

19th International Laser Physics Workshop (LPHYS'10)

July 5 – 9, 2010, Foz do Iguaçu, Brazil

PROGRAM



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**19th International Laser Physics Workshop
(LPHYS'10)
July 5 – 9, 2010, Foz do Iguaçu, Brazil**

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The international journal Laser Physics
The international journal Laser Physics Letters
International Laser Center, Moscow State University, Moscow, Russia*

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Background

The nineteenth annual International Laser Physics Workshop (LPHYS'10) will be held from July 5 to July 9, 2010, in the Carimã Hotel, Foz do Iguaçu, Brazil. LPHYS'10 continues a series of Workshops held in Dubna 1992, Dubna/Volga river tour 1993, New York 1994, Moscow/Volga river tour (jointly with NATO SILAP Workshop) 1995, Moscow 1996, Prague 1997, Berlin 1998, Budapest 1999, Bordeaux 2000, Moscow 2001, Bratislava 2002, Hamburg 2003, Trieste 2004, Kyoto 2005, Lausanne 2006, León (Mexico) 2007,-Trondheim 2008, and Barcelona 2009.

The total number of participants is expected to be about 500. In the past, participation was typically from over 30 countries.

Proceedings

The Workshop accepted reports (plenary, invited, and contributed) could be published in two issues of the international journal Laser Physics, 2011 (vol. 21). The total length of a 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 pages of the web site: www.lasphys.com.

The pdf files of the manuscripts for the Proceedings, to be published in Laser Physics, are to be sent to the following e-mail address:

lpphys10@lasphys.com

The submitted manuscripts should contain your e-mail address and the number of your report according to the Program of the Workshop.

At the moment of sending your manuscript by e-mail, or better a week earlier, the authors are asked to send the Transfer of Copyright Agreement by an Express Mail to the following address:

Prof. Igor V. Yevseyev
Department of Theoretical Physics
National Research Nuclear University MEPhI
31, Kashirskoe Shosse
Moscow 115409
Russia

The pdf files of your manuscripts are to be sent not later than November 1, 2010.

All manuscripts undergo the standard reviewing procedure, after which the decision is taken on their acceptance or rejection.

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

The Steering Committee of LPHYS'10 would like to bring your attention to the following possibility. If you feel that your article 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: **Olga Kocharovskaya** (USA) and **Kirill A. Prokhorov** (Russia)

Seminar 2 Strong Field & Attosecond Physics

Co-Chairs: **Wilhelm Becker** (Germany), **Jens Biegert** (Spain),
Mikhail V. Fedorov (Russia), and **Carla Figueira de Morisson Faria** (UK)

Seminar 3 Biophotonics

Co-Chairs: **Vanderlei S. Bagnato** (Brazil), **Sergey A. Gonchukov** (Russia),
and **Jürgen Lademann** (Germany)

Seminar 4 Physics of Lasers

Co-Chairs: **Miguel Orszag** (Chile), **Markus Pollnau** (The Netherlands), **Ivan A. Shcherbakov** (Russia), and **Thomas Südmeyer** (Switzerland)

Seminar 5 Nonlinear Optics and Spectroscopy

Co-Chairs: **See Leang Chin** (Canada), **Anderson S.L. Gomes** (Brazil),
Yuri Kivshar (Australia), and **Vladimir A. Makarov** (Russia)

Seminar 6 Physics of Cold Trapped Atoms

Co-Chairs: **Sadhan K. Adhikari** (Brazil), **Lev P. Pitaevskii** (Italy),
Vyacheslav I. Yukalov (Russia), and **Eugene Zaremba** (Canada)

Seminar 7 Quantum Information Science

Co-Chairs: **Marco Genovese** (Italy), **Sergei P. Kulik** (Russia), **Leong Chuan Kwek** (Singapore), and **Carlos H. Monken** (Brazil)

Seminar 8 Nanophotonics

Co-Chairs: **Pavel K. Kashkarov** (Russia), **Vitali I. Konov** (Russia), and
Euclides Marega, Jr. (Brazil)

Seminar 9 Fiber Lasers

Co-Chairs: **Evgeni M. Dianov** (Russia), **Hugo Fragnito** (Brazil), and
Hans G. Limberger (Switzerland)

Meeting Format and Location of the Events

Welcome Remarks	July 5	09.15-09.45	Hall # 1
Conference Dinner	July 7	19.00-23.00	
Closing Remarks	July 9	18.50-19.00	Hall # 1
Plenary Sessions (PS)			
	July 5	09.45-10.30	Hall # 1
	July 6	09.00-09.45	Hall # 1
	July 6	09.45-10.30	Hall # 1
	July 8	09.00-09.45	Hall # 1
	July 8	09.45-10.30	Hall # 1
Special Session: 50 Years of Lasers			
	July 7	09.00-09.45	Hall # 1
	July 7	09.45-10.30	Hall # 1
	July 7	11.00-11.45	Hall # 1
Seminar 1			
	July 5	11.00-18.50	Hall # 3
	July 6	14.00-18.50	Hall # 3
	July 8	11.00-18.50	Hall # 3
	July 9	09.00-18.50	Hall # 3
Seminar 2			
	July 6	11.00-12.45	Hall # 3
	July 6	16.45-18.50	Hall # 6
	July 8	11.00-18.50	Hall # 5
	July 9	09.00-18.50	Hall # 5
Seminar 3			
	July 5	11.00-18.50	Hall # 4
	July 6	11.00-18.50	Hall # 4
	July 8	11.00-18.50	Hall # 4
Seminar 4			
	July 5	11.00-18.50	Hall # 6
	July 6	11.00-16.15	Hall # 6
Seminar 5			
	July 5	11.00-18.50	Hall # 5
	July 6	11.00-18.50	Hall # 5
Seminar 6			
	July 5	11.00-18.50	Hall # 1
	July 6	11.00-18.50	Hall # 1
	July 8	11.00-18.50	Hall # 1
	July 9	09.00-18.50	Hall # 1

Seminar 7	July 5	11.00-18.50	Hall # 2
	July 6	11.00-18.50	Hall # 2
	July 8	11.00-18.50	Hall # 2
	July 9	09.00-18.50	Hall # 2
Seminar 8	July 8	11.00-18.50	Hall # 6
	July 9	09.00-18.50	Hall # 4
Seminar 9	July 9	09.00-18.50	Hall # 6
Poster Session	July 6	19.00-20.00	

Scientific Program – Schedule

Monday, July 5, 2010						
	Hall # 1	Hall # 2	Hall # 3	Hall # 4	Hall # 5	Hall # 6
09.15-09.45	Welcome Remarks					
09.45-10.30	PS1: Hulet					
10.30-11.00	Coffee Break					
11.00-12.45	Seminar 6.1	Seminar 7.1	Seminar 1.1	Seminar 3.1	Seminar 5.1	Seminar 4.1
12.45-14.00	Lunch					
14.00-16.15	Seminar 6.2	Seminar 7.2	Seminar 1.2	Seminar 3.2	Seminar 5.2	Seminar 4.2
16.15-16.45	Coffee Break					
16.45-18.50	Seminar 6.3	Seminar 7.3	Seminar 1.3	Seminar 3.3	Seminar 5.3	Seminar 4.3

Tuesday, July 6, 2010						
	Hall # 1	Hall # 2	Hall # 3	Hall # 4	Hall # 5	Hall # 6
09.00-09.45	PS2: Shalaev					
09.45-10.30	PS3: Wineland					
10.30-11.00	Coffee Break					
11.00-12.45	Seminar 6.4	Seminar 7.4	Seminar 2.1	Seminar 3.4	Seminar 5.4	Seminar 4.4
12.45-14.00	Lunch					
14.00-16.15	Seminar 6.5	Seminar 7.5	Seminar 1.4	Seminar 3.5	Seminar 5.5	Seminar 4.5
16.15-16.45	Coffee Break					
16.45-18.50	Seminar 6.6	Seminar 7.6	Seminar 1.5	Seminar 3.6	Seminar 5.6	Seminar 2.2
19.00-20.00	Poster Session					
20.00-23.00	Traditional Brazilian Party "Festa Junina"					

Wednesday, July 7, 2010						
	Hall # 1	Hall # 2	Hall # 3	Hall # 4	Hall # 5	Hall # 6
09.00-09.45	50 Years: Baer					
09.45-10.30	50 Years: Nussenzeig					
10.30-11.00	Coffee Break					
11.00-11.45	50 Years: Bagayev					
12.00-18.00	Excursion					
19.00-23.00	Conference Dinner					

Thursday, July 8, 2010						
	Hall # 1	Hall # 2	Hall # 3	Hall # 4	Hall # 5	Hall # 6
09.00-09.45	PS4: Kurizki					
09.45-10.30	PS5: Dubinskii					
10.30-11.00	Coffee Break					
11.00-12.45	Seminar 6.7	Seminar 7.7	Seminar 1.6	Seminar 3.7	Seminar 2.3	Seminar 8.1
12.45-14.00	Lunch					
14.00-16.15	Seminar 6.8	Seminar 7.8	Seminar 1.7	Seminar 3.8	Seminar 2.4	Seminar 8.2
16.15-16.45	Coffee Break					
16.45-18.50	Seminar 6.9	Seminar 7.9	Seminar 1.8	Seminar 3.9	Seminar 2.5	Seminar 8.3

