Novel quantum memory based on atomic frequency comb

16.15-16.45 Coffee break

Seminar 1.12
Chair: K. Prokhorov (Russia)

16.45-17.10 T. Südmeyer, A.-R. Bellancourt, D.J.H.C. Maas, B. Rudin,
M. Golling, and U. Keller (Zurich, Switzerland)
Vertical integration of ultrafast semiconductor lasers

17.10-17.35 F. Rana, F.A. Ahmad, and C. Manolatou (Ithaca, NY, USA)
Frontiers in semiconductor lasers: from the ultrafast to the ultrasmall

17.35-18.00 S. Moore, L. O’Faolain, T.F. Krauss (St. Andrews, UK), T. Stomeo
(St. Andrews, UK and Lecce, Italy), M. Kamp (Würzburg, Germany), and
H. Benisty (Palaiseau, France)
Wavelength and mode control in semiconductor lasers with photonic
crystal waveguides

18.00-18.25 Y.J. Ding (Bethlehem, PA, USA)
From accumulation to removal of hot longitudinal-optical phonons in GaN-
based heterostructures

18.25-18.50 E.A. Vinogradov, B.N. Mavrin, N.N. Novikova, V.A. Yakovlev, and
D.M. Popova (Troitsk, Moscow Region)
Lattice dynamics of $A^2B^6$ semiconductor crystals

18.50-19.15 Yu.E. Lozovik (Troitsk Moscow region)
Coherent phases and collective phenomena in graphene and graphene
nanostructures
Friday, July 4

Seminar 1.13
Symposium: Coherent Control of the Fundamental Processes in Optics
Chair: J. Marangos (UK)
09.45-10.10 1.13.1 G.R. Welch, A. Sokolov, X. Wang, and A. Zhang (College Station, TX, USA)
CARS and FAST-CARS detection of biological molecules such as glucose and cholesterol.
10.10-10.35 1.13.2 I.Sh. Averbukh, M.Y. Vilensky, and Y. Prior (Rehovot, Israel)
Feedback-controlled non-resonant laser cooling
10.30-11.00 Coffee break

Seminar 1.14
Symposium: Coherent Control of the Fundamental Processes in Optics
Chair: A. Belyanin (USA)
11.00-11.25 1.14.1 T. Kubis and P. Vogl (Garching, Germany)
Predictive quantum theory of current and optical gain in quantum cascade lasers
11.25-11.55 1.14.2 H.M. Gibbs (Tucson, AZ, USA)
Semiconductor cavity QED
11.55-12.20 1.14.3 G. Khitrova (Tucson, AZ, USA)
Radiatively coupled fibonacci quantum wells
12.20-12.45 1.14.4 L.V. Butov (San Diego, CA, USA)
Excitons in coupled quantum wells
12.45-14.00 Lunch

Seminar 1.15
Symposium: Coherent Control of the Fundamental Processes in Optics
Chair: G. Khitrova (USA)
14.00-14.30 1.15.1 A. Belyanin, Y. Cho, F. Xie, V.R. Chaganti (College Station, USA), M. Belkin, and F. Capasso (Cambridge, MA, USA)
Extending the spectral range of quantum cascade lasers with resonant intracavity nonlinear mixing
14.30-15.00 1.15.2 L.V. Keldysh (College Station, TX, USA and Moscow, Russia)
Electroabsorption in semiconductors under the strong THz pulses
15.00-15.25 1.15.3 C. Weber and A. Wacker (Lund, Sweden)
Coherence and its dephasing in quantum dots and quantum cascade lasers
15.25-15.50 1.15.4 M.A. Belkin, F. Capasso (Cambridge, MA, USA), F. Xie, A. Belyanin (College Station, TX, USA), M. Fischer, A. Wittmann, and J. Faist (Zurich, Switzerland)
Room-temperature terahertz sources based on intra-cavity difference-frequency generation in mid-infrared quantum cascade lasers
15.50-16.15 1.15.5 P. Kumar and O.-K. Lim (Evanston, USA)
Noise-free signal amplification in optical fiber
16.15-16.45 Coffee break
Seminar 1.16
Jointly with Symposium on Coherent Control of the Fundamental Processes in Optics
Chair: I. Lorgeré (France)

16.45-17.10 1.16.1 I. Novikova, N.B. Phillips (Williamsburg, VR, USA), and A.V. Gorshkov (Cambridge, MS, USA)
Optimal control of light storage and retrieval

17.10-17.35 1.16.2 D. Strekalov, A. Matsko, A. Savchenkov, and N. Yu (Los Angelos, CA, USA)
Counting microwave photons at room temperature

17.35-18.00 1.16.3 V.O. Lorenz (Boulder, Colorado, USA, presently Oxford, UK)
Non-Markovian dynamics in a dense atomic vapor

18.00-18.20 1.16.4 N.N. Rubtsova, V.N. Ishchenko, S.A. Kochubei, E.B. Khvorostov (Novosibirsk, Russia), and I.V. Yevseyev (Moscow, Russia)
“Usual” and collision induced photon echo in Ytterbium vapor

18.20-18.40 1.16.5 S.A. Moiseev (Calgary, Canada and Kazan, Russia)
Raman-echo-quantum memory

18.40-19.00 1.16.6 Y.V. Radeonychev, V.A. Polovinkin (Nizhny Novgorod, Russia), and O. Kocharovskaya (College Station, TX, USA)
Pulse shaping via modulation of resonant absorption

Poster Session, Tuesday, July 1

Chair: G.Yu. Nikolaeva (Russia)
P1.1 H. Jelínková, J. Šulc (Prague, Czech Republic), W. Ryba-Romanowski (Wroclaw, Poland), and T. Lukasiewicz (Warsaw, Poland)
1.6 μm microchip lasers

P1.2 V.V. Marinyuk and D.B. Rogozkin (Moscow, Russia)
Effects of non-diffusive wave propagation in coherent backscattering from turbid media

P1.3 L.E. Semenova, G.Yu. Nikolaeva, P.P. Pashinin, and K.A. Prokhorov (Moscow, Russia)
The treatment of the hyper-Raman scattering by 2LO phonons in semiconductors with equal effective masses of electrons and holes

Raman study of copolymers of propylene with 1-butene

P1.5 E.A. Sagitova, K.A. Prokhorov, N.D. Merekalova, V.A. Gerasin, P.P. Pashinin (Moscow, Russia), P. Donfack, and A. Materny (Bremen, Germany)
Interlayer structure of fillers for polymer-clay nanocomposites revealed by Raman scattering

P1.6 N.V. Znamenskiy, Yu.V. Malyukin, Yu.V. Orlov, and A.Yu. Shashkov (Moscow, Russia)
Superradiance of praseodymium ions doped into LaF₃ matrix under liquid helium temperature
P1.7 P. Anisimov (College Station, USA), R. Akhmedzhanov, A. Bondartsev, L. Gushchin, N. Zharova (Nizhny Novgorod, Russia), and O. Kocharovskaya (College Station, USA)

*Measurement of the Nd³⁺ ion pair interaction in Nd³⁺:LaF₃ using electromagnetically induced transparency*


*A test of Lorentz Invariance using precision spectroscopy*


*Precision spectroscopy using EIT in an atomic beam*

P1.10 N.N. Rubtsova, E.B. Khvorostov, D.V. Ledovskikh (Novosibirsk, Russia), and V.A. Reshetov (Togliatti, Russia)

*Coherent control of photon echo and free polarization decay in vapor*
Seminar 2
Strong-field and attosecond physics

Monday, June 30

Seminar 2.1
Chair: H. Reiss (USA)
11.00-11.30 2.1.1 K. Ledingham (Glasgow, UK; Dresden, Germany)
  *What is the future for ultra-high intensity laser science?*
11.30-12.00 2.1.2 E. Goulielmakis, M. Schultze (Garching, Germany), M. Hofstetter, M. Uiberacker (Munich, Germany), J. Gagnon (Garching, Germany), V. Yakovlev, U. Kleineberg (Munich, Germany), and F. Krausz (Garching, Germany)
  *Sub-100-attosecond pulses*
12.00-12.30 2.1.3 A.V. Mitrofanov, A.J. Verhoef (Vienna, Austria), E.E. Serebryannikov, A.M. Zheltikov (Moscow, Russia), and A. Baltuška (Vienna, Austria)
  *Spectral signatures of attosecond ionization dynamics*
12.45-14.00 Lunch

Seminar 2.2
Chair: M. Ivanov (Canada)
14.00-14.30 2.2.1 M. Nisoli (Milano, Italy)
  *Isolated attosecond pulses for atomic and molecular physics*
14.30-15.00 2.2.2 K. Yamanouchi (Tokyo, Japan)
  *Ultrafast hydrogen migration in molecules in intense laser fields: new frontiers in attosecond chemistry*
15.00-15.30 2.2.3 Th. Uphues, A.L. Cavalieri, M. Uiberacker, M. Schultze (Garching, Germany), M.F. Kling (Amsterdam, The Netherlands), V. Yakovlev (Garching, Germany), N. Mueller (Bielefeld, Germany), N.M. Kabachnik (Bielefeld, Germany; Moscow, Russia), M.J.J. Vrakking (Amsterdam, The Netherlands), U. Heinzmann (Bielefeld, Germany), M. Drescher (Hamburg, Germany), and F. Krausz (Garching, Germany)
  *Attosecond-time-resolved experiments from the gas phase to solids*
15.30-16.00 2.2.4 T. Fordell, E. Mansten, M. Swoboda, T. Remetter, J.M. Dahlström, K. Klünder, J. Mauritsson, and A. L’Huillier (Lund, Sweden)
  *The Lund attosecond pulse source*
16.15-16.45 Coffee break

Seminar 2.3
Chair: E. Goulielmakis (Germany)
16.45-17.15 2.3.1 P. Johnsson, W. Siu, A. Rouzee, Y. Huismans (Amsterdam, The Netherlands), F. Lépine (Villeurbanne, France), T. Marchenko (Palaiseau Cedex, France), S. Dästerer, N. Stojanovic, F. Tavella, A. Azima (Hamburg, Germany), M. Kling, I. Znakovskaya (Garching, Germany), R. Treusch (Hamburg, Germany), A. Gijsbertsen, and M.J.J. Vrakking (Amsterdam, The Netherlands)
  *Ultrafast electron dynamics studied using attosecond and free electron lasers*
<table>
<thead>
<tr>
<th>Time</th>
<th>Session 2.3</th>
<th>Speakers</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>17.15-17.45</td>
<td>2.3.2</td>
<td>M.Yu. Emelin, M.Yu. Ryabikin, and A.M. Sergeev (Nizhny Novgorod, Russia)</td>
<td><em>High-order harmonic generation by intense few-cycle laser pulse: long-distance propagation effects</em></td>
</tr>
<tr>
<td>17.45-18.15</td>
<td>2.3.3</td>
<td>S. Varró (Budapest, Hungary)</td>
<td><em>Attosecond electron pulses from interference of above-threshold de Broglie waves</em></td>
</tr>
<tr>
<td>18.15-18.45</td>
<td>2.3.4</td>
<td>I.V. Shutov and A.S. Chirkin (Moscow, Russia)</td>
<td><em>Generation of higher optical harmonics and forming of subfemtosecond light pulses in aperiodical nonlinear photonic crystal</em></td>
</tr>
</tbody>
</table>

**Tuesday, July 1**

**Seminar 2.4**

*Chair:* W. Becker (Germany)

<table>
<thead>
<tr>
<th>Time</th>
<th>Session 2.4</th>
<th>Speakers</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.00-11.30</td>
<td>2.4.1</td>
<td>T. Kanai, E.J. Takahashi, Y. Nabekawa, and K. Midorikawa (Saitama, Japan)</td>
<td><em>High-order harmonic generation in mixed gases</em></td>
</tr>
<tr>
<td>11.30-12.00</td>
<td>2.4.2</td>
<td>D.B. Milošević, E. Hasović, S. Odžak, M. Busuladžić, A. Gazibegović-Busuladžić (Sarajevo, Bosnia and Herzegovina), and W. Becker (Berlin, Germany)</td>
<td><em>New results in above-threshold ionization and high-order harmonic generation of atomic and molecular systems</em></td>
</tr>
<tr>
<td>12.00-12.30</td>
<td>2.4.3</td>
<td>A.M. Popov, M.A. Tikhonov, O.V. Tikhonova, and E.A. Volkova (Moscow, Russia)</td>
<td><em>Comparative analysis of the strong-field ionization of the quantum systems with Coulomb and short-range potential</em></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time</th>
<th>Session 2.5</th>
<th>Speakers</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.00-14.30</td>
<td>2.5.1</td>
<td>L. Plaja and J.A. Pérez-Hernández (Salamanca, Spain)</td>
<td><em>A quantitative S-matrix description of the high-order harmonic generation in the midinfrared: the physics beneath the scaling laws</em></td>
</tr>
<tr>
<td>14.30-14.55</td>
<td>2.5.2</td>
<td>M.V. Frolov, N.L. Manakov (Voronezh, Russia), and A.F. Starace (Lincoln, NE, USA)</td>
<td><em>Wavelength scaling of energy-integrated high-harmonic yield: threshold phenomena and bound state symmetry dependence</em></td>
</tr>
<tr>
<td>14.55-15.25</td>
<td>2.5.3</td>
<td>O. Smirnova, S. Patchkovskii, and M. Ivanov (Ottawa, Canada)</td>
<td><em>High harmonic generation spectroscopy of polyatomic molecules</em></td>
</tr>
<tr>
<td>15.25-15.50</td>
<td>2.5.4</td>
<td>I.A. Gonoskov, A.A. Gonoskov, I.A. Kazachenko, and M.Yu. Ryabikin (Nizhny Novgorod, Russia)</td>
<td><em>Dispersion relations for interpretation of two-center interference in hhg from diatomic molecules</em></td>
</tr>
<tr>
<td>15.50-16.15</td>
<td>2.5.5</td>
<td>A. Cerkic and D.B. Milošević (Sarajevo, Bosnia and Herzegovina)</td>
<td><em>The role of incoherent scattering in laser-induced and laser-assisted processes</em></td>
</tr>
<tr>
<td>16.15-16.45</td>
<td></td>
<td></td>
<td><em>Coffee break</em></td>
</tr>
</tbody>
</table>
Seminar 2.6
Chair: H. Kono (Japan)

16.45-17.15 2.6.1 Ye. Prior, Sh. Fleischer, and I.Sh. Averbukh (Rehovot, Israel)
*Strong field selective manipulations in molecular mixtures*

17.15-17.45 2.6.2 B. Manschwetus, T. Nubbemeyer, K. Gorling, G. Steinmeyer,
U. Eichmann, H. Rottke, and W. Sandner (Berlin, Germany)
*Strong laser field fragmentation of H₂: Coulomb explosion without double ionization*