Friday, July 9, 2010						
	Hall # 1	Hall # 2	Hall # 3	Hall # 4	Hall # 5	Hall # 6
09.00-10.30	Seminar 6.10	Seminar 7.10	Seminar 1.9	Seminar 8.4	Seminar 2.6	Seminar 9.1
10.30-11.00	Coffee Break					
11.00-12.45	Seminar 6.11	Seminar 7.11	Seminar 1.10	Seminar 8.5	Seminar 2.7	Seminar 9.2
12.45-14.00	Lunch					
14.00-16.15	Seminar 6.12	Seminar 7.12	Seminar 1.11	Seminar 8.6	Seminar 2.8	Seminar 9.3
16.15-16.45	Coffee Break					
16.45-18.50	Seminar 6.13	Seminar 7.13	Seminar 1.12	Seminar 8.7	Seminar 2.9	Seminar 9.4
18.50-19.00	Closing Remarks					

Plenary Sessions
Monday, July 5
Welcome Remarks

- 09.15-09.25 Brazilian Science Authorities
09.25-09.35 Vanderlei S. Bagnato (Co-chairman of LPHYS'10, Brazil)
09.35-09.45 Vyacheslav I. Yukalov (Member of the Steering Committee of LPHYS'10, Russia)
-

Monday, July 5
PLENARY SESSION (PS1)

- Chair: V.I. Yukalov (Russia)
09.45-10.30 **Randall G. Hulet** (Houston, USA)
Pairing and Phase Separation in an Ultracold Atomic Fermi Gas: BEC/BCS Crossover and More
-

Tuesday, July 6
PLENARY SESSION (PS2)

- Chair: V.A. Makarov (Russia)
09.00-09.45 **Vladimir M. Shalaev** (West Lafayette, USA)
Transformation Optics with Metamaterials

PLENARY SESSION (PS3)

- Chair: V.S. Bagnato (Brazil)
09.45-10.30 **David J. Wineland** (Boulder, CO, USA)
Quantum Information Processing and Metrology with Trapped Ions
-

Thursday, July 8
PLENARY SESSION (PS4)

- Chair: S.P. Kulik (Russia)
09.00-09.45 **Gershon Kurizki** (Rehovot, Israel)
New Frontiers of Quantum Control: Manipulating System-Bath Entanglement

PLENARY SESSION (PS5)

Chair: S.L. Chin (Canada)

09.45-10.30

Mark Dubinskii (Adelphi, USA)

Solid-State Lasers: 50 Years of Power Scaling and Latest Advances in Scaling Technology

Special Session: 50 Years of Lasers

Wednesday, July 7

50 Years (1)

Chair: V.M. Shalaev (USA)

09.00-09.45

Thomas M. Baer (Stanford, CA, USA)

The Laser Past, Present, and Future: A Transformative Technology Based on Quantum Mechanics

50 Years (2)

Chair: M.V. Fedorov (Russia)

09.45-10.30

Herch M. Nussenzveig (Rio de Janeiro, Brazil)

Laser 50: from Mickey Mouse balloons to Living Cells

50 Years (3)

Chair: I.V. Yevseyev (Russia)

11.00-11.45

Sergey N. Bagayev (Novosibirsk, Russia)

Friday, July 9

Closing Remarks

Chair: V.I. Yukalov (Russia)

18.50-19.00

Seminar 1
Modern Trends in Laser Physics

Monday, July 5

Seminar 1.1

Chair: H. Bachor (Australia)

- 11.00-11.25 1.1.1 H.J. Briegel (Innsbruck, Austria)
Quantum information and entanglement in biological systems
- 11.25-11.50 1.1.2 L. Davidovich (Rio de Janeiro, Brazil)
Entanglement and decoherence
- 11.50-12.15 1.1.3 P. Berman (Ann Arbor, USA)
Atom entanglement via optical fields: a state vector approach
- 12.15-12.40 1.1.4 P. Hemmer (College Station, USA)
Practical limits to sub-wavelength imaging
- 12.45-14.00 **Lunch**

Seminar 1.2

Chair: P. Hemmer (USA)

- 14.00-14.25 1.2.1 K. Hakuta, F.L. Kien, and K.P. Nayak (Tokyo, Japan)
Manipulating single-photon generation using optical nanofibers
- 14.25-14.50 1.2.2 E. Saglamyurek, N. Sinclair, M. George, R. Ricken, W. Sohler, and W. Tittel (Calgary, Canada)
Integrated quantum memory for quantum communication
- 14.50-15.15 1.2.3 F. Vagizov, R. Schakhmuratov, C. O'Brien, A. Bondartsev, L. Gushin, R. Akhmedzhanov, V. Polovinkin, Y. Radeonychev, O. Kocharovskaya (College Station, USA; Kazan and Nizhny Novgorod, Russia)
Quantum coherence effects in solids and their applications
- 15.15-15.30 1.2.4 C. O'Brien and O. Kocharovskaya (College Station, USA)
Resonant enhancement and periodic modulation of refractive index via its coherent control
- 15.30-15.55 1.2.5 B.S. Ham (Inchoen, S. Korea)
Atomic phase control by optical deshelving for extended photon echoes
- 15.55-16.15 1.2.6 A. Ferrier, F. Beaudoux, P. Goldner, J.-L. Le Gouët, T. Chanelière, R. Marino, B. Tumino, and O. Guillot-Noël (Paris, France)
Photon echo measurement in scattering media
- 16.15-16.45 **Coffee break**

Seminar 1.3

Chair: A. Mysyrowicz (France)

- 16.45-17.10 1.3.1 J.J. Rocca, B.M. Luther, D. Alessi, Y. Wang, D.H. Martz, F. Furch, B. Reagan, M. Berrill, C.S. Menoni (Fort Collins, Colorado, USA)
Fully-coherent soft x-ray lasers on a table-top
- 17.10-17.35 1.3.2 C.S. Menoni, F. Brizuela, S. Carbajo, Y. Wang, F. Pedaci, B.M. Luther, A. Sakdinawat, W. Chao, K. Goldberg, E.H. Anderson, D.T. Attwood, A.V. Vinogradov, I.A. Artioukov, A.G. Ponomareko, V.V. Kondratenko, M.C. Marconi, and J.J. Rocca (Fort Collins, USA, Berkeley, USA, Moscow, Russia, and Kharkov, Ukraine)
Nanoscale microscopy with table-top extreme ultraviolet lasers

- 17.35-18.00 1.3.3 Y.V. Rostovtsev (Denton, USA)
CEP effects and generation of X-ray and gamma-ray radiation by optical ultra-short pulses
- 18.00-18.25 1.3.4 A. Zholents (Argonne National Laboratory, Argonne, IL, USA)
New trends in x-ray free-electron lasers
- 18.25-18.50 1.3.5 E. d'Humières, I. Andriyash, S. Weber, S. Jéquier, V. Tikhonchuk, and Ph. Balcou (CELIA, Université de Bordeaux, CNRS, CEA, France)
Towards an ultra-compact X-ray Raman free electron laser in the high intensity Kapitza-Dirac regime
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Tuesday, July 6

Seminar 1.4

Chair: L. Davidovich (Canada)

- 14.00-14.25 1.4.1 H.J. Carmichael, D. Norris, P. Barberis-Blostein, and L.A. Orozco (Auckland, New Zealand)
Quantum trajectory theory of ground state quantum beats in atomic spontaneous emission
- 14.25-14.45 1.4.2 S. Zhu, Z.-H. Li, D.-W. Wang, H. Zheng, and M.S. Zubairy (Hong Kong, China and College Station, USA)
Quantum interference from energy shifts and its influence on spontaneous emission spectrum
- 14.45-15.10 1.4.3 M. Lobino, D. Korystov, C. Kupchak, E. Figueroa, R. Kumar, E. Barrios, S. Rahimi-Keshari, B.C. Sanders and A.I. Lvovsky (Calgary, Canada; Bristol, United Kingdom; Dunedin, New Zealand, and Garching, Germany)
Characterizing quantum-optical "black boxes"
- 15.10-15.35 1.4.4 R. Roehlsberger (Germany)
Observation of the collective Lamb shift in single-photon superradiance
- 15.35-16.00 1.4.5 S. Schahriar (Evanston, USA)
Properties and applications of a superluminal ring laser: accelerometry, rotation sensing, and gravitational wave detection
- 16.00-16.20 1.4.6 J.A. Greenberg and D.J. Gauthier (Duke University, USA)
Super-charging nonlinear optical processes through collective effects
- 16.15-16.45 **Coffee break**

Seminar 1.5

Chair: Y. Rostovtsev (USA)

- 16.45-17.15 1.5.1 A. Mysyrowicz (CNRS, France)
Study of filamentation in air
- 17.15-17.40 1.5.2 M. Katsuragawa, K. Shiraga, M. Arakawa, and F.L. Hong (Tokio, Japan)
Octave-spanning Raman comb and its application to ultrafast optical technology
- 17.40-18.05 1.5.3 X. Wang, A. Zhang, M. Zhi, A.V. Sokolov, G.R. Welch, and M.O. Scully (College Station, USA)
Heterodyne coherent anti-Stokes Raman scattering for spectral phase retrieval and signal amplification
- 18.05-18.30 1.5.4 J. Chen, R. Itakura, and T. Nakajima (Kyoto, Japan)
Attosecond photoelectron-SPIDER using a VUV pumping

Thursday, July 8

Seminar 1.6

Chair: A.V. Sokolov (USA)

- 11.00-11.30 1.6.1 T. Südmeyer, V.J. Wittwer, B. Rudin, D.J.H.C. Maas, M. Hoffmann, O.D. Sieber, Y. Barbarin, M. Golling, and U. Keller (Zurich, Switzerland)
High power MIXSEL: 6.4 W average power from an ultrafast semiconductor laser
- 11.30-11.55 1.6.2 J. Sun, T. Lamour, T. Ferreira, R. McCracken, and D.T. Reid (Edinburgh, UK)
Advances in ultrafast optical parametric oscillators
- 11.55-12.20 1.6.3 Ch. Kränkel (Zurich, Switzerland and Hamburg, Germany), C.R.E. Baer, O.H. Heckl, C.J. Saraceno, M. Golling, Th. Südmeyer, U. Keller (Zurich, Switzerland), K. Beil, K. Petermann, and G. Huber (Hamburg, Germany)
Record high output powers from modelocked and continuous wave Yb:Lu₂O₃ thin disk lasers
- 12.20-12.45 1.6.4 J.S.N. Forget (Orsay, France), S. Cousin, A. Grün, Ph.P. Bates (Castelldefels, Spain), J. Biegert, and O. Chalus (Barcelona, Spain)
Sub-13fs pulse characterization with an AOPDF
- 12.45-14.00 **Lunch**

Seminar 1.7

Chair: Ch. Kränkel (Switzerland)

- 14.00-14.25 1.7.1 Th. Udem (Garching, Germany)
A phonon laser
- 14.25-14.50 1.7.2 A.V. Sokolov, X. Wang, G.O. Ariunbold, and M.O. Scully (College Station, TX, USA)
Backward mirror-less lasing achieved by femtosecond pulse shaping
- 14.50-15.15 1.7.3 Y.V. Radeonychev, V.A. Polovinkin (Nizhny Novgorod, Russia), and O. Kocharovskaya (Nizhny Novgorod, Russia and College Station, TX, USA)
Extremely short pulses via resonantly induced transparency
- 15.15-15.35 1.7.4 V. Kubecek, M. Jelinek, M. Cech, P. HirsI (Prague, Czech Republic), and J.-C. Diels (Albuquerque, USA)
Passively mode-locked quasi-continuously pumped Neodymium lasers in a bounce geometry
- 15.35-15.55 1.7.5 L.A. Pirri, G. Toci, D. Alderighi, and M. Vannini (Sesto Fiorentino, Italy)
The influence of doping on the laser performance
- 15.55-16.15 1.7.6 H. Masalehdan (Washington, D.C., USA)
New methods to explain thermal effects of attosecond laser pulses in the microelectromechanical systems
- 16.15-16.45 **Coffee break**

Seminar 1.8

Chair: V. Kubecek (Czech Republik)

- 16.45-17.10 1.8.1 N.N. Rubtsova, V.G. Gol'dort, V.N. Ishchenko, S.A. Kochubei, E.B. Khvorostov, D.V. Ledovskikh (Novosibirsk, Russia), V.A. Reshetov (Togliatti, Russia), and I.V. Yevseyev (Moscow, Russia)
Coherent transients in gases

17.10-17.30	1.8.2 <u>G.A. Koganov</u> and R. Shuker (Beer Sheva, Israel) <i>Two-photon gain without inversion vs linear absorption in a three-level scheme</i>
17.30-17.50	1.8.3 A.A. Zadernovsky (Moscow, Russia) <i>Non-destructive radiative pumping for a nuclear gamma-ray laser</i>
17.50-18.10	1.8.4 <u>J.J. Carroll</u> and S.A. Karamyan (Youngstown, USA and Dubna, Russia) <i>Nuclear transitions and the other quest for a gamma-ray laser</i>
18.10-18.30	1.8.5 <u>D.V. Magalhães</u> , R.F. Alves, S.T. Müller, and V.S. Bagnato (São Carlos, SP, Brazil) <i>Brazilian atomic fountain: current status and double frequency essays</i>
18.30-18.45	1.8.6 <u>S.T. Müller</u> , D.V. Magalhães, R.F. Alves, and V.S. Bagnato (São Carlos, SP, Brazil) <i>Compact frequency standard</i>

Friday, July 9

Seminar 1.9

Chair: P. Berman (USA)

09.00-9.25	1.9.1 Y. Shih (Baltimore, USA) <i>Ghost imaging and two-photon interference</i>
09.25-9.50	1.9.2 <u>A. Migdall</u> , C.F. Wildfeuer, A.J. Pearlman, J. Chen, A. Ling, E.A. Goldschmidt, S. Polyakov, J. Fan, and J.P. Dowling (Gaithersburg, USA) <i>Relative merits of nonclassical sources versus photon-number-resolved detection in enhancing interferometric and image resolution</i>
09.50-10.10	1.9.3 P.B. Dixon, D. Starling, A.N. Jordan, and <u>J.C. Howell</u> (Rochester, USA) <i>Wonderful world of weak values</i>
10.10-10.30	1.9.4 H.A. Bachor (Canberra, Australia) <i>Optimizing the spatial detection mode</i>
10.30-11.00	Coffee break

Seminar 1.10

Chair: N. Rubtsova (Russia)

11.00-11.30	1.10.1 V. Namboodiri, M. Namboodiri, G. Flachenecker, and <u>A. Materny</u> (Bremen, Germany) <i>Nonlinear optical spectroscopy – a competition between different processes</i>
11.30-12.00	1.10.2 A. Rebane (Bozeman, MT, USA) <i>Two-photon absorption and Stark effect</i>
12.00-12.25	1.10.3 A. Volkmer (Stuttgart, Germany) <i>Hyperspectral CARS Imaging: label-free and quantitative analysis of living cells</i>
12.25-12.45	1.10.4 <u>E.A. Sagitova</u> (Moscow, Russia and Bremen, Germany), P. Donfack, A. Materny (Bremen, Germany), K.A. Prokhorov, K.V. Vodopianov, G.Yu. Nikolaeva, P.P. Pashinin, V.A. Gerasin, N.D. Merekalova, and E.M. Antipov (Moscow, Russia) <i>Raman spectroscopy of novel polymer composites</i>
12.45-14.00	Lunch

Seminar 1.11

Chair: A.A. Zadernovsky (Russia)

14.00-14.25	1.11.1 <u>A. Boltasseva</u> (Kongens Lyngby, Denmark, West Lafayette, USA, and Erlangen, Germany), G.V. Naik, P.R. West, S. Ishii, N. Emani, V.M. Shalaev (West Lafayette, USA) <i>Doped semiconductors as plasmonic materials at near-infrared wavelengths</i>
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- 14.30-15.00 1.11.2 N. Litchinitser, I. Mozjerin, T. Gibson, E.P. Furlani (Buffalo, USA), and I.R. Gabitov (Tucson, USA)
Electromagnetic enhancement in lossy optical transition metamaterials
- 15.00-15.25 1.11.3 A.V. Zayats (Argonne, USA)
Plasmonic nanophotonics
- 15.25-15.50 1.11.4 E.J. Doedel, B.A. Oldeman (Montreal, Canada) and C.L. Pando L. (Puebla, Mexico)
Isolas of periodic orbits in a molecular model of a laser with a saturable absorber
- 15.50-16.10 1.11.5 M.T. Carvalho, R. Modugno, D. Colman, É.G. Carvalho, L.C. Scaduto, J.A. Otoboni, and M.A. Stefani (São Carlos, SP, Brazil)
Low coherence interferometry as a tool for precision alignment of multiple-lens assemblies
- 16.15-16.45 **Coffee break**

Seminar 1.12

Chair: M.T. Carvalho (Brazil)

- 16.45-17.10 1.12.1 A. Fioretti, H. Lignier, R. Horchani, D. Comparat, and P. Pillet (Orsay, France)
Cold cesium molecules: towards complete control of translational, vibrational and rotational degrees of freedom through laser cooling
- 17.10-17.35 1.12.2 D. Strekalov, J. Fürst, D. Elser, M. Lassen, U.L. Andersen, C. Marquardt, and G. Leuchs (Erlangen, Germany and Pasadena, California, USA)
Efficient three-wave mixing in whispering gallery resonators
- 17.35-18.00 1.12.3 L. Gelens, S. Beri, G. Van der Sande, L. Mashall, M. Sorel, G. Mezosi, G. Verschaffelt and J. Danckaert (Brussels, Belgium and Glasgow, United Kingdom)
Multi-stability and excitability in semiconductor ring lasers
- 18.00-18.25 1.12.4 M. Jelínek, T. Kocourek, M. Zezulová (Prague, Czech Republic; Kladno, Czech Republic), and M. Weiserová (Prague, Czech Republic)
Biomedical properties of laser prepared silver-doped hydroxyapatite

Poster Session, Tuesday, July 6

Chair: E. Sagitova (Russia)

- P1.1 R. Shuker, A. Har-Tal, and G.A. Koganov (Beer Sheva, Israel)
Gain without inversion in inhomogeneously broadened A-type medium
- P1.2 T.Yu. Moguilnaia, V.M. Sumin, Yu.L. Bezrodnaya (Moscow, Russia)
Properties monitoring of modified water by laser radiation
- P1.3 D.E. Gen, K.A. Prokhorov, G.Yu. Nikolaeva, E.A. Sagitova, P.P. Pashinin, A.A. Kovalchuk, A.N. Klyamkina, P.M. Nedorezova, V.A. Optov, and B.F. Shklyaruk (Moscow, Russia)
Polarized Raman study of random copolymers of propylene with olefins

Seminar 2
Strong Field & Attosecond Physics

Tuesday, July 6

Seminar 2.1

Chair: J. Eberly (USA)

- 11.00-11.25 2.1.1 D. Faccio (Barcelona, Spain; Como, Italy), C. Serrat, J.M. Cela, A. Farrés (Barcelona, Spain), P. Di Trapani (Barcelona, Spain and Como, Italy), J. Biegert (Barcelona, Spain) (to be presented by C. Chalus)
High order harmonic enhancement mediated by the carrier-envelope phase
- 11.25-11.50 2.1.2 J. Herrmann, A. Husakou, and S.-J. Im (Berlin, Germany)
Plasmon-enhanced high-order harmonic generation in the vicinity of metal nanostructures
- 11.50-12.15 2.1.3 C.F.M. Faria and B.B. Augstein (London, UK)
Molecular high-order harmonic generation with more than one active orbital: quantum-interference effects
- 12.15-12.40 2.1.4 A.M. Popov, O.V. Tikhonova, and E.A. Volkova (Moscow, RF)
New features of strong-field dynamics of atomic and molecular systems in low-frequency ultrashort laser pulses