17.45-18.15 2.6.3 B. Manschwetus, Z. Ansari, M. Böttcher, H. Rottke, W. Sandner
(Berlin, Germany), A. Verhoef, M. Lezius (Garching, Germany),
G.G. Paulus (College Station, TX, USA), A. Saenz (Berlin, Germany), and
D.B. Milošević (Sarajevo, Bosnia and Herzegovina)
*Strong field ionization of a two-center atomic system: the role of interference*

18.15-18.45 2.6.4 U. Saalmann (Dresden, Germany)
*Rescattering in strong fields: from atoms to clusters*

Wednesday, July 2

Seminar 2.7
Chair: Ch. Keitel (Germany)

11.00-11.30 2.7.1 M. Boca, V. Florescu (Bucharest, Romania), and M. Gavrila
(Amsterdam, The Netherlands)
*Generalized space-translated Dirac equation and its equivalent Pauli form for superintense laser-atom interaction*

11.30-12.00 2.7.2 C. Müller, C. Deneke, M. Ruf, K.Z. Hatsagortsyan, and Ch.H. Keitel
(Heidelberg, Germany)
*Lepton pair production in high-frequency laser fields*

12.00-12.30 2.7.3 Q. Su, T. Cheng, S.P. Bowen, C.C. Gerry, and R. Grobe (Normal, IL,
USA)
*Classical and quantum features in electron-positron pair creation process*

12.45-14.00 Lunch

Seminar 2.8
Chair: M. Gavrila (The Netherlands)

14.00-14.30 2.8.1 E. Löfstedt, A. Di Piazza, U.D. Jentschura, K.Z. Hatsagortsyan, and
C.H. Keitel (Heidelberg, Germany)
*Non-perturbative QED effects in laser-matter interaction*

14.30-14.55 2.8.2 A.M. Fedotov and K.Yu. Korolev (Moscow, Russia)
*Pair creation by a strong tightly focused linearly polarized electromagnetic pulse*

14.55-15.20 2.8.3 T. Nakajima (Kyoto, Japan)
*Carrier-envelope phase of a phase-locked polychromatic field*

15.20-15.50 2.8.4 H.-J. Kull (Aachen, Germany)
*Non-instantaneous electron-ion collisions in a strong laser field*

15.50-16.15 2.8.5 I.A. Burenkov, A.M. Popov, O.V. Tikhonova, and E.A. Volkova
(Moscow, Russia)
*Interference features of the field-induced ionization and rescattering in atomic systems in few-cycle laser pulse*

16.15-16.45 Coffee break
Seminar 2.9
Chair: V.P. Krainov (Russia)

16.45-17.15 2.9.1 F. Pegoraro (Pisa, Italy) and S.V. Bulanov (Kyoto-fu, Japan; Moscow, Russia)
*Ion acceleration and stability in the radiation pressure dominated regime*

17.15-17.45 2.9.2 D.S. Uryupina, K.A. Ivanov, N. Morshedian, R.V. Volkov, and A.B. Savel'ev (Moscow, Russia)
*Nanosecond pre-pulse control of femtosecond laser-plasma interaction at the surface of melted metals*

17.45-18.15 2.9.3 T.C. Pesch and H.-J. Kull (Aachen, Germany)
*Propagation of periodic and quasiperiodic large-amplitude electromagnetic waves in relativistic plasmas*

18.15-18.45 2.9.4 E.Yu. Echkina, I.N. Inovenkov (Moscow, Russia), T.Zh. Esirkepov (Dolgoprudnyi, Russia; Kyoto, Japan), Y. Fukuda, K. Yamakawa, J. Koga, (Kyoto, Japan), and S.V. Bulanov (Moscow, Russia; Kyoto, Japan)
*Propagation of the high power laser pulse in multicomponent cluster targets*

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Thursday, July 3

Seminar 2.10
Chair: K. Taylor (UK)

11.00-11.30 2.10.1 H. Kono, N. Niitu, K. Nakai (Sendai, Japan), Ts. Kato (Tokyo, Japan), and R. Islam (Glasgow, UK)
*New aspects of intense-field ionization of C_{60} and H_2: theoretical investigation by TDDFT and time-dependent multiconfiguration theory*

11.30-12.00 2.10.2 D. Bauer (Heidelberg, Germany), S.V. Popruzhenko (Heidelberg, Germany; Moscow, Russia), and M. Ruggenthaler (Heidelberg, Germany)
*C_{60} in strong laser fields: collective and geometry effects*

12.00-12.30 2.10.3 V.P. Krainov and A.V. Sofronov (Dolgoprudnyi, Russia)
*Hard X-ray emission by clusters in an intense femtosecond laser field at the collective photo-recombination*

12.45-14.00 Lunch

Seminar 2.11
Chair: A.M. Popov (Russia)

14.00-14.30 2.11.1 K.T. Taylor, J.S. Parker, L.R. Moore, K.J. Meharg, and G.S.J. Armstrong (Belfast, UK)
*Two-electron systems in intense laser fields from Ti:sapphire to x-ray wavelengths*

14.30-15.00 2.11.2 W. Becker (Berlin, Germany), C. Figueira de Morisson Faria (London, UK), P.J. Ho (Argonne, IL, USA), X. Liu (Wuhan, People’s Republic of China), and H. Rottke (Berlin, Germany)
*Laser-induced nonsequential double and multiple ionization of atoms: dynamics vs. kinematics*

15.00-15.30 2.11.3 N.I. Shvetsov-Shilovski, S.P. Goreslavski (Moscow, Russia), S.V. Popruzhenko (Moscow, Russia; Heidelberg, Germany), and W. Becker (Berlin, Germany)
*Nonsequential double ionization by elliptically polarized laser field: the role of long orbits*
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.30-16.00</td>
<td>2.11.4 C. Figueira de Morisson Faria; T. Shaaran (London, UK), X. Liu (Wuhan, China), and W. Yang (London, UK; Shanghai, China)</td>
<td>Quantum interference in laser-induced nonsequential double ionization in diatomic molecules: the role of alignment and orbital symmetry</td>
</tr>
<tr>
<td>16.15-16.45</td>
<td>Coffee break</td>
<td></td>
</tr>
<tr>
<td>16.45-17.15</td>
<td>Seminar 2.12</td>
<td>Chair: H-J. Kull (Germany)</td>
</tr>
<tr>
<td></td>
<td>2.12.1 W. Becker (Heidelberg, Germany)</td>
<td>Non-sequential double ionization</td>
</tr>
<tr>
<td>17.15-17.45</td>
<td>2.12.2 S.L. Haan, Z.S. Smith, and J.S. VanDyke (Grand Rapids, MI, USA)</td>
<td>Recollision excitation, correlated electron pairs, and high-energy electrons in classical ensemble studies of double ion</td>
</tr>
<tr>
<td>17.45-18.15</td>
<td>2.12.3 H. Schröder and M. Schultze (Garching, Germany)</td>
<td>Creation and depletion of successive charge states of Argon within the focal volume of fs laser pulses</td>
</tr>
<tr>
<td>18.15-18.45</td>
<td>2.12.4 K. Ueda, M. Okunishi, and G. Prümper (Sendai, Japan)</td>
<td>Electron emission from atoms and molecules in intense laser fields</td>
</tr>
<tr>
<td>09.45-10.15</td>
<td>Seminar 2.13</td>
<td>Chair: K. Ueda (Japan)</td>
</tr>
<tr>
<td></td>
<td>2.13.1 W. Sandner, M.P. Kalachnikov, P.V. Nickles, M. Schnürer, T. Sokollik, S. Steinke, S. Ter-Avetisian (Berlin, Germany), M. Amin, T. Toncian, O. Willi (Düsseldorf, Germany), and A. Andreev (Berlin, Germany; St. Petersburg, Russia)</td>
<td>&quot;Proton streak deflectometry&quot;: spatio-temporal measurement of ultra-high fields in laser particle acceleration</td>
</tr>
<tr>
<td>10.30-11.00</td>
<td>Coffee break</td>
<td></td>
</tr>
<tr>
<td>11.00-11.30</td>
<td>Seminar 2.14</td>
<td>Chair: D.B. Milošević (Bosnia and Herzegovina)</td>
</tr>
<tr>
<td></td>
<td>2.14.1 O. Smirnova and M. Ivanov (Ottawa, Canada),</td>
<td>Time and space-resolved dynamics of non-adiabatic tunneling</td>
</tr>
<tr>
<td></td>
<td>2.14.3 V. Strelkov (Moscow, Russia), E. Mével, and E. Constant (Talence, France)</td>
<td>Isolated attopulse production by spatial shaping of femtosecond laser beam</td>
</tr>
<tr>
<td>12.45-14.00</td>
<td>Lunch</td>
<td></td>
</tr>
<tr>
<td>14.00-14.30</td>
<td>Seminar 2.15</td>
<td>Chair: S. Haan (USA)</td>
</tr>
<tr>
<td></td>
<td>2.15.1 H.R. Reiss (Berlin, Germany; Washington, DC, USA)</td>
<td>Novel phenomena in ionization by very-low-frequency strong fields</td>
</tr>
<tr>
<td>14.30-15.00</td>
<td>2.15.2 A.S. Kornev (Voronezh, Russia), Yu.M. Tchuvil'sky (Moscow, Russia), and B.A. Zon (Voronezh, Russia)</td>
<td>Nuclear excitation by atomic electron rescattering in relativistic laser field</td>
</tr>
</tbody>
</table>
15.00-15.30  2.15.3 C. Ruiz Mendez (London, UK; Dresden, Germany) and A. Becker (Dresden, Germany)
Evolution of the momentum distributions of doubly charged helium ions in a strong and short laser pulse

15.30-16.00  2.15.4 M.V. Frolov, N.L. Manakov, and E.M. Zanozina (Voronezh, Russia)
Keldysh theory of laser detachment for an arbitrary laser ellipticity and angular momentum of an initial bound state

16.15-16.45  Coffee break

Seminar 2.16
Chair: H. Schröder (Germany)
16.45-17.15  2.16.1 S. Bivona, G. Bonanno, R. Burlon and C. Leone (Palermo, Italy)
Photodetachment of $F^-$ by short laser pulses. Comparison between experiments and numerical results

17.15-17.45  2.16.2 S.P. Andreev and T.V. Pavlova (Moscow, Russia)
Oscillation of absorption of laser radiation in semiconductors with sharply anisotropic effective mass of electrons in quantizing magnetic fields

17.45-18.15  2.16.3 V.S. Rastunkov and V.P. Krainov (Dolgoprudnyi, Russia)
Photoelectron angular distributions at the ionization of atoms by intense sub-one-cycle laser pulses

Poster Session, Tuesday, July 1
Chair: M.A. Efremov (Russia)
P2.1  N.A. Shahbaz, C. Müller, T.J. Bürvenich (Frankfurt, Germany), and Ch.H. Keitel (Heidelberg, Germany)
Laser-induced nuclear probing and excitation via muonic atoms

P2.2  I.A. Burenkov and O.V. Tikhonova (Moscow, Russia)
Interference effects in the laser-stimulated Bremsstrahlung for wide in momentum representation electron wave packets

P2.3  M. Busuladžić, A. Gazibegović-Busuladžić (Sarajevo, Bosnia and Herzegovina), D.B. Milošević (Sarajevo, Bosnia and Herzegovina; Berlin, Germany), and W. Becker (Berlin, Germany)
Ionization of diatomic molecules by a strong laser field with linear or elliptical polarization

P2.4  A. Gazibegović-Busuladžić (Sarajevo, Bosnia and Herzegovina), D.B. Milošević (Sarajevo, Bosnia and Herzegovina; Berlin, Germany), and W. Becker (Berlin, Germany)
Saturation effects in HATI: electron spectra dependence on the temporal pulse shape

P2.5  A.V. Gets and V.P. Krainov (Dolgoprudnyi, Russia)
Angular distributions of atomic ions at the irradiation of large atomic clusters by intense femtosecond laser pulses

P2.6  A.V. Gulyaev and O.V. Tikhonova (Moscow, Russia)
Specific features of the linear gas medium polarization response in the problem of few-cycle laser pulse propagation
P2.7 E. Hasović (Sarajevo, Bosnia and Herzegovina), D.B. Milošević (Sarajevo, Bosnia and Herzegovina; Berlin, Germany), and W. Becker (Berlin, Germany)
SFA simulation of above-threshold ionization of rare gases by few-cycle laser fields

P2.8 A.S. Kornev and B.A. Zon (Voronezh, Russia)
Maximal relativistic energy for rescattered electron

P2.9 S. Odžak (Sarajevo, Bosnia and Herzegovina) and D.B. Milošević (Sarajevo, Bosnia and Herzegovina; Berlin, Germany)
Strong-field approximation for molecular high-order harmonic generation: the influence of the laser-field dressing of the bound states on the interference pattern in harmonic spectra

P2.10 M.V. Fedorov, A.I. Artemiev (Moscow, Russia), D.N. Klochkov (Tula, Russia), K.B. Oganesyan, M.L. Petrosyan (Yerevan, Armenia), M. Scully, and Yu.V. Rostovtsev (Collage Station, TX, USA)
The threshold conditions for FELWI

P2.11 M.L. Petrosyan, L.A. Gabrielyan, K.B. Oganesyan, Yu.R. Nazaryan, Yu.A. Garibyan, M.A. Oganesyan (Yerevan, Armenia), M.V. Fedorov, A.I. Artemiev (Moscow, Russia), D.N. Klochkov (Tula, Russia), S.M. Fedorov (Moscow, Russia)
The undulator radiation in terahertz region

P2.12 J.A. Pérez-Hernández and L. Plaja (Salamanca, Spain)
A quantitative-accurate s-matrix model for the description high-order harmonic generation in helium

Diamond Synthesis possibility investigation using CO₂ laser radiation

P2.14 P.E. Pyak, V.V. Kim and V.I. Usachenko (Tashkent, Uzbekistan)
Intensity-dependent orientation behavior of single ionization rates for laser-irradiated molecular dimmers

P2.15 P.E. Pyak, V.V. Kim and V.I. Usachenko (Tashkent, Uzbekistan)
On relative contribution of strong-field ionization from inner molecular valence shells in f₂ to total ionization yield

P2.16 V. Musakhanyan (Yerevan, Armenia)
Wave functions in quantum electrodynamics and classical initial conditions

P2.17 C. Yuce (Turkey)
An analytically solvable model for strong field matter interaction

P2.18 A.V. Glushkov (Odessa, Ukraine; Troitsk, Russia)
QED theory of the strong atom-laser and nucleus-laser interaction

P2.19 O.Yu. Khetseliuss (Odessa, Ukraine), A.V. Glushkov (Odessa, Ukraine; Troitsk, Russia), and S.V. Malinovskaya (Odessa, Ukraine)
On discharge of metastable nuclei during muon capture in laser pulse and high power gamma sources
Seminar 3
Biophotonics

Thursday, July 3

Seminar 3.1
Chairs: J. Lademann (Germany)
11.00-11.30 3.1.1 A. Yousif, M. Strassl, and E. Wintner (Vienna, Austria)
Innovative oral laser application
11.30-11.55 3.1.2 A.B. Solovieva (Moscow, Russia)
Polymers in photodynamic therapy: nanoscale complexes of amphiphilic polymers with photoditazion for skin burn and festering wound therapy
11.55-12.20 3.1.3 E.N. Sobol, A.B. Shekhter, O.L. Zakharkina, A.E. Guller, and A.I. Omeltchenko (Troitsk, Russia)
Laser engineering of spine discs
12.20-12.45 3.1.4 I.V. Meglinski (Cranfield, England)
Coherent effects of multiple scattering: biomedical applications
12.45-14.00 Lunch

Seminar 3.2
Chairs: V. Bagnato (Brazil)
14.00-14.25 3.2.1 Q. Su, S.D. Campbell, I.L. Goodin, and R. Grobe (Normal, USA)
Theoretical and experimental studies of decomposition based imaging and its limitations
14.25-14.50 3.2.2 G. Giubileo, A. Puiu, M. Tomasi, F. Dell’Unto, and A. Fagnani (Rome, Italy)
High resolution laser based detection of ammonia
14.50-15.15 3.2.3 T. Mangeat, C.E. Caille, M. Perrin, W. Boireau, C. Pieralli, and B. Wacogne (Besançon, France)
Cold/Silica thin film for biosensors applications: surface plasmon resonance and metal enhanced fluorescence
15.15-15.35 3.2.4 V.V. Barun and A.P. Ivanov (Minsk, Belarus)
Sieve effect in biological tissues and blood as a tool for diagnosing structural parameters of erythrocytes and capillaries
15.35-15.55 3.2.5 I.M. Pelivanov, M.I. Barskaya, N.B. Podymova, T.D. Khokhlova, and A.A. Karabutov (Moscow, Russia)
Opto-acoustic method of direct measurement of light absorption coefficient in highly scattered media
15.55-16.15 3.2.6 M. Arronte, E. Ortega-Martinez, L. Ponce, E. De Posada, and T. Flores (Altamira, Mexico)
Acoustic response during nopal spines and glochids laser ablation
16.15-16.45 Coffee break

Seminar 3.3
Chairs: R. Salathe (Switzerland)
16.45-17.10 3.3.1 G. Gelikonov, V. Gelikonov, V. Romashov, and S. Ksenofontov (Nizhny Novgorod, Russia)
Optical systems for cross-polarized endoscopic optical coherence tomography
3.3.2 V.A. Kamensky, V.I. Plekhanov, A.G. Orlova, M.S. Kleshnin, I.I. Fiks, I.V. Turchin, I.V. Balalaeva, M.V. Shirmanova (Nizhny Novgorod, Russia), and A.P. Savitsky (Moscow, Russia)
Fluorescence diffuse tomography setup for detection of tumors labeled with fluorescent proteins and quantum dots in small animals

3.3.3 J. Lademann (Berlin, Germany), J. Shevtsova (Moscow, Russia), A. Patzelt, H. Richter (Berlin, Russia), N. Gladkova (Nizhny Novgorod, Russia), S. Gonchukov (Moscow, Russia), W. Sterry (Berlin, Moscow), A. Sergeev (Nizhny Novgorod, Russia), and U. Blume-Peytavi (Berlin, Russia)
Application of optical coherent tomography for the in vivo determination of changes in the hair cross section and diameter during treatment with glucocorticosteroids – a simple method for screening of doping substances?

3.3.4 V.I. Plekhanov, A.G. Orlova, I.I. Fiks, M.S. Kleshnin, V.A. Kamensky, and I.V. Turchin (Nizhny Novgorod, Russia)
Apply frequency-domain diffuse optical tomography for breast cancer detection purposes

3.3.5 G. Gelikonov, V. Gelikonov, and P. Shilyagin (Nizhny Novgorod, Russia)
k-Space linearized optical spectrometer for spectral domain optical coherence tomography

Friday, July 4

Seminar 3.4
Chairs: M. Lindgren (Norway)
09.45-10.10 3.4.1 V.N. Bagratashvili (Troitsk, Russia)
Osteogenesis on surface selective laser sintered bioreorbable scaffolds

10.10-10.30 3.4.2 V.V. Volkov, I.A. Shikunova, V.N. Kurlov, E.V. Rostova, and V.B. Loschenov (Moscow, Russia)
Interstitial laser therapy with sapphire capillary needle

10.30-11.00 Coffee break

Seminar 3.5
Chairs: P. French (UK)
11.00-11.25 3.5.1 V.B. Loschenov (Moscow, Russia)
Laser spectroscopic methods of nanophotosensitizers research

11.25-11.45 3.5.2 A.P. Popov (Moscow, Russia), S. Haag, M. Meinke, J. Lademann (Berlin, Germany), A.V. Priezzhev (Moscow, Russia), and R. Myllylä (Oulu, Finland)
Generation of free radicals on porcine skin and glass plates under UV irradiation in presence of titanium dioxide nanoparticles

11.45-12.05 3.5.3 M.E. Darvin, S. Haag, M. Meinke, W. Sterry, and J. Lademann (Berlin, Germany)
Determination of the formation of free radicals in human skin by resonance Raman spectroscopy and electron paramagnetic resonance spectroscopy

12.05-12.25 3.5.4 A.V. Ryabova, A.A. Stratonnikov, S.U. Vasilchenko, A.I. Volkova, O.L. Kaiya, A.E. Ermakov, and V.B. Loschenov (Moscow, Russia)
Light scattering regimes along the optical axis in bio-optical media
Fluorescence of an experimental dental composite resins with different 
TiO$_2$ nanoparticles fraction by spectroscopy technique

**Lunch**

**Seminar 3.6**

**Chairs:** V. Bagratashvili (Russia)

<table>
<thead>
<tr>
<th>Time</th>
<th>Session 3.6.1</th>
<th>Location</th>
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<tbody>
<tr>
<td>14.00-14.25</td>
<td>P. French (London, UK)</td>
<td>Multidimensional fluorescence imaging</td>
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<tr>
<td>14.50-15.15</td>
<td>E.S. Estracanhalli, J.R. Vicente, F.C. Menezes, M.M. Costa, C. Kurachi, and V.S. Bagnato (San Carlos, Brazil)</td>
<td>Ex vivo determination of time of death by fluorescence spectroscopy</td>
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<tr>
<td>15.15-15.35</td>
<td>M.L. Sinyaeva, S.Yu. Vasilchenko, Ad.A. Mamedov, A.I. Volkova, V.B. Loschenov, and V.I. Konov (Moscow, Russia)</td>
<td>Application of the nanoparticles of teeth enamel damages diagnostics</td>
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**Seminar 3.7**

**Chairs:** S. Gonchukov (Russia)

<table>
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<tr>
<th>Time</th>
<th>Session 3.7.1</th>
<th>Location</th>
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<tbody>
<tr>
<td>16.45-17.10</td>
<td>R.P. Salathe, F. Merenda, and J-M. Fournier (Lausanne, Switzerland)</td>
<td>Laser tweezers arrays for life science applications</td>
</tr>
<tr>
<td>17.10-17.35</td>
<td>C. Pieralli, C. Attoui, W. Boireau, and B. Wacogne (Besançon, France)</td>
<td>Low cost optical detection of DNA hybridization on biochips</td>
</tr>
<tr>
<td>17.35-18.00</td>
<td>N.I. Smith, Y. Kumamoto, J. Ando, K. Fujita, and S. Kawata (Osaka, Japan)</td>
<td>Cell contraction, signalling and action potentials evoked by femtosecond laser irradiation</td>
</tr>
<tr>
<td>18.00-18.25</td>
<td>A.V. Priezzhev, A.V. Bykov, A.K. Indukaev (Moscow, Russia), and R. Myllylä (Oulu, Finland)</td>
<td>Analyte sensing with ultrashort laser pulse reflectometry from biotissue phantoms</td>
</tr>
<tr>
<td>18.25-18.50</td>
<td>S.F. Timashev, R.M. Yulmetyev, S.A. Demin, O.Yu. Panischev, and Yu.S. Polyakov (Moscow, Russia)</td>
<td>Identification of photosensitive epilepsy using the flicker-noise spectroscopy of magnetoencephalogram</td>
</tr>
</tbody>
</table>
Chair: S. Gonchukov (Russia)

P3.1 H. Jelinková, J. Šulc, T. Dostálová, P. Koranda, M. Němec, and J. Racek (Prague, Czech Republic)
Bracket debonding by mid-infrared laser radiation

P3.2 I. Kleps, M. Simion, A. Bragaru, M. Miu, T. Ignat, L. Ruta, and C. Mihailescu (Bucharest, Romania)
Microarray imaging from artefacts to standardization

P3.3 A.K. Anosov, S.A. Gonchukov, A.A. Markolia, M.V. Moshnin, O.O. Parenago, O.I. Pokrovsky (Moscow, Russia)
To a problem of PUVA therapy efficiency

P3.4 V.N. Khristoforov (Moscow, Russia)
The device for quantum resonant physiotherapy

P3.5 O. Minet and U. Zabarylo (Berlin, Germany)
Measurement of the optical properties of finger joints in vivo

P3.6 M. Simion, I. Kleps, A. Bragaru, M. Miu, T. Ignat, and L. Ruta (Bucharest, Romania)
Laser scanning calibration for porous silicon substrate used in microarray technology

P3.7 S.A. Gonchukov, Yu.M. Levakhina, and V.M. Yermachenko (Moscow, Russia)
Microscope on the basis of laser with irradiation injection

P3.8 R.C.M.C. Ferraz, J. Ferreira, P.F.C. Menezes, C.H. Sibata, O. Castro e Silva Jr., and V.S. Bagnato (San Carlos, Brazil)
Mathematical models applied a threshold dose of light in photodynamic therapy, measuring damage necrosis

P3.9 G. Nicolodelli, R.F.Z. Lizarelli, M.M. Costa, and V.S. Bagnato (San Carlos, Brazil)
Study of the dynamics of ablation in PMMA with the laser operating in the regime of femtoseconds

P3.10 J. Ferreira, C. Grecco, P.F.C. Menezes, R. Mattosinho, S. Zucoloto, O. Castro e Silva Jr., and V.S. Bagnato (San Carlos, Brazil)
Correlation between the photostability and photodynamic efficiency for different photosensitizers
Seminar 4
Physics of Lasers

Monday, June 30

Seminar 4.1 Spectroscopy of doped laser materials
Chair: M. Pollnau (The Netherlands)

11.00-11.30  4.1.1 P.J. Deren (Wroclaw, Poland)
Spectroscopy of laser crystals

11.30-12.00  4.1.2 W. Ryba-Romanowski (Wroclaw, Poland)
Energy-transfer processes in laser crystals

12.00-12.30  4.1.3 O. Silvestre (Tarragona, Spain), S. Rivier (Berlin, Germany),
X. Mateos (Tarragona, Spain), V. Petrov (Berlin, Germany), M. Cinta Pujol
(Tarragona, Spain), U. Griebner, R. Maria Solé (Berlin, Germany),
J. Massons (Tarragona, Spain), M.T. Borowiec, A. Szewczyk,
M.U. Gutowska (Warsaw, Poland), M. Massot, A. Salazar (Bilbao, Spain),
S. Vernay, D. Rytz (Idar-Oberstein, Germany), M. Aguiló, and F. Díaz
(Tarragona, Spain)
Epitaxially grown rare-earth-ion-activated monoclinic double tungstates

12.30-12.45  4.1.4 L.I. Ivleva, I.S. Voronina, L.Yu. Berezovskaya, V.V. Osiko (Moscow,
Russia), and K. Polgar (Budapest, Hungary)
The effect of dopants on optical and laser properties of scheelite crystals

12.45-14.00  Lunch

Seminar 4.2 Laser materials
Chair: T. Basiev (Russia)

14.00-14.30  4.2.1 H.P. Jenssen (Orlando, USA) and A. Cassanho (Tarpon Springs,
USA)
Solid state optical elements based on fluoride crystals

14.30-15.00  4.2.2 J.L. Doualan, P. Camy, A. Benayad, V. Ménard, R. Moncorgé
(Caen, France), J. Boudeile, J. Didierjean, F. Druon, F. Balembois, and P. Georges
(Palaiseau, France)
Luminescence, thermal and laser properties of Yb\(^{3+}\) doped (Ca, Sr, Ba) F\(_2\)
single crystals for high power laser applications

15.00-15.30  4.2.3 R. Peters, S. Fredrich-Thornton, C. Hirt, K. Petermann, and G. Huber
(Hamburg, Germany)
Thin-disc lasers on the basis of highly Yb-doped garnets and sesquioxides

15.30-16.00  4.2.4 J. Boudeile, D.N. Papadopoulos, M. Hanna, F. Druon, P. Georges
(Palaiseau, France), P.-O. Petit, P. Goldner, B. Viana (Paris, France), and
D. Ritz (Idar-Oberstein, Germany)
Ultrashort pulses high power diode pumped laser based on a new ytterbium
doped CaGdAlO\(_4\) crystal

16.00-16.15  4.2.5 N.N. Il'ichev, V.P. Danilov, V.P. Kalinushkin, M.I. Studenikin,
P.V. Shapkin, and A.S. Nasibov (Moscow, Russia)
Study of room-temperature ZnSe:Fe\(^{3+}\) 4.6-\(\mu\)m superluminescence laser

16.15-16.45  Coffee break

Seminar 4.3 Laser materials
Chair: K. Petermann (Germany)

16.45-17.15  4.3.1 T. Basiev (Moscow, Russia)
New Raman crystals and Raman lasers
17.15-17.45 4.3.2 T. Taira (Okazaki, Japan)
*Ceramic microchip lasers*

17.45-18.15 4.3.3 M. Jelinek (Prague, Czech Republic)
*Growth of optical waveguides by pulsed laser deposition*

18.15-18.45 4.3.4 N.V. Kuleshov, N.A. Tolstik, and V.E. Kisel (Minsk, Belarus)
*Novel efficient Er, Yb:YAB laser crystal*

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**Tuesday, July 1**

**Seminar 4.4 Mid-infrared lasers**

**Chair:** G. Rustad (Norway)

11.00-11.30 4.4.1 E.H. Bernhardi, C. Bollig (Pretoria, South Africa), M. Eichhorn (Saint-Louis, France), M.J.D. Esser (Pretoria, South Africa), P. Fuhrberg (Kaltenburg-Lindau, Germany), A. Hirth, C. Kieleck, M. Schellhorn (Saint-Louis, France), and K. Scholle (Kaltenburg-Lindau, Germany)
*High-power diode-pumped 2 micron lasers*