Seminar 2.2

Chair: T. Uzer (USA)

- 16.45-17.10 2.2.1 H.R. Reiss (Berlin, Germany; Washington, DC, USA)
Laser-Induced Ionization is not a Tunneling Process
- 17.10-17.35 2.2.2 V.D. Rodríguez (Buenos Aires, Argentina) and R.O. Barrachina (Rio Negro, Argentina)
Gauge independent theory applied to a model of atomic ionization by an intense laser pulse
- 17.35-18.00 2.2.3 J.H. Eberly and Xu Wang (Rochester, N.Y., USA)
Intense fields with elliptical polarization MPI predictions vs. observations
- 18.00-18.25 2.2.4 A.J. Verhoef, A.V. Mitrofanov, X.T. Nguyen (Vienna, Austria), M. Krikunova, N. Kabachnik (Hamburg, Germany), A. Scrinzi (München, Germany), M. Drescher (Hamburg, Germany), and A. Baltuška (Vienna, Austria)
Carrier-envelope phase sensitive attosecond pump-probe measurement of Auger decay in Krypton
- 18.25-18.50 2.2.5 Y. Prior, A. Shalit, and Y. Paskover (Rehovot, Israel)
Combined time frequency detection by single shot four wave mixing

Thursday, July 8

Seminar 2.3

Chair: N. Rahman (Bangladesh)

- 11.00-11.25 2.3.1 F. Mauger, C. Chandre (Marseille, France), and T. Uzer (Atlanta, GA, USA)
Strong field double ionization: The phase space perspective
- 11.25-11.50 2.3.2 S.L. Haan and K.N. Shomsky (Grand Rapids, MI, USA)
Classical modeling of non-sequential double ionization: anticorrelated electrons from "exit collisions" during laser turn on

- 11.50-12.15 2.3.3 T. Shaaran; M.T. Nygren, and C.F.M. Faria (London, UK)
Analytical treatment of excitation in laser-induced nonsequential double ionization: momentum constraints and bound-state signatures
- 12.15-12.40 2.3.4 F. Mauger, C. Chandre (Marseille, France), and T. Uzer (Atlanta, GA, USA)
Recollisions and correlated double ionization with circularly polarized light
- 12.45-14.00 **Lunch**
- Seminar 2.4**
Chair: J. Kaminski (Poland)
- 14.00-14.25 2.4.1 C. Serrat (Barcelona, Spain; Vic, Spain), O. Chalus, and J. Biegert (Barcelona, Spain)
Enhancement of HHG with a periodic DC-electric field
- 14.25-14.50 2.4.2 F.H.M. Faisal and A. Abdurrouf (Bielefeld, Germany)
A theory of mapping coherent motions of molecules by intense-field high-harmonic-generation
- 14.50-15.15 2.4.3 I.A. Valuev (Moscow, RF)
Molecular dynamics simulation of nanocluster coulomb explosion
- 15.15-15.40 2.4.4 A.A. Silaev and N.V. Vvedenskii (Nizhny Novgorod, RF)
Excitation of residual currents in plasmas produced by few-cycle laser pulses
- 15.40-16.05 2.4.5 A.S. Kornev, I.M. Semiletov, and B.A. Zon (Voronezh, RF)
Relativistic many-body theory of tunnel ionization of atom
- 16.15-16.45 **Coffee break**
- Seminar 2.5**
Chair: H.R. Reiss (USA, Germany)
- 16.45-17.10 2.5.1 N.K. Rahman and M.A. Momen (Dhaka, Bangladesh)
Particle pair production from light with light scattering
- 17.10-17.35 2.5.2 A. Di Piazza, B. King, K.Z. Hatsagortsyan, and C.H. Keitel (Heidelberg, Germany)
Testing strong-field CED and QED with intense laser fields
- 17.35-18.00 2.5.3 K. Krajewska (Warsaw, Poland)
Electron-positron pair creation and Oleinik resonances
- 18.00-18.25 2.5.4 I. Pogorelsky, M. Babzien, M. Polyanskiy, V. Yakimenko (Upton, N.Y., USA), C. Parker, N. Dover, J. Schreiber, Z. Najmudin, (London, UK), P. Shkolnikov (Stony Brook, N.Y., USA), D. Neely (Oxon, UK), P. McKenna, D. Carroll (Glasgow, UK), and G. Dudnikova (College Park, MD, USA)
Monoenergetic proton acceleration with a circular polarized picosecond CO₂ laser
- 18.25-18.50 2.5.5 I.A. Burenkov and O.V. Tikhonova
Ionization suppression and quantum correlations in a system of two coupled atoms in a strong laser field

Friday, July 9

Seminar 2.6

Chair: F.H.M. Faisal (Germany)

- 09.00-09.25 2.6.1 A. Anderson, G. Tempea, M. Hofer, T. Prikoszovitz, Z. Cheng, T. Le, A. Sting, and A. Assion (Vienna, Austria)
Compact hollow fiber compression scheme for multi-mJ pulse generation
- 09.25-09.50 2.6.2 J.Z. Kamiński and E. Saczuk (Warsaw, Poland)
Phase control of resonant tunneling

09. 50-10.15 2.6.3 M.G. Bustamante and V.D. Rodríguez (Buenos Aires, Argentina)
Atomic ionization by an intense laser pulse: the continuum-continuum cooling
- 10.15-10.40 2.6.4 F. Jie Liu (Beijing, P.R. China)
Strong-field double ionization at the transition to below the recollision threshold

Seminar 2.7

Chair: C.F.M. Faria (UK)

- 11.00-11.25 2.7.1 S.P. Andreev and T.V. Pavlova (Moscow, RF)
Cyclotron resonance due to neutral impurities in three- and two-dimensional semiconductors
- 11.50-12.15 2.7.3 K. Jamshidi-Ghaleh (Tabriz, Iran), E.S. Lotfi (Bonab, Iran; Washington, D.C., USA), and H. Masalehdan (Bonab, Iran)
Modeling nonlinear and optical properties of SK3 under irradiations of 200 femtosecond laser pulses

Poster Session, Tuesday, July 6

- P2.1. H. Masalehdan (Washington, D.C., USA; Bonab, Iran), K. Jamshidi-Ghaleh (Tabriz, Iran), S. Heydari (Bonab, Iran), and E.S. Lotfi (Houston, TX, USA; Bonab, Iran)
Modeling the attosecond laser interactions and heating phases in the CNT
- P2.2. A.S. Kornev, E.B. Tulenko, and B.A. Zon (Voronezh, RF)
Many-body effects in multiple ionization of atoms by a super-strong laser field
- P2.3. A.S. Gevorkyan, K.B. Oganesyan (Yerevan, Armenia), M.V. Fedorov, R.V. Karapetyan, A.I. Artemiev (Moscow, Russia), Yu.V. Rostovtsev, M.O. Scully (College Station, TX, USA), C.H. Keitel, K.Z. Hatsagortsyan (Heidelberg, Germany), W. Becker (Berlin, Germany), and G. Kurizki (Rehovot, Israel)
Formation of relativistic positron systems and stimulation of resonant transitions between its quantum levels
- P2.4. A.H. Gevorgyan and K.B. Oganesyan (Yerevan, Armenia)
NLC-CLC-NLC and NLC-CLC cells as electro-mechanical-tunable multifunctional optical devices
- P2.5. A.A. Silaev, M.Yu. Ryabikin, and N.V. Vvedenskii (Nizhny Novgorod, RF)
New one- and two-dimensional models for quantum-mechanical description of strong-field phenomena
- P2.6. A.M. Popov, O.V. Tikhonova, and E.A. Volkova (Moscow, RF)
Strong-field ionization and stabilization of a model silver atom in a low frequency laser field
- P2.7. V.I. Usachenko, P.E. Pyak, and V.V. Kim (Tashkent, Uzbekistan)
Total ionization rates of laser-irradiated homonuclear diatomics: the effects of orientation and inner shells
- P2.8. Di-Fa Ye and Jie Liu (Beijing, P. R. China)
Strong-field double ionization at the transition to below the recollision threshold
- P2.9. M.V. Frolov, A.V. Flegel, N.L. Manakov, and A.N. Zheltukhin (Voronezh, RF)
Atomic potential effects in laser-assisted radiative recombination of electron

Seminar 3
Biophotonics
Monday, July 5

Seminar 3.1

Chairs: V. Bagnato (Brazil) and S. Gonchukov (Russia)

- 11.00-11.25 3.1.1 V.N. Bagratashvili (Troitsk, Russia)
Near IR fiber laser in tissue engineering
- 11.25-11.45 3.1.2 G. Nicolodelli, C. Kurachi, and V.S. Bagnato (São Carlos, Brazil)
Analysis of the femtosecond laser ablation profile near an interface: correlation with superficial properties of individual materials
- 11.45-12.05 3.1.3 M.O. Santos, A.Z. Freitas, R.E. Samad, N.D. Vieira, and D.M. Zezell (São Paulo, Brazil)
Burned skin ablation by ultrashort laser pulses
- 12.05-12.25 3.1.4 C. Benetti, P.A. Ana, T.M. Pereira, and D.M. Zezell (São Paulo, Brazil)
Er, Cr:YSGG laser effects in bone tissue by ATR-FTIR
- 12.25-12.45 3.1.5 O.B. Oliveira Jr., A.O. Gonçalves, A.C. Ruy, A.N.S. Rastelli, M.F.A. Andrade, J.R.C. Saad, and E.A. Campos (São Paulo, Brazil)
Effect of Er:YAG laser, aluminum oxide air abrasive and ultra-sound CV-Dentus system on the morphology of hybrid layer obtained with self-etch adhesive. Analysis by SEM and confocal laser scanning microscopy (CLSM)
- 12.45-14.00 **Lunch**