11.30-12.00 4.4.2 B.M. Walsh (Hampton, USA)
*A review of Tm and Ho doped materials; spectroscopy and lasers*

12.00-12.15 J.K. Jabłoński, L. Gorajek, W. Zendzian, J. Kwiatkowski (Warsaw, Poland), H. Jelinkova, J. Sulc, and M. Nemec (Prague, Czech Republic)
*Tunable, high peak power, high repetition rate, diode pumped Tm:YLF laser*

12.15-12.45 M. Dubinskii (Adelphi, USA)
*Recent advances in Er-doped solid-state lasers*

12.45-14.00 Lunch

**Seminar 4.5 Laser concepts and architectures, I**

**Chair:** U. Wittrock (Germany)

14.00-14.30 W.A. Clarkson, J.W. Kim, D. Shen, and J.K. Sahu (Southampton, United Kingdom)
*Fiber-laser-pumped Erbium solid-state lasers*

14.30-15.00 E. Heumann, A. Richter, and G. Huber (Hamburg, Germany)
*Visible and UV solid state lasers based on Pr^{3+}-doped materials*

15.00-15.30 M.J. Damzen, A. Minassian, S. Chard, and D. Farrell (London, UK)
*High power bounce geometry slab lasers*

15.30-16.00 M. Ostermeyer (Potsdam-Golm, Germany)
*Improvement in brightness and frequency stability in short pulse high power Nd:YAG-MOPA systems*

16.00-16.15 H. Kofler, J. Tauer, and E. Wintner (Vienna, Austria)
*Development of a laser spark plug*

16.15-16.45 Coffee break

**Seminar 4.6 Laser concepts and architectures, II**

**Chair:** W.A. Clarkson (UK)

16.45-17.15 U. Wittrock, P. Welp, and S. Verpoort (Steinfurt, Germany)
*Deformable mirrors for adaptive laser resonators*

17.15-17.45 D. Kracht, L. Winkelmann, O. Puncken, B. Schulz, S. Wagner, M. Hildebrandt, M. Frede, and P. Weßels (Hannover, Germany)
*Solid state lasers for gravitational wave detection*

17.45-18.15 J. Speiser (Stuttgart, Germany)
*Thin disk laser – power and energy scaling*
Wednesday, July 2

Seminar 4.7 Short-pulse lasers
Chair: M. Ostermeyer (Germany)

11.00-11.30 4.7.1 A.A. Lagatsky, C.T.A. Brown, and W. Sibbett (Scotland, UK)
Enhanced operation of compact mode-locked oscillators

Mode-locked femtosecond thin disk lasers with >10 J pulse energy

12.00-12.30 4.7.3 A. Sennaroglu (Istanbul, Turkey; Massachusetts, USA), U. Demirbas, F.X. Kaertner, and J.G. Fujimoto (Massachusetts, USA)
Development of efficient, low-cost femtosecond solid-state lasers in the near infrared

12.30-12.45 4.7.4 H. Çankaya (Istanbul, Turkey), J.G. Fujimoto (Massachusetts, USA), and A. Sennaroglu (Istanbul, Turkey)
Low-threshold, 12-MHz, multipass-cavity femtosecond Cr^4+:forsterite laser

12.45-14.00 Lunch

Seminar 4.8 Frequency conversion
Chair: B. Luther-Davies (Australia)

High power infrared parametric oscillators

14.30-15.00 4.8.2 M. Henriksson (Linköping, Stockholm, Sweden), L. Sjöqvist (Linköping, Sweden), V. Pasiskevicius, and F. Laurell (Stockholm, Sweden)
Narrow bandwidth high power IR OPOs with volume Bragg gratings

15.00-15.30 4.8.3 O.L. Antipov, O.N. Eremeykin (Nizhny Novgorod, Russia), Yu.N. Frolov, G.M. Mischenko (Sarov, Russia), A.A. Novikov (Nizhny Novgorod, Russia), A.P. Savikin, V.V. Sharkov (Nizhny Novgorod, Russia), S.D. Velikanov (Sarov, Russia), N.G. Zakharov, and A.P. Zinoviev (Nizhny Novgorod, Russia)
High-efficiency mid-IR parametric oscillators pumped by solid-state and fiber lasers

15.30-16.00 4.8.4 A. Dergachev (Massachusetts, USA)
High-power, high-energy mid-infrared laser system

16.15-16.45 Coffee break

Seminar 4.9 Frequency conversion
Chair: N. Ilichev (Russia)

16.45-17.15 4.9.1 P. Schunemann (Nashua, USA)
The development of nonlinear materials for mid-infrared OPOs

17.15-17.45 4.9.2 M. Ebrahim-Zadeh (Barcelona, Spain)
Optical parametric oscillators: technology and applications
17.45-18.15 4.9.3 V. Pasiskevicius, C. Canalias, and F. Laurell (Stockholm, Sweden)
Advances in structuring technology and applications of nonlinear materials from KTiOPO4 family

18.15-18.45 4.9.4 P. Blau, S. Pearl, M. Katz, M.B. Oron, and S. Acco (Yavne, Israel)
Recent advancement in frequency conversion using quasi phase matched materials

Thursday, July 3

Seminar 4.10 Waveguide and disk lasers
Chair: A.A. Lagatsky (UK)

14.00-14.30 4.10.1 D.P. Shepherd, N.K. Daga, R. Geng, D.C. Hanna, H.S.S. Hung, and J. Prawiharjo (Southampton, UK)
Adaptive pulse shaping of ultrafast mid-IR optical parametric oscillators

14.30-15.00 4.10.2 B. Luther-Davies, D.-Y. Choi, A. Prasad, R. Wang, D. Bulla, C. Zha (Canberra, Australia), M. Pelusi, V. Ta’eed (Sydney, Australia), M.R.E. Lamont (Canberra, Australia), L. Fu, D.J. Moss, K. Finsterbusch, H.C. Nguyen, and B.J. Eggleton (Sydney, Australia)
All-optical signal processing at high bit rates in chalcogenide glass waveguides

15.00-15.30 4.10.3 F. Ay (Enschede, The Netherlands)
Bragg gratings in dielectric waveguides by focused ion beam milling

15.30-16.00 4.10.4 P. Klopp, F. Saas, and U. Griebner (Berlin, Germany)
Optically pumped semiconductor disk laser generating sub-300-fs pulses

16.00-16.15 4.10.5 K. Seger (Stockholm, Sweden), J. Rautiainen (Tampere, Finland), V. Pasiskevicius (Stockholm, Sweden), and O.G. Okhotnikov (Tampere, Finland)
Narrowband intracavity frequency-doubled semiconductor disk laser with a volume Bragg grating

16.15-16.45 Coffee break

Seminar 4.11 Pulsed lasers
Chair: G. Bufetova (Russia)

16.45-17.00 4.11.1 N.N. Rubtsova (Novosibirsk, Russia), N.V. Kuleshov, V.E. Kisel’ (Minsk, Belarus), A.A. Kovalev (Novosibirsk, Russia), S.V. Kurilchik (Minsk, Belarus), V.V. Preobrazhenski, M.A. Putyato, O.P. Pchelyakov, and T.S. Shamirzaev (Novosibirsk, Russia)
Self-mode-locking of Na^3+: KGd(WO4)_2 laser by all-semiconductor all-in-one mirror

17.00-17.15 4.11.2 V.E. Kisel, S.V. Kurilchik (Minsk, Belarus), S.A. Smirnova (Alexandrov, Russia), and N.V. Kuleshov (Minsk, Belarus)
Passively mode-locked Yb^3+:YAlO3 laser

17.15-17.30 4.11.3 D. Braunstein and R. Shuker (Beer sheva, Israel)
Dressed states analysis of lasing without population inversion in a three-level ladder scheme: approximate analytic time dependent solutions
**Poster Session, Wednesday, July 2**

**Chair:** N.S. Kozlova (Russia)

**P4.1.** V.M. Yermachenko, E.N. Karykin, K.E. Korotkov, A.P. Kuznetsov, V.N. Petrovskiy, and G.I. Kozin (Moscow, Russia)

*Regimes of generation Nd:YAG laser with a semiconductor pumping at injection weak radiation*

**P4.2.** O.A. Buzanov, N.S. Kozlova, and E.V. Zabelina (Moscow, Russia)

*Growth and optical quality of Langasite and Langatate*

**P4.3.** A.A. Sirotkin (Moscow, Russia), L. Di Labio (Bern, Switzerland), A.I. Zagumennyi, Yu.D. Zavartsev, S.A. Kutovoy, V.I. Vlasov (Moscow, Russia), W. Lüthy, T. Feurer (Bern, Switzerland), A.A. Onushchenko (St. Petersburg, Russia), and I.A. Shecherbakov (Moscow, Russia)

*Mode-locked and Q-switched diode pumped lasers of c-cut Nd:Gd0.7Y0.3VO4, Nd:YVO4, and Nd:GdVO4 at 1.06 μm with PbS-quantum dots as saturable absorbers*

**P4.4.** K. Kopczynski, J. Mlynczak, Z. Mierczyk, R. Piramidowicz, P. Gdula, M. Malinowski (Warsaw, Poland), J. Sarnecki (Wolczynska, Poland), J. Jagielski (Wolczynska, Swierk/Otwock, Poland), and A. Stonert (Swierk/Otwock, Poland)

*Laser properties of double doped Nd3++Yb3+:YAG channel waveguides*

**P4.5.** V.E. Kisel, N.V. Kuleshov, E. Gulevich, and N. Kondratyuk (Minsk, Belarus)

*Efficient Yb3+:KYW femtosecond laser with harmonic generators*

**P4.6.** V.B. Morozov, A.N. Olenin, V.G. Tunkin, and D.V. Yakovlev (Moscow, Russia)

*On power scaling of diode-pumped pulsed picosecond Nd:YAG laser*

**P4.7.** V.B. Morozov, A.N. Olenin, V.G. Tunkin, and D.V. Yakovlev (Moscow, Russia)

*Synchronization of pulsed electro-optically controlled picosecond lasers with arbitrary cavities*
Seminar 5.1  
Chair: P. Di Trapani (Lithuania)  
11.00-11.25  5.1.1 Y.S. Kivshar, S.M. Saltiel, D.N. Neshev, R. Fischer, and W. Krolikowski (Canberra, Australia)  
Transverse second-harmonic generation in periodic and random media  
11.25-11.50  5.1.2 V.A. Makarov and I.A. Perezhogin (Moscow, Russia)  
Transversal structure of the light beam at sum-frequency, generated from the surface of isotropic gyrotropic medium in case of arbitrary geometry of pump incidence  
11.50-12.15  5.1.3 V.A. Makarov, I.A. Perezhogin, and N.N. Potravkin (Moscow, Russia)  
Elliptically polarized solitons in isotropic medium with spatial dispersion of cubic nonlinearity  
12.15-12.40  5.1.4 E. Nippolainen (Kuopio, Finland), A.I. Grachev (St. Petersburg, Russia), and A.A. Kamshilin (Kuopio, Finland)  
Optical orientation of dipolar centers: theory, experiment, application  
12.40-14.00 Lunch  
Seminar 5.2  
Chair: Y. Kivshar (Australia)  
14.00-14.25  5.2.1 T.G. Philbin, C. Kuklewicz, S. Robertson, S. Hill, F. Konig, and U. Leonhardt (St Andrews, UK)  
Fiber-optical analogue of the event horizon  
14.25-14.50  5.2.2 A. Efimov (Los Alamos, USA)  
Challenges and opportunities in coherent supercontinuum generation in nonlinear waveguides  
14.50-15.05  5.2.3 E.A. Kuzin, M. Bello-Jiménez, N. Korneev, B. Ibarra-Escamilla, A. Flores-Rosas, M. Duran-Sanchez, and O. Pottiez (Puebla, México)  
The use of NOLM for investigations of initial development of supercontinuum in fibers with anomalous dispersion  
15.05-15.30  5.2.4 S. Boscolo, S.K. Turitsyn, A.I. Latkin, and R. Bhamber (Birmingham, United Kingdom)  
Recent progress in nonlinear fiber-based optical pulse shaping and manipulation  
15.30-15.55  5.2.5 V.I. Kovalev, R.G. Harrison (Edinburgh, UK), J.C. Knight (Bath, UK), and N.E. Kotova (Moscow, Russia)  
Slow light in optical fiber using stimulated brillouin scattering: towards multi-gigabyte per second data rates  
15.55-16.10  5.2.6 G. Strömqvist, V. Pasiskevicius, and C. Canalias (Stockholm, Sweden)  
Picosecond stimulated backward Raman scattering in periodically poled KTiOPO₄  
16.10-16.45 Coffee break  
Seminar 5.3  
Chair: G. Steinmeyer (Germany)  
16.45-17.10  5.3.1 V.G. Arakcheev, V.N. Bagratashvili, V.B. Morozov, A.N. Olenin, V.K. Popov, and A.A. Valeev (Moscow, Russia)  
Spectral features of near-critical carbon dioxide in nano-porous glass  
17.10-17.35  5.3.2 D.C. Dumitras (Bucharest, Romania)  
Laser photoacoustic spectroscopy for sensitive trace gas measurements
5.3.3 B. Dietzek (Jena, Germany), B. Brüggemann (Berlin, Germany),
P. Persson, T. Pascher, and A. Yartsev (Lund, Sweden)

On the excited-state multidimensionality in Cyanines

5.3.4 E.M. Vartiainen (Lappeenranta, Finland) and K.-E. Peiponen
(Joensuu, Finland)

Maximum entropy method in analysis of nonlinear optical spectra

5.3.5 K.-E. Peiponen (Joensuu, Finland) and E.M. Vartiainen
(Lappeenranta, Finland)

Kramers-Kronig relations in nonlinear optical and terahertz spectroscopy

5.3.6 M. Sahrai (Tabriz, Iran)

Dynamical behaviour of the absorption and the dispersion in a four level
EIT medium

Tuesday, July 1

Seminar 5.4
Chair: V.A. Makarov (Russia)

11.00-11.25  5.4.1 S.L. Chin (Quebec, Canada)

Why is filamentation so interesting?