Seminar 3.2

Chair: I. Meglinski (UK)

- 14.00-14.25 3.2.1 R.F.Z. Lizarelli, R.Z. Lizarelli, S.C. Nunez, R. Tucci, R.C. Pizzo, V.H. Panhoca, M.M. Costa, and V.S. Bagnato (São Carlos, Brazil)
Study for clinical protocols using LED-therapy in dentistry
- 14.25-14.50 3.2.2 C.F. Oliveira (Araraquara, Brazil), F.G. Basso (Piracicaba, Brazil), E.C. Lins, C. Kurachi, V.S. Bagnato (São Carlos, Brazil), J. Hebling, and C.A. de Souza Costa (Araraquara, Brazil)
The therapy of low level laser on odontoblast-like cells
- 14.50-15.15 3.2.3 I. Ferreira (Botucatu, Brazil), J. Ferreira (São José, Brazil), S.C. Rahal (Botucatu, Brazil), V.S. Bagnato (São Carlos, Brazil), and N.S. Rocha (Botucatu, Brazil)
Photodynamic therapy as adjuvant treatment of chemically induced mammary tumors
- 15.15-15.35 3.2.4 N.M. Inada, O.C.C. Guimarães, E.C. Ribeiro, C. Kurachi, S.M. Quintana, M.M. Costa, W. Lombardi, L. Lombardi, and V.S. Bagnato (São Paulo, Brazil)
Developed instrumentation for treatment of vulvar/vaginal condyloma by photodynamic therapy
- 15.35-15.55 3.2.5 A.L.N. Francisco, L.H. Azevedo, V.C. Galletta, L.P. Kowalski, D. Migliari, C. Pinto, and C. Kurachi (São Paulo, Brazil)
Fluorescence spectroscopy for early detection of oral cancer

- 15.55-16.15 3.2.6 L.G. Sabino, L.M.V. de Negreiros, J.D. Vollet-Filho, C. Kurachi, and V.S. Bagnato (São Carlos, Brazil)
Modeling the effect of a broad threshold dose distribution on the outcome of multisession photodynamic therapy
- 16.15-16.45 **Coffee break**
- Seminar 3.3**
Chair: A. Priezzhev (Russia)
- 16.45-17.10 3.3.1 I.V. Meglinski, E. Moczko, M. Cauchi (Cranfield, UK), C. Turner (Milton Keynes, UK), and S.A. Piletsky (Cranfield, UK)
Optical assay for biotechnology and clinical diagnosis
- 17.10-17.30 3.3.2 M.M. Costa, C. Kurachi, V.S. Bagnato, and L. Ventura (São Paulo, Brazil)
Development of an optical fluorescence imaging system for medical use
- 17.30-17.50 3.3.3 B.H.S. Santiago, R.A.F. Dutra, M.M.S. da Silva, M.A. Sacilotti, B.S. Santos, A. Fontes, C.R. Chaves, D.P.L.A. Tenorio, and P.M.A. Farias (Recife, Brazil)
TiO₂/CdTe nanocomposites for opto-electronic applications
- 17.50-18.10 3.3.4 A.S. Garcez (Leopoldo Mandic, Brazil), S.C. Nunez, M.S. Baptista (São Paulo, Brazil), N.A. Daghasanli (São André, Brazil), R. Itri, and M.S. Ribeiro (São Paulo, Brazil)
Detection of intracellular ROS formation in Candida albicans during antimicrobial photodynamic therapy
- 18.10-18.30 3.3.5 R.F. Rego, M.M. Pereira, A. Cabrita, and L.G. Arnau (São Paulo, Brazil)
Necrosis histological study resulting from PDT in Wistar rats liver tissue photosensitized by luzitin
- 18.30-18.50 3.3.6 V.H. Maciel Coelho, C. Kurachi, V.S. Bagnato, and C. da Silva Souza (São Paulo, Brazil)
Basal cell carcinoma emission fluorescence spectral profile
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Tuesday, July 6

Seminar 3.4

Chair: B. Wacogne (France)

- 11.00-11.25 3.4.1 J. Lademann, A. Patzelt, H. Richter, S. Schanzer, W. Sterry, and M. Meinke (Berlin, Germany)
Prevention of penetration of pollen allergens into hair follicles
- 11.25-11.45 3.4.2 L.G. Marcolongo, V.R. Velasco, R.E. Samad, N.D. Vieira Jr., and A.Z. de Freitas (São Paulo, Brazil)
Refraction index determination of hair streams using optical coherence tomography technique
- 11.45-12.05 3.4.3 F.M. Tsutae, R.M. Iost, E. Berni, A.V. Rosario, V. Zucolotto, E.C. Pereira, and F.E.G. Guimarães (São Carlos, Brazil)
Improving optical processes responsible for subcutaneous pigment removal by using noble metal nanoparticles
- 12.05-12.25 3.4.4 M.E. Darwin, H. Vierck, A. Patzelt, S. Schanzer, W. Sterry, and J. Lademann (Berlin, Germany)
Investigation on the influence of different sport loads regarding the concentration of carotenoid antioxidants in the skin by Raman spectroscopy

- 12.25-12.45 3.4.5 L.T. Moriyama, E.C.C.C. Lins, and V.S. Bagnato (São Paulo, Brazil)
A matricial method for light distribution in turbid media studies
- 12.45-14.00 **Lunch**
- Seminar 3.5**
Chair: J. Lademann (Germany)
- 14.00-14.25 3.5.1 A.V. Priezzhev, A.E. Lugovtsov, V.G. Ionova (Moscow, Russia),
E. Perevedentseva, and C.L. Cheng (Hualien, Taiwan)
*Interaction of nanodiamonds with red blood cells its effect on blood
microrheologic parameters: assessment with different laser techniques*
- 14.25-14.50 3.5.2 K.H.G. Carvalho, A.G. Brasil Jr., A.C.A. Siqueira, E.S. Leite,
A. Fontes, P.M.A. Farias, and B.S. Santos (UFPE, Brazil)
*Bioconjugation of bovine serum albumin to water-soluble type II-VI
quantum dots core/shell using a zero-length crosslinker*
- 14.50-15.15 3.5.3 I. Meglinski (Dunedin, New Zealand), V. Kalchenko, and
A. Harmelin (Rehovot, Israel)
Origin of biological zero in laser blood flow measurements
- 15.15-15.35 3.5.4 I.A. Balakhnina, N.N. Brandt, A.Yu. Chikishev, Y.S. Kimberg, and
I.K. Sakodynskaya (Moscow, Russia)
*Vibrational spectroscopy of the structural changes in protein aminogroups
models upon interaction with crown ether*
- 15.35-15.55 3.5.5 A.P.P. Guimarães, C. Bernal, H. Imasato, A.O. Ribeiro,
K.T. Oliveira, and J.R. Perussi (São Carlos, Brazil)
Comparing phototoxicity and cellular accumulation of Hypericin and Photogem
- 15.55-16.15 3.5.6 R.C.M.C. Ferraz, C.R. Fontana, V.S. Bagnato, C. Kurachi, and
E.C. Lins (São Paulo, Brazil)
*Evaluation of the viability of the chemiluminescence as a PDT light source
for microbial control*
- 16.15-16.45 **Coffee break**
- Seminar 3.6**
Chair: F.E.G. Guimarães (Brazil)
- 16.45-17.10 3.6.1 T. Mangeat, J.S. Guerrini, H. Benalia, C. Pieralli, A. Rouleau,
W. Boireau, A. Coaquette, G. Herbein, C. Davrinche, L. Pazart, and
B. Wacogne (Besançon, France)
Virus detection at the patient's bed
- 17.10-17.30 3.6.2 I.T. Kato, R.A. Prates, and M.S. Ribeiro (São Paulo, Brazil)
*In vivo pathogenicity of C. Albicans exposed to sublethal conditions of
photodynamic inactivation*
- 17.30-17.50 3.6.3 J.R. Perussi, A.Z.T. Noronha, A.P.P. Guimarães, C. Bernal,
J.A.O. Rodrigues, J. Suigh, P.L. Fernandes, and H. Imasato (São Carlos,
Brazil)
*Potential of Hypericin for cell killing and microorganisms selective
photoinactivation*
- 17.50-18.10 3.6.4 A.Z.T. Noronha, V.C.A. Martins, A.M.G. Plepis, J.A.O. Rodrigues,
and J.R. Perussi (São Carlos, Brazil)
*Development of a collagen-based muco-adhesive membrane for
photosensitizers release aiming the photodynamic inactivation of Candida
albicans*

- 18.10-18.30 3.6.5 R.A. Prates, I.T. Kato, and M.S. Ribeiro (São Paulo, Brazil)
The virulence profiles of Candida albicans daughter cells are unaffected by photodynamic therapy
- 18.30-18.50 3.6.6 J.D. Vollet-Filho, L.T. Moriyama, C. Grecco, J. Ferreira, C. Kurachi, and V.S. Bagnato (São Carlos, Brazil)
Prediction model for photodynamic therapy outcome using fluorescence spectroscopy information

Thursday, July 8

Seminar 3.7

Chair: V. Bagratashvili (Russia)