11.25-11.50  5.4.2 J.-C. Diels, A. Aceves, X. Xu, D. Mirell, J. Yeak, and A. Sukhinin
(Albuquerque, USA)

Launching filaments from vacuum

11.50-12.15  5.4.3 Y. Cheng and Z.Z. Xu (Shanghai, China)

Femtosecond filamentation with infrared pump pulses

12.15-12.40  5.4.4 Faccio (Como, Italy), A. Couairon (Palaiseau, France), and
P. Di Trapani (Vilnius, Lithuania)

Spontaneous and controlled spatial and spatio-temporal dynamics in
filaments with Gaussian and Bessel-like beams

12.45-14.00  Lunch

Seminar 5.5
Chair: S.L. Chin (Canada)

14.00-14.25  5.5.1 G. Steinmeyer, C. Krüger, and A. Demircan (Berlin, Germany)

Space-time structure of few-cycle light bullets generated by self-
compression in white-light filament

14.25-14.50  5.5.2 L. Berge (Bruyeres-le-Chatel, France)

Super-compressed light bullets generated by coupled femtosecond pulses

14.50-15.15  5.5.3 O.G. Kosareva, N.A. Panov (Moscow, Russia), J.-F. Daigle,
Y. Kamali, C. Marceau (Quebec, Canada), A.B. Savelev, V.P. Kandidov
(Moscow, Russia), and S.L. Chin (Quebec, Canada)

Spatial control of pulse self-compression due to filamentation in air

15.15-15.40  5.5.4 S. Tzortzakis (Heraklion, Greece)

Femtosecond filamentation and THz science

15.40-16.05  5.5.5 Y. Petit, P. Béjot, L. Bonacina, J. Kasparian, M. Moret, and
J.-P. Wolf (Geneve, Switzerland)

Ultrafast gaseous “half-wave plate”
5.5.6 D.S. Uryupina, M.V. Kurilova, A.V. Mazhorova, S.R. Gorgutsa, R.V. Volkov, O.G. Kosareva, and A.B. Savelev (Moscow, Russia)
Spectra broadening and ultra-short pulse generation during filamentation of femtosecond laser pulse in atomic and molecular gases

Coffee break

Seminar 5.6
Chair: S. Tzortzakis (Greece)
16.45-17.10 5.6.1 W. Watanabe (Osaka, Japan)
Femtosecond filamentary modifications in bulk polymer materials
17.10-17.35 5.6.2 N. Zhang, W. Liu, Z. Xu, M. Wang, and X. Zhu (Tianjin, China)
Propelling micro beads with femtosecond light bullets
17.35-18.00 5.6.3 K. Jamshidi-Ghaleh (Tabriz, Iran)
Intense femtosecond laser pulses interaction with ULE glass: nonlinear responses and optical limiting effect
18.00-18.25 5.6.4 S. Uemura (Ibaraki, Japan)
Stable Kerr-lens mode-locking of a diode-pumped Yb:YAG laser
18.25-18.50 5.6.5 B. Luther-Davies, V.Z. Kolev (Canberra, Australia), and M.V. Duering (Aachen, Germany)
Optical parametric amplifiers for the generation of infrared and visible coherent light

Poster Session, July 2
Chair: O.G. Kosareva (Russia)
P5.1 A.V. Glushkov, S.V. Malinovskaya, and O. Khetselius (Odessa, Ukraine)
Spectra of the O-like multicharged ions in a thermalized plasma and manifestation of the new laserelectron nuclear spectral effects in atomic and molecular systems
P5.2 O. Khetselius, A.V. Glushkov, and A.V. Loboda (Odessa, Ukraine)
Diagnostics of elementary processes in a collisionally pumped plasma and search of the optimal plasma parameters for X-ray lasing: Ne-and Ar-like ions
P5.3 R.S. Alnayli (Dewania-Alzora, Iraq)
Investigation on development of KDP Q-switches for high power solid-state laser
P5.4 V.M. Gordienko, P.M. Mikheev, and F.V. Potemkin (Moscow, Russia)
Influence of plasma on third harmonic generation in dielectrics at laser intensity of the order of $10^{13}$ W/cm$^2$
P5.5 D. Pentaris, N. Merlemis (Patras, Greece), V. Vaicaitis (Vilnius, Lithuania), and T. Efthimiopoulos (Patras, Greece)
Coherent emissions from K atoms - two-photon $^4S_{1/2}$-$^6S_{1/2}$ femtosecond single laser interaction
P5.6 B. Dietzek, S. Tschierlei, R. Hanf, G. Hermann (Jena, Germany), A. Yartsev, T. Pascher, V. Sundström (Lund, Sweden), J. Popp, and M. Schmitt (Jena, Germany)
Photoinduced dynamics of protochlorophyllide a
P5.7 O.V. Borovkova, V.E. Lobanov, A.P. Sukhorukov, and A.K. Sukhorukova (Moscow, Russia)
Managed discrete diffraction in 1D and 2D cascaded induced lattices
P5.8 M.G. Gladush, V.K. Roerich, and A.A. Panteleev (Moscow, Russia)
Spectral properties of intrinsic optical bistability
P5.9 V.E. Lobanov and A.P. Sukhorukov (Moscow, Russia)
Few-cycle optics with dispersion-managed quadratic crystals
Seminar 6

Physics of Cold Trapped Atoms

Monday, June 30

Seminar 6.1

Chairs: P. Hannaford (Australia) and M. Weitz (Germany)

11.00-11.30  6.1.1 M. Inguscio (Firenze, Italy)  
Anderson localization of a BEC and beyond

11.30-12.00  6.1.2 P. Bouyer, J. Billy, V. Josse, Zh. Zuo, A. Bernard, B. Hambrecht,  
P. Lugan, D. Clément, L. Sanchez-Palencia, and A. Aspect (Orsay, France)  
Direct observation of Anderson localization of matter-waves in a controlled disorder

12.00-12.25  6.1.3 D.A.W. Hutchinson (Dunedin, New Zealand), K.V. Krutitsky  
(Duisburg, Germany), W.-X. Wang (Dunedin, New Zealand and Shandong, China), and Cl. Adolphs (Dunedin, New Zealand)  
Suppression and enhancement of localisation in disordered optical lattices through inter- particle interactions

12.25-12.45  6.1.4 K. Das (Bronx, USA)  
Investigating mesoscopic transport with ultracold atoms

12.45-14.00  Lunch

Seminar 6.2

Chairs: P. Bouyer (France) and M. Inguscio (Italy)

14.00-14.30  6.2.1 P. Hannaford, M. Singh, M. Volk, A. Akulshin, A. Sidorov, and  
R. McLean (Melbourne, Australia)  
Magnetic lattice for ultracold atoms and BECs on an atom chip

14.30-15.00  6.2.2 M. Weitz (Bonn, Germany)  
Quantum transport of atoms in optical lattices of variable spatial symmetry

15.00-15.30  6.2.3 T. Roscilde (Lyon, France)  
Detecting correlated phases and transitions of cold bosons in optical potentials

15.30-15.50  6.2.4 R. Schmied, T. Roscilde, V. Murg, P. Hauke, D. Porras, and J.I. Cirac  
(Garching, Germany)  
Quantum simulation of frustrated spin models using trapped ions in optical lattices

15.50-16.10  6.2.5 J. Meisner, J. Dziarmaga (Kraków, Poland and Los Alamos, USA),  
and W.H. Zurek (Los Alamos, USA)  
Winding up by a quench: insulator to superfluid phase transition in a ring of BEC's

16.15-16.45  Coffee break

Seminar 6.3

Chairs: D.A.W. Hutchinson (New Zealand) and Ch. Weiss (Germany)

16.45-17.15  6.3.1 V. Pokrovsky (College Station, USA and Chernogolovka, Russia) and  
T. Nattermann (Cologne, Germany)  
Weakly interacting Bose gas in strongly disordered media and traps

17.15-17.45  6.3.2 V.A. Yurovsky (Tel Aviv, Israel)  
Mechanisms of thermalization in two-dimensional optical lattices
17.45-18.15 6.3.3 V. Penna, P. Buonsante (Torino, Italy), S.M. Giampaolo, F. Illuminati (Salerno, Italy), and A. Vezzani (Parma, Italy)
*Mixtures of strongly interacting bosons in optical lattices*

18.15-18.45 6.3.4 V.I. Yukalov and E.P. Yukalova (Dubna, Russia)
*Cold atoms in double-well optical lattices*

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**Tuesday, July 1**

**Seminar 6.4**

**Chairs:** R.G. Hulet (USA) and L.P. Pitaevskii (Italy and Russia)

11.00-11.30 6.4.1 E. Braaten (Columbus, USA)
*Exact relations for a strongly-interacting Fermi gas from the operator product expansion*

11.30-12.00 6.4.2 S. Giorgini (Povo, Italy)
*Phase diagram of a polarized Fermi gas at zero temperature*

12.00-12.25 6.4.3 Y. Castin, M. Jona-Lasinio, and L. Pricoupenko (Paris, France)
*The three-body problem for fermions close to a p-wave Feshbach resonance*

12.25-12.45 6.4.4 P. Zhang and M. Ueda (Tokyo, Japan)
*The variational calculation of scattering amplitude between two p-wave Feshbach molecules*

12.45-14.00  **Lunch**

**Seminar 6.5**

**Chairs:** E. Braaten (USA) and S. Giorgini (Italy)

14.00-14.30 6.5.1 F. Schreck, E. Wille, F.M. Spiegelhalder, G. Kerner, D. Naik, A. Trenkwalder, G. Hendl, R. Grimm (Innsbruck, Austria), T.G. Tiecke, J.T.M. Walraven (Amsterdam, Netherlands), S.J.J.M.F. Kokkelmans (Eindhoven, Netherlands), E. Tiesinga, and P.S. Julienne (Gaithersburg, USA)
*Exploring an ultracold Fermi-Fermi mixture: interspecies Feshbach resonances of $^6\text{Li}-^{40}\text{K}$*

14.30-15.00 6.5.2 G.V. Shlyapnikov (Orsay, France)
*New physics with Fermi mixtures*

15.00-15.30 6.5.3 L. Salasnich (Padova, Italy)
*Dynamical Josephson effect with superfluid Fermi atoms across a Feshbach resonance*

15.30-15.50 6.5.4 M. Tezuka and M. Ueda (Tokyo, Japan)
*Harmonically-trapped imbalanced Fermi condensates: a density-matrix renormalization group study*

15.50-16.10 6.5.5 S. Giraud and R. Combescot (Paris, France)
*Normal state of highly polarized Fermi gases: full many-body treatment*

16.15-16.45  **Coffee break**

**Seminar 6.6**

**Chairs:** L. Salasnich (Italy) and J. Tempere (Belgium)

16.45-17.15 6.6.1 M.O. Scully (College Station, USA)
*The laser-BEC analogy: The interplay between optical and statistical physics*

17.15-17.45 6.6.2 J. Tempere, S.N. Klimin, and J.T. Devreese (Antwerpen, Belgium)
*Fluctuation effects in imbalanced Fermi superfluids*
Wednesday, July 2

Seminar 6.7
Chairs: V.I. Balykin (Russia) and A. Smerzi (Italy)

11.00-11.30 6.7.1 L.P. Pitaevskii (Povo, Italy and Moscow, Russia)
General approach to solitons dynamics and stability

11.30-12.00 6.7.2 V.S. Bagnato, E.A.L. Henn, J.A. Seman (Sao Carlos, Brazil), G. Roati (Firenze, Italy), P. Castilho, E.P. Olimpio, K.M.F. Magalhaes (Sao Carlos, Brazil), and V.I. Yukalov (Dubna, Russia)
Excitations in BEC by an off-axis oscillating field: vortex, anti-vortex and evidences of quantum turbulence

12.00-12.25 6.7.3 M. Brewczyk, T. Karpiuk (Bia/łystok, Poland), M. Gajda, and K. Rzążewski (Warsaw, Poland)
Decay of multiply charged vortices at nonzero temperatures

12.25-12.45 6.7.4 M. Guilleumas, M. Abad, R. Mayol, and M. Pi (Barcelona, Spain)
Vortices in dipolar condensates

12.45-14.00 Lunch

Seminar 6.8
Chairs: Y. Castin (France) and M. Yamashita (Japan)

14.00-14.30 6.8.1 B. Svistunov (Amherst, USA), K. Van Houcke (Amherst, USA and Gent, Belgium), E. Kozik, and N. Prokof'ev (Amherst, USA and Zurich, Switzerland)
Diagrammatic Monte Carlo

14.30-15.00 6.8.2 A. Kuklov (Staten Island, USA)
Bose-Einstein condensation of multi-component bosons close to high symmetry point: mean field versus exact results

15.00-15.30 6.8.3 A. Smerzi (Povo, Italy) and L. Pezze (Palaiseau, France)
Quantum interferometry at the Heisenberg limit with Bose-Einstein condensates

15.30-15.50 6.8.4 K.M.F. Magalhaes, R. Muhammad, R.R. Paiva, R. Shiozaki, J. Weiner (Sao Carlos, Brazil), A L. Oliveira (Santa Katarina, Brazil), and V.S. Bagnato (Sao Carlos, Brazil)
Photo-associative Ionization of cold Na-atoms: repulsive states and their interplay on the ion production rate

15.50-16.10 6.8.5 B. Öztöp, M.Ö. Oktel (Ankara, Turkey), Ö.E. Müstecaplıoğlu (Istanbul, Turkey), and L. You (Atlanta, USA)
Quantum correlations of spin-1 atoms in an optical lattice

16.15-16.45 Coffee break

Seminar 6.9
Chairs: A. Kuklov (USA) and H.-C. Nägerl (Austria)

16.45-17.15 6.9.1 D. Petrov (Orsay, France)
Weakly bound heteronuclear dimers
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| 17.15-17.45| 6.9.2     | B. Wu (Beijing, China)  
*From Bose-Einstein condensate to all-optical switch: nonlinear systems under periodic driving* |
| 17.45-18.15| 6.9.3     | C.L. Pando L. (Puebla, Mexico) and E.J. Doedel (Montreal, Canada)  
*Resonant behaviour in a ring of BEC in the presence of a single onsite defect* |
| 18.15-18.45| 6.9.4     | S. Wallentowitz (Santiago, Chile) and A.B. Klimov (Guadalajara, Mexico)  
*Photodetection using Bose-condensed atoms in a micro trap* |

**Thursday, July 3**

**Seminar 6.10**  
*Chairs:* V.S. Bagnato (Brazil) and F. Schreck (Austria)  
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| 11.00-11.30| 6.10.1    | V.I. Balykin, A.E. Afanasiev, and P.N. Melentiev (Troitsk, Russia)  
*Atom surface trap* |
| 11.30-12.00| 6.10.2    | H.-C. Nägerl (Innsbruck, Austria)  
*Matter-wave interference due to interactions* |
| 12.00-12.25| 6.10.3    | X. Leyronas (Paris, France)  
*Superfluid equation of state of dilute composite bosons* |
| 12.25-12.45| 6.10.4    | S.T. Rittenhouse, N.P. Mehta, J.P. Dincao, and Ch.H. Greene (Boulder, USA)  
*Illuminating 3- and 4-body scattering with hyperspherical coordinates* |
| 12.45-14.00|           | **Lunch**                                                             |