- 11.00-11.25 3.7.1 A.N.S. Rastelli (Araraquara, Brazil), J.T. Tribioli, D.P. Jacomassi, and V.S. Bagnato (São Carlos, Brazil)
Color changes of dental composite resin and dental structure after immersion in photosensitizer based on curcumin
- 11.25-11.45 3.7.2 F.L.E. Florez (Araraquara, Brazil), L.T. Moriyama (São Carlos, Brazil), O.B. Oliveira Jr. (Araraquara, Brazil), and V.S. Bagnato (São Carlos, Brazil)
"In vitro" study of the influence of the pigments of three colored gels over the light distribution of visible light by digital images
- 11.45-12.05 3.7.3 O.B. Oliveira Jr., M. Albuquerque, A.N.S. Rastelli, M.F.A. Andrade, J.R.C. Saad, and E.A. Campos (São Paulo, Brazil)
Reactivity of different pigments to in-office tooth whitening – LED/laser power bleaching effects and bleaching agents
- 12.05-12.25 3.7.4 A.R. Roberto, F.F. Jasse, J.M.C. Boaventura, A.N.S. Rastelli, T.C. Martinez, O.B. Oliveira Jr., and J.R.C. Saad (São Paulo, Brazil)
Evaluation of color in vital bleaching technique with and without LED-laser activation
- 12.25-12.45 3.7.5 T.M. Pereira, P.A. Ana, C.B. Zamataro, and D.M. Zzell (São Paulo, Brazil)
Thermal diffusivity measurement of enamel and dentin as function of temperature obtained by infrared thermography

12.45-14.00

Lunch

Seminar 3.8

Chair: A.N.S. Rastelli (Brazil)

- 14.00-14.25 3.8.1 D.M. Zzell, P.A. Ana, C. Benetti, and L. Bachmann (São Paulo, Brazil)
Compositional and crystallographic changes on dental hard tissue induced by Nd:YAG laser irradiation aimed at caries prevention
- 14.25-14.50 3.8.2 P.A. Ana, L. Bachmann, J.A. Cury, and D.M. Zzell (São Paulo, Brazil)
Er, Cr:YSGG laser and fluoride for caries prevention: the influence on chemical composition and on resistance to demineralization of enamel and dentin
- 14.50-15.15 3.8.3 S.B. Botta, P.A. Ana, F.S. Teixeira, D.M. Zzell, M.C. Salvadori, and A.B. Matos (São Paulo, Brazil)
Atomic force microscopy and power spectrum density analysis of dentin tissue irradiated with Er, Cr:YSGG laser
- 15.15-15.35 3.8.4 A.V. Sukhinina, D.N. Bakhmutov, and S.A. Gonchukov (Moscow, Russia)
Dental calculus detection using fluorescence

- 15.35-15.55 3.8.5 C.R. Fontana, K. Ruggiero, X. Song, M.M. Amiji, N.S. Soukos (Boston, USA), and V.S. Bagnato (São Carlos, Brazil)
Polymeric nanoparticles for periodontal antimicrobial photodynamic therapy
- 15.55-16.15 3.8.6 F.M. Tsutae, E.C. Pereira, and F.E.G. Guimarães (São Carlos, Brazil)
Molecular light degradation mediated by TiO₂ nanoparticles
- 16.15-16.45 **Coffee break**
- Seminar 3.9**
Chair: S. Gonchukov (Russia)
- 16.45-17.10 3.9.1 Z. Harman, B. Galow, and Ch.H. Keitel (Heidelberg, Germany)
Intense high-quality medical proton beams via laser fields
- 17.10-17.35 3.9.2 N.A. Wise (Spartanburg, USA)
It's all in your head: an introduction to cranial laser reflex therapy (CLRT)
- 17.35-18.00 3.9.3 T.Yu. Moguilnaya, A.G. Botikov, K.A. Prohorov, and E.A. Sagitova (Moscow, Russia)
Laser diagnostics of the genno-modified soya in foodstuff
- 18.00-18.25 3.9.4 V. Yusupov, V. Chudnovskiy (Vladivostok, Russia), and V. Bagratashvili (Troitsk, Russia)
Hydrodynamic effects in biotissues stimulated by fiber laser radiation
- 18.25-18.50 3.9.5 E.S. Lotfi (Houston, USA), A. Lotfi (Tabriz, Iran), M.E. Khosroshahi (Tehran, Iran), and H. Masalehdan (Washington, USA)
Studying time-transit of Nd-YAG laser in bubbles and shockwaves in agar-gel tissue

Poster Session, Tuesday, July 6

Chair: S. Gonchukov (Russia)

- P3.1 A.P. Cavalcanti de Sousa, A.L.B. Pinheiro, J.A. dos Reis Jr., T.A. Ramos, J. de Souza, M.C.T. Cangussú, and J.N. dos Santos (Brazil)
Green and red LED phototherapy increase fibroblast proliferation on wound healing in rodents
- P3.2 C.M. Carvalho, J.A. Lacerda, I.C. Vieira de Castro, J.G. de Cerqueira Luz, M.J.P. Ramalho, J.N. dos Santos, and A.L.B. Pinheiro (Brazil)
Effects of laser phototherapy in the inflammatory process of rat's temporomandibular joint
- P3.3 T.A. Chimenez, A.R.L. Caires, and S.L. Oliveira (Brazil)
Fluorescence spectroscopy applied to the study of thermal stability of biodiesel
- P3.4 T.A. Chimenez, A.R.L. Caires, and S.L. Oliveira (Brazil)
Analysis of the transesterification of oil to biodiesel using fluorescence spectroscopy
- P3.5 T.A. Chimenez, A.R.L. Caires, and S.L. Oliveira (Brazil)
Luminescence as a probe of the effects caused by storage time and conditions on the stability of biodiesel
- P3.6 T.A. Chimenez, E.S. Carbonaro, E.J. de Arruda, L.C.S. de Oliveira, P. de Magalhães Padilha, and S.L. Oliveira (Brazil)
Optical investigation of aminopolycarboxylate chelates and Cu⁺² and Fe⁺³ complexes used in the control of aedes aegypti (larvae)
- P3.7 E.S. Estracanhalli, C. Kurachi, and V.S. Bagnato (Brazil)
Optical monitoring of beer quality in real-time

- P3.8 W.F. Falco, J. Fernandes, M.D. Scherer, E.A. Falcão, V.S. Bagnato, and A.R.L. Caires (Brazil)
Monitoring of interaction between gold nanoparticles and plants by fluorescence spectroscopy
- P3.9 J. Fernandes, W.F. Falco, M.D. Scherer, E.A. Falcão, V.S. Bagnato, and A.R.L. Caires (Brazil)
Study of the interaction between proteins and noble metal nanoparticles
- P3.10 Ruy C.M.C. Ferraz, V.S. Bagnato, V.S.J. Bonilha, B.M.L. Panfibo, and A.G. Salvio (Brazil)
Treatment in injury pre-cancer with PDT
- P3.11 J. Ferreira, C. Kurachi, S. Zucoloto, O.C. E Silva Jr., and V.S. Bagnato (Brazil)
Drug light interval (DLI) changes the photodynamic therapy response
- P3.12 L.A. Gomes, I.K.H. Cruz, B.C.A. Pontim, W.L. Gavassoni, E.A. Falcão, V.S. Bagnato, and A.R.L. Caires (Brazil)
Optical characterization of soybean leaves
- P3.13 A.V. Ivanov, A.Yu. Baryshnikov, V.G. Pevgov, and M.V. Utkina (Russia)
Laser correlation spectroscopy in medical nanotechnologies
- P3.14 V.N. Khristoforov and A.S. Chebatorev (Russia)
Quantum therapy in cosmic flight conditions
- P3.15 S.V. Kireev, S.L. Shnyrev, I.G. Symanovsky, and E.M. Podol'yako (Russia)
Development of a real-time optical absorption method for detecting the mercaptan odorizing mixture of natural gas
- P3.16 V.H. Maciel and V.S. Bagnato (Brazil)
Optical fluorescence in UV-induced skin change
- P3.17 H. Masalehdan (Germany), E.S. Lotfi, K. Jamshidi-Ghaleh (Iran), S. Ebert (Germany), and M. Etrati-Khosroshahi (Iran)
Studying biological structure by femtosecond laser with LIBS and LIMS
- P3.18 L. Minatel Vidal de Negreiros, L.T. Moriyama, L.G. Sabino, C. Grecco, E.C.C.C. Lins, C. Kurachi, and V.S. Bagnato (Brazil)
Profile of necrosis induced by interstitial photodynamic therapy in healthy liver of rats
- P3.19 G. Nicolodelli, M.M. Costa, C. Kurachi, and V.S. Bagnato (Brazil)
Time progression dynamic of ultrashort laser ablation a transparent dielectric materials
- P3.20 Hafeez-Ullah, M. Sajjad Mehmood, C. Kurachi, C. Grecco, G. Nicolodelli, V.S. Bagnato (Brazil), and M. Ikram (Pakistan)
Femtosecond light distribution at skin and liver of rats: analysis for use in optical diagnostics
- P3.21 A.J.G. Otuka, D.S. Corrêa, and C.R. Mendonça (Brazil)
Fabrication of micro-scaffolds doped with bactericide agents
- P3.22 P.C. Oliveira, A.L.B. Pinheiro, I.C.V. de Castro, J.A. Reis Jr., M.C. Cangussu, and L.M.P. Ramalho (Brazil)
Evaluation of the effects of polarized light ($\lambda = 400\text{-}200\text{ nm}$) on the healing of third-degree burns in induced diabetic and non-diabetic rats

- P3.23 F.R. Paolillo, J.C. Milan, I.V. Aniceto, S.G. Barreto, J.R. Rebelatto, A. Borghi-Silva, N.A. Parizotto, C. Kurachi, and V.S. Bagnato (Brazil)
Effects of infrared-LED illumination on physical performance in postmenopausal women
- P3.24 O. Parenago, O. Pokrovsky, A. Markolia, M. Moshnin, and S. Gonchukov (Russia)
Extraction of medicative furocoumarins by supercritical fluid technology
- P3.25 L. Peres, S.M.G. Bosco, C. Kurachi, E. Bagagli, and P.E.M. Ribolla (Brazil)
*Photodynamic therapy and *Pythium insidiosum*: an innovate method that inhibits the hyphal growth*
- P3.26 V.A. Purtskhvanidze and A.A. Radaev (Russia)
Photodynamic therapy for basal-cell skin cancer in the periorbital area
- P3.27 A.N.S. Rastelli, D.P. Jacomassi, J.T. Tribioli, and V.S. Bagnato (Brazil)
Photosensitizers used in photodynamic antimicrobial therapy (PACT) and their diffusion on dentine
- P3.28 N.R.S. Santos, J. Batista de M. Sobrinho, P.F. Almeida, A.A. Ribeiro, M.C.T. Cangussú, J.N. dos Santos, and A.L.B. Pinheiro (Brazil)
*Influence of the combination of IR and red laser light on the healing of cutaneous wounds infected by *staphylococcus aureus**
- P3.29 M.D. Scherer, W.F. Falco, J. Fernandes, S.M. Lima, L.H.C. Andrade, S.L. Oliveira, and A.R.L. Caires (Brazil)
Optical characterization of diesel, biodiesel, refined oil and their blends
- P3.30 A.P. Silva, N.M. Inada, J.D. Vollet-Filho, and V.S. Bagnato (Brazil)
Stability study of photosensitizer in different vehicles for photodynamic therapy treatment of dandruff
- P3.31 J.S. Soares, F.G. Pereira, M.D. Scherer, S.L. Oliveira, and A.R.L. Caires (Brazil)
High-precision determination of biodiesel content in the diesel/biodiesel blend by fluorescence spectroscopy
- P3.32 A.C. Souza, R.A. Capitânio, J.O.P. Pinto, V. Laura, G.M. Lemos, J.R. Nunes, S.L. Oliveira, and M.H. de Paula (Brazil)
Monitoring of photochemical loss in plants under water stress using an open-ended photothermal cell
- P3.33 M. Sacilotti, E. Almeida, C.B. Mota, F.D. Nunes, and A.S.L. Gomes (Brazil)
Biophotonics: can the photosynthesis first step mechanism be explained?

Seminar 4
Physics of Lasers
Monday, July 5

Seminar 4.1

Chair: T. Südmeyer (Switzerland)

- 11.00-11.35 4.1.1 R.M. Gomes (Rio de Janeiro, Brazil), A. Salles (Rio de Janeiro, Brazil, Copenhagen, Denmark), F. Toscano, P.H. Souto Ribeiro, and S.P. Walborn (Rio de Janeiro, Brazil)
Observation of an optical vortex in position-momentum correlation
- 11.35-12.00 4.1.2 V. Eremeev and M. Orszag (Santiago, Chile)
Theory of random laser: master equation approach
- 12.00-12.25 4.1.3 P. Barberis-Blostein (México, México), D.G. Norris, L.A. Orozco (Maryland, USA), and H.J. Carmichael (Maryland, USA and Auckland, New Zealand)
Manipulation of quantum beats in cavity QED: a proposal for implementing a probabilistic quantum error correction protocol in an open quantum system
- 12.25-12.50 4.1.4 D. Braunstein, E. Smolik, G.A. Koganov, Y. Biton, and R. Shuker (Beer sheva, Israel)
Counterintuitive versus regular inversionless gain in a coherently prepared ladder scheme
- 12.45-14.00 **Lunch**

Seminar 4.2

Chair: M. Orszag (Chile)

- 14.00-14.35 4.2.1 R. Souldard (Caen, Palaiseau Cedex, France), A. Brignon (Palaiseau Cedex, France), A. Zinoviev (Nizhny Novgorod, Russia), J.L. Doualan (Caen, France), O. Antipov (Nizhny Novgorod, Russia), J.P. Huignard (Palaiseau Cedex, France), and R. Moncorgé (Caen, France)
Non-resonant pump-induced refractive index changes and two-wave mixing in Nd^{3+} and Yb^{3+} doped laser materials
- 14.35-15.00 4.2.2 A.A. Kovalyov, V.V. Preobrazhenskii, M.A. Putyato, O.P. Pchelyakov, N.N. Rubtsova, B.R. Semyagin (Novosibirsk, Russia), N.V. Kuleshov, V.E. Kisel', and S.V. Kuril'chik (Minsk, Belarus)
Yb:KIW laser with fast saturable absorber
- 15.00-15.25 4.2.3 G. Reider, E. Schwarz, and E. Wintner (Wien, Austria)
Coherence Effects in Two Color Laser Plasma Generation
- 15.25-15.50 4.2.4 I.A. Sukhoivanov (Guanajuato, Mexico), I.M. Safonov, O.V. Shulika (Kharkov, Ukraine), J.A.A. Lucio, A.G. Perez, and R. Rojas-Laguna (Guanajuato, Mexico)
Design of asymmetric multiple quantum well active area for optically-pumped VECSEL
- 15.50-16.45 **Coffee break**

Seminar 4.3

Chair: R. Moncorgé (France)

- 16.45-17.20 4.3.1 M. Macovei, X.-T. Xie, M. Kiffner, and C.H. Keitel (Heidelberg, Germany)
Single-cycle quantum dynamics induced by an ultra-short laser pulse

- 17.20-17.45 4.3.2 J.J. Neto, F.A. Camargo, and N.U. Wetter (São Paulo, Brazil)
High power Nd:LiYF₄ laser in quasi-continuous operation at 454 nm
- 17.45-18.10 4.3.3 H. Nadgaran, Z. Moeini, and P. Elahi (Shiraz, Iran)
Longitudinal phase shift of Ince-Gaussian beam with thermal effect consideration: using a novel ABCD matrix
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Tuesday, July 6

Seminar 4.4

Chair: M. Oriá (Brazil)

- 11.00-11.35 4.4.1 G. Jose, P. Steenson, Z. Ikonic, C.A. Evans, M. Irannejad, P. Harrison, and A. Jha (Leeds, UK)
Glass thin film random lasers
- 11.35-12.00 4.4.2 M. Andreana, V. Couderc, A. Tonello (Limoges cedex, France), F. Baronio, and C. De Angelis (Brescia, Italy)
New mode locking operation of a pulsed Nd:YAG laser by using atypical three wave interactions
- 12.00-12.25 4.4.3 E.J. Saarinen, J.J. Lyytikäinen, and O.G. Okhotnikov (Tampere, Finland)
Optimization of resonant periodic gain structure for power scaling of semiconductor disk lasers

12.45-14.00

Lunch

Seminar 4.5

Chair: M. Dubinskii (USA)

- 14.00-14.35 4.5.1 Z. Wei, B. Zhou, Y. Zhang, C. Xu, T. Hao, D. Li, Z. Wang, H. Han, and Z. Zhang (Beijing, China)
Efficient all-solid-state mode-locking Yb:doping lasers
- 14.35-15.00 4.5.2 S. Joly (Grenoble Cedex, France), Y. Petit (Grenoble Cedex, France, Genève, Suisse), P. Segonds, B. Boulanger, B. Ménaert (Grenoble Cedex, France), and G. Aka (Paris, France)
Dispersion of the absorption frame orientation in monoclinic laser crystals
- 15.00-15.25 4.5.3 R.E. Samad, N.U. Wetter, G.E.C. Nogueira, S.L. Baldochi, and N.D. Vieira Junior (São Paulo, Brazil)
Spatial lifetime mapping of the gain medium of a flashlamp pumped Cr:LiSAF Laser
- 15.25-15.50 4.5.4 C. Soares, T. Sorrentino, M. Chevrollier, and M. Oriá (João Pessoa, Brazil)
Diode Laser Under Optical Orthogonal Feedback
- 16.15-16.45 **Coffee break**

Poster Session, Tuesday, July 6

Chair: V.M. Yermachenko (Russia)

- P4.1. M. Traïche (Algiers, Algeria), T. Godin, M. Fromager, E. Cagniot, and K. Ait-Ameur (Caen, France)
Correlation collapse between centre and wings of a truncated Gaussian beam
- P4.2 A. Hasnaoui (Algiers, Algeria), T. Godin, and K. Ait-Ameur (Caen, France)
Improving both transverse mode discrimination and diffraction losses in a laser cavity using an absorbing ring

- P4.3 R.O. Bujinsky, K.L. Gubskiy, V.M. Yermachenko, A.P. Kuznetsov,
V.N. Petrovskiy, S.A. Uspenskiy (Moscow, Russia)
*Application of pulse Cu-vapor laser for visualization of laser - and plasma-
induced processes*
- P4.4 R.R. Silva, L.A. Vieira Mendes, K.H. Tsui, C.E. Fellows (Niterói, Brazil),
R.A. De Simone Zanon, and A.L. de Oliveira (Joinville, Brazil)
*Analysis of bias ionization by α -particles low exposition rate in a nitrogen
laser system*

Seminar 5
Nonlinear Optics and Spectroscopy

Monday, July 5

Seminar 5.1

Chair: V.A. Makarov (Russia)