**Seminar 6.11**  
*Chairs:* V. Penna (Italy) and T. Roscilde (France)  
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| 14.00-14.30| 6.11.1    | A. Hemmerich (Hamburg, Germany)  
*Optical lattice with a staggered magnetic field* |
| 14.30-15.00| 6.11.2    | A. Pelster (Essen, Germany), H. Enoksen (Trondheim, Norway),  
A. Hoffmann (Munchen, Germany), M. Ohliger, and E. Santos (Berlin, Germany)  
*Green's function approach to the Bose-Hubbard model for finite temperatures* |
| 15.00-15.30| 6.11.3    | M. Yamashita (Kanagawa, Japan) and M.W. Jack (Rotorua, New Zealand)  
*Number squeezing of an array of Bose-Einstein condensates trapped in a 1D optical lattice* |
| 15.30-15.50| 6.11.4    | O.E. Alon, A.I. Streltsov, and L.S. Cederbaum (Heidelberg, Germany)  
*Bosons and mixtures in optical lattices and traps by the multi-orbital mean-field approach* |
| 15.50-16.10| 6.11.5    | K.V. Krutitsky (Duisburg, Germany)  
*Ultracold bosons in lattices with binary disorder* |
| 16.15-16.45|           | **Coffee break**                                                     |

**Seminar 6.12**  
*Chairs:* A. Hemmerich (Germany) and A. Pelster (Germany)  
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| 16.45-17.15| 6.12.1    | Ch. Weiss and N. Teichmann (Oldenburg, Germany)  
*Differences between mean-field dynamics and N-particle quantum dynamics as a signature of entanglement* |
Quantum entanglement manifestation of transition to nonlinear self-trapping for Bose-Einstein condensates in a symmetric double well

Practical detection of continuous variable entanglement with mesoscopic number of bosons

Dynamics of multi-component Bose-Einstein condensate: transport and geometric phases

Friday, July 4

Seminar 6.13
Chair: B. Svistunov (USA)
09.45-10.10 6.13.1 A. Minguzzi (Grenoble, France)
Dynamical aspects of mesoscopic quantum gases
10.10-10.30 6.13.2 I.B. Mekhov (Saint Petersburg, Russia and Innsbruck, Austria) and H. Ritsch (Innsbruck, Austria)
Quantum optics with quantum gases
10.30-11.00 Coffee break

Seminar 6.14
Chairs: J.L. Bohn (USA) and G.V. Shlyapnikov (France)
11.00-11.30 6.14.1 E. Zaremba and A. Collin (Kingston, Canada)
Quantum corrections to the semiclassical distribution of a Bose-condensed gas at finite temperature
11.30-12.00 6.14.2 K. Ziegler (Augsburg, Germany)
Quantum phases and phase separation in atomic mixtures
12.00-12.25 6.14.3 A. Okopińska and P. Kościk (Kielce, Poland)
Two-boson correlations in various quantum traps
Attractive physics of attractive BEC: From collapse to fragmentation
12.45-14.00 Lunch

Seminar 6.15
Chairs: V.A. Yurovsky (Israel) and E. Zaremba (Canada)
14.00-14.30 6.15.1 Yu.E. Lozovik, A.G. Semenov, N.S. Voronova (Troitsk, Russia), and M. Willander (Linköping, Sweden)
Trapping and condensation of cavity polaritons
14.30-15.00 6.15.2 J.L. Bohn, R.M. Wilson, and S. Ronen (Boulder, USA)
Coming together, falling apart: Instability in a dipolar BEC
15.00-15.30 6.15.3 I. Lesanovsky, A. Micheli, G. Pupillo, and P. Zoller (Innsbruck, Austria)
Mesoscopic dipolar crystals of Rydberg-dressed atoms
6.15.4 M.L. Chiofalo (Grenoble, France and Pisa, Italy), S. De Palo (Trieste, Italy), E. Orignac (Lyon, France), and R. Citro (Lyon, France and Salerno, Italy)
The low-energy excitation spectrum of one-dimensional dipolar quantum gases

15.50-16.10 P. Deuar (Orsay, France), M.A. Baranov (Innsbruck, Austria), and G.V. Shlyapnikov (Orsay, France)
Excitations in dipolar Fermi gases below BCS critical temperature

Coffee break

Seminar 6.16
Chairs: B. Wu (China) and K. Ziegler (Germany)

16.45-17.15 M. Gajda (Warszawa, Poland)
Fluctuations of weakly interacting Bose-Einstein condensate

17.15-17.45 V.V. Kocharovsky (College Station, USA) and Vl.V. Kocharovsky (Nizhny Novgorod, Russia)
Microscopic mechanism of phase transitions

17.45-18.15 V. Romero-Rochin (Mexico, Mexico)
Hartree-Fock analysis of trapped ultracold boson fluids, BEC and superfluidity

18.15-18.35 M.A. Efremov, L. Plimak, B. Berg, W.P. Schleich (Ulm, Germany), M.Yu. Ivanov (Ottawa, Canada), and G.V. Shlyapnikov (Paris, France)
Novel resonant states in three-body problem

General Discussion

Poster Sessions, Wednesday, July 2
Chairs: M. Gajda (Poland) and V.I. Yukalov (Russia)

P6.1 V.S. Bagnato, E.R.F. Ramos, E.A.L. Henn, J.A. Seman, M.A. Caracanhas, K.M.F. Magalhaes (Sao Carlos, Brazil), and V.I. Yukalov (Dubna, Russia)
Time modulation of scattering length in a BEC: coherent mode excitation and critical effects

P6.2 A. Bezett and P.B. Blakie (Dunedin, New Zealand)
Applications of the projected Gross-Pitaevskii equation

P6.3 P. Capuzzi (Buenos Aires, Argentina), M. Guilleumas (Barcelona, Spain), and D.M. Jezek (Buenos Aires, Argentina)
Stationary array of vortices in nonrotating Bose-Einstein Condensates

P6.4 S. Duan and W. Chua (Beijing, China)
Three-level structure design and optically controlled current in coupled quantum dots

P6.5 D.M. Jezek and H.M. Cataldo (Buenos Aires, Argentina)
Vortex dynamics in Bose-Einstein condensates: Numerical calculations

P6.6 N.A. Matveeva, A.V. Taichenachev, A.M. Tumaikin, and V.I. Yudin (Novosibirsk, Russia)
Semiclassical consideration of laser cooling of atoms in nondissipative optical lattice

P6.7 V.S. Melezhik (Dubna, Russia), P. Schmelcher, and S. Saeidian (Heidelberg, Germany)
Novel phenomena in ultracold atom-atom scattering in waveguides
P6.8 A.N. Novikov (Tver, Russia) and V.O. Nesterenko (Dubna, Russia)
*Dynamics and geometric phases in multi-component Bose-Einstein condensate*

P6.9 B. Olmos, R. Gonzalez-Furez (Granada, Spain), I. Lesanovsky, and P. Zoller (Innsbruck, Austria)
*Collective excitations of a Rydberg gas in a ring lattice*

P6.10 D.J. Papoular (Orsay, France), G.E. Astrakharchik (Barselona, Spain), D.S. Petrov (Orsay, France), C. Salomon (Paris, France), and G.V. Shlyapnikov (Orsay, France)
*Crystalline phase of strongly interacting Fermi mixtures*

*Bifermionic condensates in optical lattices*

*Raman coupling and Cooper pairing in cold atomic Fermi gases*
Seminar 7
Quantum Information and Quantum Computation

Monday, June 30

Seminar 7.1
Chair: L.C. Kwek (Singapore)
11.00-11.25  7.1.1  B. Sanders, Z. Wang, K.-P. Marzlin, and S. Moiseev (Calgary, Canada)
Giant cross-phase modulation for two slowed co-propagating pulses

11.30-11.55  7.1.2  G. Björk, J. Almlöf, and I. Sainz (Kista, Sweden)
Efficiency of quantum coding and error corrections

12.00-12.20  7.1.3  T. Oshima (Cambridge, UK)
Adiabatic passages on spin chains

12.25-12.45  7.1.4  O. Pfister (Charlottesville, USA), N. Menicucci (Brisbane, Australia),
and S. Flammia (Waterloo, Canada)
One-way quantum computing in the optical frequency comb

12.45-14.00  Lunch

Seminar 7.2
Chair: M. Genovese (Italy)
14.00-14.25  7.2.1  F. De Martini (Roma, Italy)
Macroscopic quantum entanglement in light reflection from Bose-Einstein condensates

14.30-14.55  7.2.2  D. Strekalov, A. Matsko, A. Savchenkov, and E. Savchenkova (Pasadena, USA)
Photonic delay lines, field concentrators and black holes

15.00-15.25  7.2.3  D. Oi and E. Andersson (Edinburgh, UK)
Efficient implementation of generalized measurements

15.30-15.50  7.2.4  A. Khrennikov (Vaxjo, Sweden)
The Bell inequality: physics meets probability

15.55-16.15  7.2.5  A. Lvovsky, J. Appel, G. Campbell, E. Figueroa, D. Koryostov,
M. Lobino, and A. Macrae (Calgary, Canada)
Electromagnetically-induced transparency for quantum optical information processing

16.15-16.45  Coffee break

Seminar 7.3
Chair: F. De Martini (Italy)
16.45-17.10  7.3.1  N. Beaudry, T. Moroderand, and N. Lutkenhaus (Waterloo, Canada)
Squashing models for optical measurements in quantum communication

17.15-17.35  7.3.2  S.-Y. Baek, Y. Cheong, and Y.-H. Kim (Pohang, Korea)
Minimal disturbance measurement without post-selection

17.40-18.00  7.3.3  M. Genoni, M. Paris (Milano, Italy), and K. Banaszek (Torun, Poland)
Quantifying the non-Gaussian character of a quantum state

18.05-18.25  7.3.4  A. Politi, M. Cryan, J. Rarity, S. Yu, and J. O’Brien (Bristol, UK)
Quantum information science with photons on a chip

18.30-18.50  7.3.5  P. Nyman (Vaxjo, Sweden)
A compact program code for simulations of quantum algorithms in classical computers
Tuesday, July 1

Seminar 7.4
Chair: F. Wong (USA)
11.00-11.25 7.4.1 U. Andersen (Lyngby, Denmark), G. Leuchs, R. Dong, D. Elser, J. Milanovic, Ch. Wittmann (Erlangen, Germany), J. Corney, P. Drummond, and J. Heersink (Brisbane, QLD 4072, Australia)
Squeezing of light in optical fibres – the interplay of non-linearities, dispersion and phonon scattering
11.30-11.55 7.4.2 T. Ralph (Brisbane, Australia), E. Huntington, T. Symul, H. Chrzanowski, and P.K. Lam (Canberra, Australia)
Fock states and Kitten states characterisation using only continuous variables Gaussian resources
12.00-12.20 7.4.3 L. Krivitsky, U. Andersen (Lyngby, Denmark), R. Dong, Ch. Wittmann, and G. Leuchs (Erlangen, Germany)
Covariance measurement of squeezed light
12.25-12.45 7.4.4 N. Korolkova, T. Tyc, L. Mišta, D. Menzies, and G. Sinclair (St. Andrews, UK)
Entanglement distribution: new concepts and the continuous variable toolbox
12.45-14.00 Lunch

Seminar 7.5
Chair: G. Björk (Sweden)
14.00-14.25 7.5.1 S. Nagano, A. Syouji, Y. Sugiura, H. Suzuki, K. Edamatsu (Sendai, Japan), R. Shimizu (Kawaguchi, Japan), and K. Suizu (Nagoya, Japan)
Generation of polarization entanglement from type-II quasi-phase-matched parametric down-conversion
14.30-14.55 7.5.2 G. Vallone, A. Rossi, F. De Martini, and P. Mataloni (Roma, Italy)
Realization of quantum computation algorithms with cluster states of two photons and many qubits
15.00-15.25 7.5.3 J. Torres (Barcelona, Spain)
Engineering the frequency properties of entangled photons: why to do it and how to do it
15.30-15.50 7.5.4 Yu. Mikhailova, P. Volkov, and M. Fedorov (Moscow, Russia)
Extremely high spectral entanglement of biphoton states in the type-I spontaneous parametric down conversion
15.55-16.15 7.5.5 Y. Miyamoto, M. Takeda, Sh. Takeuchi, D. Kawase, and K. Sasaki (Sapporo, Japan)
Observing quantum correlation of photons in Laguerre Gauss modes using Gouy phase
16.15-16.45 Coffee break

Seminar 7.6
Chair: P. Mataloni (Italy)
16.45-17.05 7.6.1 D. Mogilevtsev (Minsk, Belarus), J. Řeháček, and Z. Hradil (Olomouc, Czech Republic)
Tomography for quantum diagnostics
17.10-17.30 7.6.2 G. D’Ariano (Pavia, Italy)
New tools for quantum estimation: quantum combs and quantum testers
17.35-17.55  7.6.3 J. Řeháček (Olomouc, Czech Republic) and B.-G. Englert (Singapore, Singapore)
*Optimal extraction of information from quantum pyramids*

18.00-18.20  7.6.4 M. Abdel-Aty (Bahrain, Bahrain)
*Monitoring entangled states and decoherence of Josephson charge qubits*

18.25-18.50  7.6.5 W. Mauerer, M. Avenhaus, K. Laiho, A. Eckstein, W. Helwig, and C. Silberhorn (Erlangen, Germany)
*Photon number resolved state reconstruction and spectral properties of quantum states*

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**Wednesday, July 2**

**Seminar 7.7**

**Chair:** G. Leuchs (Germany)

11.00-11.25  7.7.1 E. Giacobino (Paris, France)
*Quantum field storage in an atomic medium*

11.30-11.55  7.7.2 U. Andersen (Lyngby, Denmark), R. Dong, M. Lassen, G. Leuchs (Erlangen, Germany), R. Filip (Olomouc, Czech Republic), J. Niset, and N. Cerf (Brussels, Belgium)
*Combating erasure noise - entanglement distillation and correction coding*

12.00-12.20  7.7.3 H. de Riedmatten, B. Lauritzen, J. Minár, I. Usmani, M. Staudt, C. Ottaviani, C. Simon, M. Afzelius, and N. Gisin (Geneva, Switzerland)
*Solid state quantum memories for quantum repeaters*

12.25-12.45  7.7.4 A. Kalachev (Kazan, Russia), A. Amari, A. Walther, and S. Kröll (Lund, Sweden)
*Towards optical quantum storage on subradiant states in an extended atomic ensemble*

12.45-14.00  **Lunch**

**Seminar 7.8**

**Chair:** K. Banaszek (Poland)

14.00-14.25  7.8.1 M. Paternostro, M.S. Kim (Belfast, UK), F. Ciccarello, G.M. Palma, and M. Zarcone (Palermo, Italy)
*Efficient extraction of atomic singlet states via photonic mediators*

14.30-14.55  7.8.2 F. Huber (Munich, Germany), T.M. Khoon, S.A. Aljunid, B. Chng, Z. Chen, G. Maslennikov, and C. Kurtsiefer (Singapore, Singapore)
*Interfacing light and single atom with a lens*

15.00-15.25  7.8.3 M. Bina, F. Casagrande, and A. Lulli (Milano, Italy)
*Entanglement and decoherence in a solvable system of N driven atoms equally coupled to a dissipative cavity mode*

15.30-15.50  7.8.4 G. Hétet, B. Buchler, M. Hsu, J. Longdell, M. Sellars, H.-A Bacher and P.K. Lam (Canberra, Australia)
*Information storage in Rubidium via gradient echo and EIT*

15.55-16.15  7.8.5 S. Varró (Budapest, Hungary)
*Binary photons*

16.15-16.45  **Coffee break**
Seminar 7.9  
Chair: E. Giacobino (France)  
16.45-17.05 7.9.1 U. Dorner, B. Smith, J. Lundeen, I. Walmsley (Oxford, UK), W. Wasilewski (Warsaw, Poland), R. Demkowicz-Dobrzański, and K. Banaszek (Torun, Poland)  
*Realistic quantum-enhanced phase estimation*

17.10-17.30 7.9.2 I. Degiovanni (Torino, Italy), M. Paris (Milano, Italy), M. Bondani, E. Puddu, and A. Andreoni (Como, Italy)  
*Multimode-thermal-seeded parametric-down-conversion: source properties and application to ghost imaging experiments*

17.35-17.55 7.9.3 M. Genovese, G. Brida, A. Meda, and I. Ruo-Berchera (Turin, Italy)  
*Tailoring PDC speckle structure for application to quantum imaging of weak objects*

18.00-18.20 7.9.4 O. Alibart, P. Aboussouan, A. Martin, M. Tournier, V. Cristofori, P. Baldi, M.P. De Micheli, D. Ostrowsky, and S. Tanzilli (Nice, France)  
*Integrated optics for quantum communications toolbox*

Thursday, July 3

Seminar 7.10  
Chair: H.-K. Lo (Canada)  
11.00-11.25 7.10.1 R. Kumar, M. Lucamarini, G. Di Giuseppe, R. Natali, G. Mancini, and P. Tombesi (Camerino, Italy)  
*Two-way quantum key distribution at telecom wavelength*

11.30-11.55 7.10.2 J. Duligall, K. Harrison, B. Munro, and T. Spiller (Bristol, UK)  
*Quantum key distribution for consumer applications*

12.00-12.20 7.10.3 S.-Y. Lee, S.-W. Ji, H.-W. Lee (Daejeon, Korea), J.-W. Lee (Seoul, Korea), and J. Bergou (New York, USA)  
*Quantum key distribution using vacuum-one-photon qubits: maximum number of transferable bits per particle*

*Entanglement-based BBM92 QKD experiment using superconducting single photon detectors*

12.45-14.00 **Lunch**

Seminar 7.11  
Chair: P. Tombesi (Italy)  
14.00-14.25 7.11.1 H.-K. Lo (Toronto, Canada)  
*Quantum key distribution: security proof and quantum hacking*

14.30-14.55 7.11.2 F. Wong, T. Kim, J. Shapiro, and R. Garcia-Patron (Cambridge, USA)  
*Physical simulation of individual attacks against BB84 using single-photon two-qubit quantum logic*

15.00-15.25 7.11.3 S. Molotkov (Chernogolovka, Russia)  
*Achievable limits of fiber-optic quantum cryptography*
15.30-15.50 7.11.4 X. Tang, A. Mink, L. Ma, T. Chang, H. Xu, O. Slattery, B. Hershman (Gaithersburg, USA)
High-speed fiber-based quantum key distribution networks
15.55-16.15 7.11.5 H. Zbinden (Geneve, Switzerland)
High speed QKD
16.15-16.45 Coffee break

Seminar 7.12 Round Table
Chairs: M.R. Wahiddin (Malaysia), H. Zbinden (Switzerland), and S. Molotkov (Russia)
16.45-16.55 7.12.1 M. Wahiddin (Kuala Lumpur, Malaysia)
Overview 1
16.55-17.05 7.12.2 S. Molotkov (Chernogolovka, Russia)
Overview 2
17.05-17.10 7.12.3 H. Zbinden (Geneva, Switzerland)
Overview 3
17.15-17.40 7.12.4 A. Mink (Gaithersburg, USA)
QKD Infrastructure
17.45-18.20 7.12.5 T. Länger (Vienna, Austria), S. Ghermaouti–Hélie (Lausanne, Switzerland), and G. Lenhart (Sophia Antipolis, France)
SECOQC / ETSI open initiative for standardisation of quantum cryptography and quantum technologies
18.25-18.50 7.12.6 Discussion
18.50-18.55 7.12.7 M. Wahiddin (Kuala Lumpur, Malaysia)
Summary

Friday, July 4

Seminar 7.13
Chair: A. Lvovsky (Canada)
9.45-10.05 7.13.1 A. Acin (Castelldefels, Spain)
Quantum correlations and device-independent quantum information protocols
Direct production of pure heralded ultrafast single photons

Seminar 7.14
Chair: Z. Hradil (Czech Republic)
11.00-11.25 7.14.1 V. Samartsev, A. Kalachev, D. Kalashnikov, A. Kalinkin, and A. Shkalikov (Kazan, Russia)
Biphoton spectroscopy of impurity crystals
11.30-11.55 7.14.2 T. Yu and J. Eberly (Rochester, USA)
Negative entangle measure, and constants of motion
12.00-12.20 7.14.3 F. Illuminati (Torino, Italy)
Recent advances in entanglement theory and its applications to quantum information and quantum technologies
Dynamically proportional geometric phase
12.45-14.00 Lunch
Seminar 7.15
Chair: Y.-H. Kim (Korea)
14.00-14.30  7.15.1 A. Černoch, J. Soubusta, L. Bartůšková, M. Dušek, and J. Fiurášek (Olomouc, Czech Republic)
  Experimental realization of linear-optical partial SWAP gates and partial symmetrization device for polarization states of photons
14.35-15.05  7.15.2 J. Shaari, M. Wahiddin (Kuala Lumpur, Malaysia), and S. Mancini (Camerino, Italy)
  Blind encoding into qudits
15.10-15.40  7.15.3 A. Acín, A. Ferraro (Barcelona, Spain), N. Cerf, and J. Niset (Brussels, Belgium)
  Multimode non-locality using homodyne measurements
15.45-16.15  7.15.4 I. Spielman (Gaithersburg, USA)
  Computation and simulation using ultracold rubidium
16.15-16.45  Coffee break

Seminar 7.16
Chair: C.H. Oh (Singapore)
16.45-17.05  7.16.1 S. Polyakov, M. Eisaman, E. Goldschmidt, J. Fan, A. Migdall (Gaithersburg, USA), and M. Hohensee (Cambridge, USA)
  Toward a solid-state, DLCZ type quantum repeater
17.10-17.30  7.16.2 G. Giovanelli (Bologna, Italy) and N. Antonietti (Torino, Italy)
  Quantum communication in modeled atmospheres
17.35-17.55  7.16.3 Z. Zhang and P.L. Voss (Metz, France)
  A path towards 10 Gb/s continuous variable QKD
18.00-18.20  7.16.4 X.-L. Feng, C. Wu, M.Q. Chen, and C. Oh (Singapore, Singapore)
  Quantum gate operation in the DFS of cavity QED
18.25-18.45  7.16.5 K. Matsumoto (Tokyo, Japan)
  Anisotropic estimation of noisy channels
18.45-18.50  S. Kulik (Moscow, Russia)
  Closing remarks

Poster Session, Wednesday, July 2
Chair: S. Kulik (Russia)
P7.1  V. Makarov (Pohang, South Korea)
  How Eve can control a passively-quenched single-photon detector
P7.2  G. Sinclair, D. Menzies, and N. Korolkova (St Andrews, UK)
  The effective cross-Kerr Hamiltonian in atomic rubidium
P7.3  V. Makarov (Trondheim, Norway), Y.-S. Kim, Y.-C. Jeong, and Y.-H. Kim (Pohang, South Korea)
  17 m free-space quantum key distribution
P7.4  P. Volkov, Yu. Mikhailova, and M. Fedorov (Moscow, Russia)
  Spectral entanglement in parametric down conversion with non-degenerate frequencies
P7.5  A. Anisimov and Y. Mazurenko (St. Petersburg, Russia)
  Four-state QKD protocol implementation by the method of subcarrier transmission of quantum information
P7.6 M. Wahiddin (Kuala Lumpur, Malaysia), A. Shurupov, S. Straupe, and S.P. Kulik (Moscow, Russia)
Experimental demonstration of QKD deterministic protocol based on polarized biphotons

P7.7 S. Straupe and S. Kulik (Moscow, Russia)
Non-Abelian geometric phase and its manifestation in the polarization transformations of two-mode biphotons

P7.8 E. Moreva and I. Tikhonov (Moscow, Russia)
Optimal quantum tomography for ququart state reconstruction

P7.9 V. Averchenko, T. Golubeva (St. Petersburg, Russia), and C. Fabre (Paris, France)
Multimode quantum dense coding and quantum teleportation on the basis of the single-mode degenerate OPO

P7.10 D. Kalashnikov (Kazan, Russia), V. Karassiov, K. Katamadze, S. Kulik, and A. Solov’ev (Moscow, Russia)
Generation of frequency-polarized photon pairs in spatial-heterogeneous ferroelectrics

P7.11 K. Samburskaya and T. Golubeva (St. Petersburg, Russia)
Temporal and spatial squeezed light of multi-pixel source of DOPO array in near and far field

P7.12 D. Sych and G. Leuchs (Erlangen, Germany)
QKD with multiletter alphabets forming regular polygons in phase space

P7.13 R. Dermez and S. Ozen (Afyonkarahisar, Turkey)
Higher dimensional entangled qudits in a trapped three-level ion

P7.14 S. Varró (Budapest, Hungary)
Correlations in single-photon experiments

P7.15 S. Kulik (Moscow, Russia)
Quantum state engineering with ququarts
<table>
<thead>
<tr>
<th>Time</th>
<th>Session Title</th>
<th>Authors and Affiliations</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.00-11.25</td>
<td>Seminar 8.1 Lasers and laser-active nanomaterials</td>
<td>8.1.1 A. Driessen and M. Pollnau (Enschede, The Netherlands)</td>
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<td>Rare-earth-ion-doped materials and resonant structures for active integrated optics</td>
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<td>11.25-11.50</td>
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<td>8.1.2 A. Apolonski (Garching, Germany)</td>
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<td>Femtosecond light and electron sources at MHz repetition rates for nanoscience</td>
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<td>11.50-12.15</td>
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<td>8.1.3 E.D. Obraztsova, A.V. Tausenev, M.A. Solodyankin, A.I. Chernov, V.I. Konov, S.V. Garnov, N.N. Il’ichev, P.G. Kryukov, E.M. Dianov (Moscow, Russia), and A.S. Lobach (Chernogolovka, Moscow region, Russia)</td>
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<td>Carbon nanotube-based saturable absorbers for a wide class of mid-infrared solid state lasers</td>
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<td>12.15-12.30</td>
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<td>8.1.4 R. Bugge, M. Breivik, and B.O. Finland (Trondheim, Norway)</td>
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<td>GaSb-based 2.4 μm laser fabrication</td>
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<td>12.30-12.55</td>
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<td>8.1.5 K. Atlasov, K.F. Karlsson, P. Gallo, A. Rudra, B. Dwir, and E. Kapon (Lausanne, Switzerland)</td>
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<td>Quantum-wire lasers based on photonic-crystal nanocavities</td>
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<td>12.55-14.00</td>
<td>Lunch</td>
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<td>14.00-14.25</td>
<td>Seminar 8.2 Nanophotonics and nanocomposite materials</td>
<td>8.2.1 K. Sakoda, T. Kuroda, T. Mano, T. Ochiai, K. Kuroda, N. Ikeda, Y. Sugimoto, S. Ohkouchi, K. Asakawa (Tsukuba, Japan), and N. Koguchi (Como, Italy)</td>
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<td>Controlled emission lifetime of GaAs quantum dots embedded in photonic crystal microcavities</td>
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<td>14.25-14.50</td>
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<td>8.2.2 M. Sentis, P. Delaporte, D. Grojo, T. Samet, R. Torres (Marseille, France), H. Etienne, L. Roux, F. Torregrosa, V. Vervisch (Peynier, France), S. Martinuzzi (Marseille, France), S. Bastide, M. Halbwax (Thiais, France), D. Guay, and A. Péreira (Varennes (Québec), Canada)</td>
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<td>Surface nanostructuring by pulsed laser ablation</td>
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<td>14.50-15.05</td>
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<td>8.2.3 G.K. Svendsen, H. Weman, and J. Skaar (Trondheim, Norway)</td>
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<td>Modal reflection properties of nanowire waveguides</td>
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<td>15.05-15.30</td>
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<td>8.2.4 S. Korovin and V. Pustovoi (Moscow, Russia)</td>
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<td>Nonlinear optical properties of nanosilicon composite materials</td>
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<td>15.30-15.55</td>
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<td>8.2.5 V.N. Bagratashvili (Troitsk, Moscow Region, Russia)</td>
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<td>Laser and supercritical fluid synthesis of polymer nanocomposites</td>
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<td>Enhanced two-photon absorption and nonlinear refraction in birefringent mesoporous silicon films</td>
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16.10-16.25 8.2.7 V.G. Arakcheev, V.B. Morozov, A.A. Valeev (Moscow, Russia), V.N. Bagratashvili, and V.K. Popov (Troitsk, Moscow Region, Russia)  
CARS diagnostics of carbon dioxide confined in nanopores

16.25-16.45 Coffee break

Seminar 8.3 Methods and instruments
Chair: H. Weman (Norway) and M. Schmitt (Germany)

16.45-17.10 8.3.1 C.T.A. Brown, X. Tsampoula, D. Stevenson, C. McDougall, F.J. Gunn-Moore, and K. Dholakia (St Andrews, UK)  
Enhanced techniques for laser induced optical transfection and photoporation of cells.

17.10-17.35 8.3.2 K.A. Serrels, E. Ramsay, R.J. Warburton, and D.T. Reid (Edinburgh, Scotland)  
Nanoscale microscopy of silicon integrated circuits.

17.35-18.00 8.3.3 H.-O. Hamaguchi (Tokyo, Japan)  
Molecular near-field effect in resonance hyper-raman scattering and detection of ensembles of single molecules

18.00-18.25 8.3.4 R. De La Rue, A. Khokhar, R. Dylewicz, M. Strain, N. Johnson, M. Sorel, F. Rahman, B. Lahiri, A. Samarelli, A. Md Zain (Glasgow, Scotland, U.K.), and M. Gnan (Bologna, Italy)  
Strongly confined guided-wave photonic structures with nano-scale control for linear and non-linear functionality

18.25-18.40 8.3.5 A.G. Zhdanov, M.D. Khokhlova, E.V. Lyubin, I.V. Soboleva, and A.A. Fedyanin (Moscow, Russia)  
Optical tweezers for magnetic micro- and nanoparticles diagnostics and planar nanostructures fabrication

Thursday, July 3

Seminar 8.4 New functionalities
Chair: D.T. Reid (UK) and J.R. Rabeau (Australia)

11.00-11.25 8.4.1 M. Schmitt, P. Rösch, J. Popp (Jena, Germany), and V. Deckert (Dortmund, Germany)  
SERS a prospective tool in nanobiophotonics

11.25-11.50 8.4.2 V.I. Yukalov, E.P. Yukalova (Dubna, Russia), V.K. Henner (Louisville, KY, USA), and P.V. Kharebov (Perm, Russia)  
Coherent spin radiation by magnetic nanomaterials

11.50-12.15 8.4.3 I.I. Vlasov, V.G. Ralchenko, V.I. Konov (Moscow, Russia), O.I. Lebedev, and E. Goovaerts (Antwerpen, Belgium)  
Hybrid carbon nanostructures in nitrogenated ultrananocrystalline diamond films

12.15-12.30 8.4.4 D.A. Sidorov-Biryukov, A. Fernandez, L. Zhu, A. Pugzlys, A. Baluška (Vienna, Austria), F.Ö. İlday, (Ankara, Turkey), J.C. Knight, (Bath, UK), and A.M. Zheltikov (Moscow, Russia)  
Pulse-pedestal discrimination by a soliton effect in a highly nonlinear photonic-crystal fiber
Spectral transformation of laser pulses in nanochannel waveguides and
dispersion-nanomanaged photonic-crystal fibers

Friday, July 4

Seminar 8.5 Photonic crystals
Chair: K. Sakoda (Japan) and M. Sentis (France)
9.45-10.10 8.5.1 C. López (Madrid, Spain)
Photonic crystals and photonic glasses by selfassembly
10.10-10.35 8.5.2 N. Le Thomas and R. Houdré (Lausanne, Switzerland)
Below the light line Fourier space imaging of planar photonic crystals

Coffee break

Seminar 8.6 Quantum dots, nanowires, and nanotubes
Chair: C. López (Spain) and R. Houdré (Switzerland)
11.00-11.25 8.6.1 H. Kuzmany (Wien, Austria)
Resonant laser Raman spectroscopy for structural and electronic analysis
of single-walled carbon nanotubes
11.25-11.40 8.6.2 A.F. Moses, T.B. Hoang, D.L. Dheeraj, B.O. Fimland, and H. Weman
(Trondheim, Norway), K.F. Karlsson, and P.O. Holtz (Linköping, Sweden)
Investigation of the structural and optical properties of single
GaAs/GaAsSb/GaAs nanowire quantum dots
11.40-12.05 8.6.3 M.H.M. van Weert, N. Akopian, F. Kelkensberg, M.P. van Kouwen,
U. Perinetti, V. Zwiller, L.P. Kouwenhoven (Delft, The Netherlands),
M.T. Borgström, R. Algra, and E.P.A.M. Bakkers (Eindhoven, The
Netherlands)
Optical addressing a spin state in a single nanowire quantum dot
12.05-12.30 8.6.4 K.F. Karlsson, Q. Zhu, V. Troncale, D.Y. Oberli, E. Pelucchi,
A. Rudra, and E. Kapon (Lausanne, Switzerland)
Optical polarization: features and controllability of site-controlled
quantum dots
12.30-12.55 8.6.5 T.B. Hoang, A. Mishra, L.V. Titova, L.M. Smith, H. Jackson,
J.M. Yarrison-Rice (Cincinnati, Ohio, USA), H.J. Joyce, Q. Gao, H.H. Tan,
C. Jagadish, Y. Kim, (Canberra, Australiua), and A.O. Govorov (Athens,
OH, USA)
Optical properties of single core-shell GaAs/AlGaAs and InP
semiconductor nanowires
12.55-14.00 Lunch

Seminar 8.7 Laser nanostructuring, nanoprocessing, and nanoengineering
Chair: G. Cerullo (Italy) and V.N. Bagratashvili (Russia)
14.00-14.25 8.7.1 V.I. Konov, V.V. Kononenko, T.V. Kononenko, S.M. Pimenov,
M.S. Komlenok, V.P. Pashinin (Moscow, Russia), and V. Romano (Bern,
Switzerland)
Laser induced surface and bulk nanostructuring of diamond materials
14.25-14.50 8.7.2 P.K. Kashkarov (Moscow, Russia)
Nanostructured solids as new photonic media.
14.50-15.15  8.7.3 B.N. Chichkov (Hannover, Germany)
3D laser-based nanoengineering of polymeric materials

15.15-15.40  8.7.4 T.V. Kononenko, V.I. Konov (Moscow, Russia), P. Alloncle, M. Sentis (Marseille, France)
Laser induced forward transfer of nanoparticles based on blistering of thin metal film

15.40-16.05  8.7.5 W. Marine (Marseille, France)
Synthesis and nonlineare properties of nanohybrid materials prepared by femtoseconde laser ablation in liquid medium

16.15-16.45  Coffee break

Seminar 8.8 Advanced technologies and methods
Chair: V.I. Yukalov (Russia) and H. Kuzmany (Australia)

16.45-17.10  8.8.1 G. Cerullo, R. Osellame, R. Martinez-Vazquez, P. Laporta, and R. Ramponi (Milano, Italy)
Femtosecond micromachining as an enabling tool for optofluidics

17.10-17.35  8.8.2 E.I. Kauppinen (Helsinki, Finland)
Carbon nanobud™-a novel nanomaterial: synthesis, structure, field emission and transport properties

17.35-18.00  8.8.3 A. Gaál, I. Bugár, T. Pálszegi, V. Szőcs, I. Capek, L. Fialová, A. Šatka, and F. Uherek (Bratislava, Slovakia)
Transient absorption study of colloidal metal nanoparticles

18.00-18.15  8.8.4 P.N. Melentiev and V.I. Balykin (Troitsk, Moscow region, Russia)
Atom optics as alternative approach to nanolithography on a surface

18.15-18.40  8.8.5 J.R. Rabeau (Sydney, Australia)
Single colour centres in diamond nanocrystals

Poster Session, Wednesday, July 2

Chair: E.D. Obraztsova (Russia)

P8.1  S.V. Zabotnov, L.A. Golovan, A.A. Ezhov, A.E. Dokukina, N.E. Maslova, V.Yu. Timoshenko, V.I. Panov, and P.K. Kashkarov (Moscow, Russia)
Nanoparticle formation under femtosecond laser pulse action on monocrystalline and porous silicon surfaces

P8.2  Yu.E. Lozovik, S.P. Merkulova, A.V. Klyuchnik, A.A. Kolesnikov, and A.L. Merkulov (Troitsk, Moscow region, Russia)
Apertureless near field laser nanotechnology

P8.3  A.V. Glushkov (Odessa, Ukraine, Troitsk, Moscow region, Russia)
Advanced laser nano-technologies for cleaning the semiconductor materials
Seminar 9
Fiber Lasers

Thursday, July 3

Seminar 9.1
Chairs: D.N. Payne (UK) and H.G. Limberger (Switzerland)

11.00-11.35 9.1.1 A.B. Alekseyev (Wuppertal, Germany)
Radiative properties of the BiO and BiO+ free molecules and bismuth-doped silica glass

11.35-12.00 9.1.2 S.V. Firstov, I.A. Bufetov, A.M. Smirnov, E.M. Dianov (Moscow, Russia), V.F. Khopin, and A.N. Guryanov (Nizhny Novgorod, Russia)
Time-resolved spectroscopy of Bi-doped silica-based fibers

12.00-12.25 9.1.3 V.V. Dvoyrin, V.M. Mashinsky, and E.M. Dianov (Moscow, Russia)
"Yellow" CW frequency-doubled fiber lasers

12.25-12.45 9.1.4 C. Ban, H.G. Limberger (Lausanne, Switzerland), V.M. Mashinsky, V.V. Dvoyrin, L.I. Bulatov, and E.M. Dianov (Moscow, Russia)
ArF excimer laser induced refractive index changes in Bi-Al-doped silica optical fiber

12.45-14.00 Lunch

Seminar 9.2
Chairs: E.M. Dianov (Russia) and A.B. Alekseyev (Germany)

14.00-14.20 9.2.1 I.A. Bufetov, K.M. Golant, S.V. Firstov, A.V. Kholodkov, A.V. Shubin, and E.M. Dianov (Moscow, Russia)
Bismuth activated aluminosilicate optical fibers fabricated by SPCVD technology

14.20-14.40 9.2.2 S.V. Firstov, I.A. Bufetov, E.M. Dianov (Moscow, Russia), V.F. Khopin, A.A. Umnikov, and A.N. Guryanov (Nizhny Novgorod, Russia)
Optical gain of Bi-doped aluminosilicate fibers codoped with Ge and Ti

14.40-15.15 9.2.3 R.F. Wu, B.S. Tan, T.Y. Ng, P.B. Phua, and Lindy Chia (Singapore, Singapore)
Monolithic, high power Yb-doped fiber lasers with spectral beam combination

15.15-15.50 9.2.4 A.A. Fotiadi (Mons, Belgium; St.Petersburg, Russia), O.L. Antipov (Nizhny Novgorod, Russia), and P. Mégret (Mons, Belgium)
Mechanism of electronic index change in ytterbium-doped laser fibers under pumping and signal amplification

15.50-16.15 9.2.5 I.A. Lobach, S.A. Babin, S.I. Kablukov, and E.V. Podivilov (Novosibirsk, Russia)
Modelling of the mode coupling effects in a multi-core fiber

16.15-16.45 Coffee break

Seminar 9.3
Chairs: R.F. Wu (Singapore) and A.A. Fotiadi (Belgium)

Enhancement and extension of high average power supercontinuum generation in photonic crystal fibres and tapers
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Chair(s)</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>17.20-17.55</td>
<td>9.3.2</td>
<td>S.K. Turitsyn (Birmingham, UK)</td>
<td>New applications of ultra-long fibre lasers</td>
</tr>
<tr>
<td>17.55-18.20</td>
<td>9.3.3</td>
<td>M. Dubinskii, J. Zhang (Adelphi, MD, USA), and I. Kudryashov (Cranbury, NJ, USA)</td>
<td>Power scaling of single-frequency, resonantly cladding-pumped, Yb-free, LMA EDFA</td>
</tr>
</tbody>
</table>

Friday, July, 4

**Seminar 9.4**
**Chairs:** S.K. Turitsyn (UK) and S.A. Babin (Russia)

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Chair(s)</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.45-10.10</td>
<td>9.4.1</td>
<td>M.A. Solodyankin, E.D. Obraztsova, A.S. Lobach, V.I. Konov, and E.M. Dianov (Moscow, Russia)</td>
<td>Ring cavity Tm-doped fiber laser mode-locked with a carbon nanotube absorber</td>
</tr>
<tr>
<td>10.10-10.35</td>
<td>9.4.2</td>
<td>B. Ibarra-Escamilla, E.A. Kuzin, M. Duran-Sanchez (Puebla, Mexico), and O. Pottiez (Leon, Mexico)</td>
<td>All-fiber passive mode-locked laser to generate ps pulses based in a symmetrical NOLM</td>
</tr>
<tr>
<td>10.35-11.00</td>
<td></td>
<td></td>
<td>Coffee break</td>
</tr>
</tbody>
</table>

**Seminar 9.5**
**Chairs:** V.P. Efremov (Russia) and V.V. Dvoyrin (Russia)

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Chair(s)</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.00-11.25</td>
<td>9.5.1</td>
<td>S.V. Muraviov, A.V. Andrianov, A.V. Kim (Nizhny Novgorod, Russia), U.G. Akhmetshin, V.A. Bogatyrjov, and V.M. Mashinsky (Moscow, Russia)</td>
<td>Generation of ultrashort optical pulse tuned down to 2.4 μm using GeO₂-based core fiber</td>
</tr>
<tr>
<td>11.25-11.50</td>
<td>9.5.2</td>
<td>A.V. Kir’yanov, Y.O. Barmenkov (Leon, Mexico), P. Perez-Millan, and M.V. Andres (Valencia, Spain)</td>
<td>Self-pulsing regimes of an Erbium all-fiber laser: An analysis of Er³⁺ excited-state absorption and intra-cavity nonlinear lensing as relevant self-pulsing mechanisms</td>
</tr>
<tr>
<td>11.50-12.15</td>
<td>9.5.3</td>
<td>O. Pottiez (Leon, Mexico), B. Ibarra-Escamilla, and E.A. Kuzin (Puebla, Mexico)</td>
<td>High-energy pulses from a figure-8 fiber laser with normal net dispersion</td>
</tr>
<tr>
<td>12.15-12.40</td>
<td>9.5.4</td>
<td>H. Arellano-Sotelo, Y.O. Barmenkov, and A.V. Kir’yanov (Leon, Mexico)</td>
<td>Improvement for basic Sagnac’s fiber interferometers response</td>
</tr>
<tr>
<td>12.45-14.00</td>
<td></td>
<td></td>
<td>Lunch</td>
</tr>
</tbody>
</table>

**Seminar 9.6**
**Chairs:** I.A. Bufetov (Russia) and A.V. Kir’yanov (Mexico)

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<th>Time</th>
<th>Session</th>
<th>Chair(s)</th>
<th>Title</th>
</tr>
</thead>
</table>
14.25-14.50  9.6.2 V.P. Efremov, E.M. Dianov, V.E. Fortov, A.A. Frolov, and I.A. Bufetov (Moscow, Russia)  
Different types of fiber glass distraction under intensive laser beam

14.50-15.25  9.6.3 V.I. Kovalev (Edinburgh, UK; Moscow, Russia) and R.G. Harrison (Edinburgh, UK)  
Spectral self-phase conjugation via SBS and its application for coherence restoration and coherent beam combining of fiber amplifier array

15.25-15.50  9.6.4 S.A. Babin, M.A. Nikulin, and I.S. Shelemba (Novosibirsk, Russia)  
Simple technique for nonlinearity compensation of a tunable erbium laser

15.50-16.15  9.6.5 V.I. Kovalev (Edinburgh, UK; Moscow, Russia), R.G. Harrison (Edinburgh, UK), and J.D. Simonotto (Newcastle upon Tyne, UK)  
On the emergence and collapse of coherent periodic signal in stochastic stimulated emission from fiber laser sources with weak feedback

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Poster Session, Wednesday, July 2

Chair: V.M. Yermachenko (Russia)

P9.1  B.I. Denker, E.M. Dianov, B. Galagan, and S. Sverchkov (Moscow, Russia)  
The emission excitation spectra of Bi-doped phosphate based glasses

P9.2  V.M. Yermachenko, V.S. Mezhevov, V.N. Petrovskiy, and P.Yu. Shaglov (Moscow, Russia)  
Peculiarities of regimes generation powerful single-mode fiber laser
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