- 11.00-11.25 5.1.1 A. Mysyrowicz (Palaiseau, France)
Study of filamentation in air
- 11.25-11.50 5.1.2 S.L. Chin, A. Azarm (Quebec, Canada), A. Talebpour, S. Hosseini (Ontario, Canada), Y. Teranishi (Taipei, Taiwan), D. Song (Beijing, China), H.L. Xu (Tokyo, Japan), Y. Kamali, J. Bernhardt (Quebec, Canada), S.H. Lin (Taipei, Taiwan), and F. Kong (Beijing, China)
Population trapping and rotational revival of N_2 molecules during filamentation of a femtosecond laser pulse in air
- 11.50-12.15 5.1.3 J.-C. Kieffer (Montreal, Canada)
Applications of ultrafast intense laser
- 12.15-12.40 5.1.4 P. Rohwetter (Berlin, Germany), J. Kasparian (Genève, Switzerland), K. Stelmaszczyk (Berlin, Germany), Z. Hao (Lyon, France), S. Henin (Genève, Switzerland), N. Lascoux (Lyon, France), W.M. Nakaema (Berlin, Germany), Y. Petit (Genève, Switzerland), M. Queißer (Berlin, Germany), R. Salamé, E. Salmon (Lyon, France), L. Wöste (Berlin, Germany), and J.-P. Wolf (Genève, Switzerland)
Laser-induced water condensation in air
- 12.40-13.05 5.1.5 S. Tzortzakis (Heraklion, Greece)
Controlling the propagation properties of femtosecond laser filaments

13.05-14.00

Lunch

Seminar 5.2

Chair: S.L. Chin (Canada)

- 14.00-14.25 5.2.1 G. Steinmeyer (Tampere, Finland), C. Brée, A. Demircan (Berlin, Germany), S. Skupin (Dresden, Germany), and L. Bergé (Arpajon, France)
Double-self-compression and the origin of negative dispersion contributions during filamentary propagation
- 14.25-14.50 5.2.2 C.H. Nam, J.-H. Lee, J. Park, L.T. Trung, T.J. Yu, E.B. Kim, C.Y. Park (Daejeon, Korea), and J. Lee (Gwangju, Korea)
CEP-stabilized few-cycle laser by the direct locking method
- 14.50-15.15 5.2.3 T. Fujii, K. Sugiyama, M. Miki, A. Zhidkov (Tokyo, Japan), E. Hotta, and K. Nemoto (Kanagawa, Japan)
Remote measurement of electric field using a filament plasma induced by femto-second laser pulses
- 15.15-15.40 5.2.4 P. Béjot, W. Ettoumi, Y. Petit, J. Kasparian, S. Henin (Genève, Switzerland), V. Lorient, T. Vieillard, E. Hertz, O. Faucher, B. Lavorel (Dijon, France), and J.-P. Wolf (Genève, Switzerland)
Higher-order Kerr terms allow ionization-free filamentation in gases
- 15.40-16.05 5.2.5 L. Bergé, S. Mauger (Arpajon, France), and S. Skupin (Dresden, Germany)
Stimulated Brillouin scattering versus Kerr filamentation of optical pulses in dielectrics

- 16.05-16.30 5.2.6 O.G. Kosareva, N.A. Panov, G.V. Golovin, D.S. Uryupina, M.V. Kurilova, A.B. Savel'ev, V.A. Makarov, I.A. Perezhogin (Moscow, Russia), C. Marceau, Y. Chen, S. Yuan, T. Wang (Quebec, Canada), H. Zeng (Shanghai, China), and S.L. Chin (Quebec, Canada)
Four-wave mixing in femtosecond light filaments in gases
- 16.30-16.45 **Coffee break**
- Seminar 5.3**
Chair: A. Mysyrowicz (France)
- 16.45-17.10 5.3.1 V.A. Makarov, I.A. Perezhogin, and N.N. Potravkin (Moscow, Russia)
Polarization singularities in non-uniformly polarized signal beam reflected from the surface of chiral medium
- 17.10-17.35 5.3.2 A. Gaeta (Ithaca, USA)
Nonlinear optics in silicon nanostructures
- 17.35-18.00 5.3.3 P. Polynkin, M. Kolesik, and J. Moloney (Tuscon, USA)
Propagation of ultra-intense Bessel and Airy laser beams in gaseous and liquid media
- 18.00-18.25 5.3.4 Z. Song and T. Nakajima (Kyoto, Japan)
Role of the outer part of the beam for the formation of filament: Gaussian beam versus Bessel beam
- 18.25-18.50 5.3.5 A. Efimov (Los Alamos, USA)
Free-space optical communication with partially-coherent beams
- 18.50-19.10 5.3.6 B. Alonso, A. Zaïr, J.S. Román, Ó. Varela, and L. Roso (Salamanca, Spain)
Control of multi-filamentation through gas mixture
- 19.10-19.25 5.3.7 O. Varela, I.J. Sola, B. Alonso, A. Zaïr, J.S. Román, C. Méndez, and L. Roso (Salamanca, Spain)
Towards high energy stable single filaments

Tuesday, July 6

Seminar 5.4

Chair: S. Tzortzakis (Greece)

- 11.00-11.25 5.4.1 J. Herrmann, S.-J. Im, and A. Husakou (Berlin, Germany)
Generation of high-power supercontinuum and tunable sub-10-fs VUV pulses in photonic crystal fibers
- 11.25-11.50 5.4.2 D.A. Sidorov-Biryukov, K.A. Kudinov, A.A. Voronin, A.A. Podshivalov, A.B. Fedotov, and A.M. Zheltikov (Moscow, Russia)
Fiber soliton synthesizer of ultrashort pulses
- 11.50-12.15 5.4.3 L. Gallmann, F. Schapper, M. Holler (Zürich, Switzerland), P. Rivière, U. Saalmann, J.-M. Rost (Dresden, Germany), and U. Keller (Zürich, Switzerland)
Resolving attosecond dynamics around the ionization threshold of helium by XUV transient absorption
- 12.15-12.40 5.4.4 E.L. Falcão-Filho, C.J. Lai, V.M. Gkortsas, S.W. Huang, L.J. Chen, K.H. Hong, A. Gordon, and F.X. Kärtner (Cambridge, USA)
High efficiency high harmonic generation based EUV sources
- 12.40-12.55 5.4.5 A.V. Andreev and S.Yu. Stremoukhov (Moscow, Russia)
Coherent control of harmonic generation in two-color laser field

- 12.55-13.10 5.4.6 J. Zamora-Munt and C. Masoller (Barcelona, Spain)
Numerical implementation of a stochastic logic gate using polarization bistable vertical cavity surface emitting lasers
- 13.10-14.00 **Lunch**
- Seminar 5.5**
- Chair:** L. Bergé (France)
- 14.00-14.25 5.5.1 O. Chalus, A. Thai, P.K. Bates, and J. Biegert (Barcelona, Spain)
6 cycle, 3.8 μ J, mid-IR OPCPA at 100 kHz
- 14.25-14.50 5.5.2 A. Fernández, L. Zhu, A.J. Verhoef, D. Sidorov-Biryukov, A. Pugzlys (Vienna, Austria), A. Galvanauskas (Ann Arbor, USA), F.Ö. Ilday (Ankara, Turkey), and A. Baltuška (Vienna, Austria)
Pulse fidelity control in a 20- μ J sub-200-fs monolithic Yb-fiber amplifier
- 14.50-15.15 5.5.3 T. Gibson, I. Mozjerin, and N.M. Litchinitser (Bufallo, USA)
Transition metamaterials: theory and design optimization
- 15.15-15.40 5.5.4 F. Baronio, M. Conforti, C.D. Angelis (Brescia, Italy), A. Degasperis (Roma, Italy), M. Andreana, V. Couderc, and A. Barthélémy (Limoges, France)
Observation of velocity-locked three-wave interaction solitons
- 15.40-16.05 5.5.5 M. Chevrollier (Paraiba, Brazil)
Super diffusive propagation of photons
- 16.05-16.45 **Coffee break**
- Seminar 5.6**
- Chair:** A. Gomes (Brazil)
- 16.45-17.10 5.6.1 D.C. Dumitras, C. Achim, D. Dutu, C. Matei, R. Cernat, A.M. Bratu, M. Petrus, M. Patachia, and S. Banita (Bucharest, Romania)
Qualitative and quantitative determination of human biomarkers by laser photoacoustic spectroscopy methods
- 17.10-17.35 5.6.2 Y. Ozeki and K. Itoh (Osaka, Japan)
High-sensitivity stimulated Raman scattering microscopy based on the subharmonic synchronization technique
- 17.35-18.00 5.6.3 K. Xu, Z. Wu, N. Zhang, and X. Zhu (Nankai, China)
Characterization of micro air plasma and plume dynamics associated with femtosecond laser ablation of solid targets
- 18.00-18.25 5.6.4 F. Kong (Beijing, China)
Fragmental fluorescence spectroscopy and neutral dissociation of molecules in intense laser fields
- 18.25-18.50 5.6.5 L. De Boni, D.S. Correa, D.L. Silva, M.G. Vivas, and C.R. Mendonça (Sao Paulo, Brazil)
Multi-photon absorption spectrum in organic materials and polymers
- 18.50-19.15 5.6.6 S.L. Gómez, A.M. Monteiro, S.R. Rabbani, A.C. Bloise, S.M. Carneiro, S. Alves, M. Gidlund, D.S.P. Abdalla, and A.M. Figueiredo Neto (Sao Paulo, Brazil)
Cu and Fe metallic ions-mediated oxidation of lyotropic-like low-density lipoproteins studied by NMR, TEM and Z-scan technique
- 19.15-19.30 5.6.7 C.B. Araújo (Pernambuco, Brazil), L.R.P. Kassab (Sao Paulo, Brazil), A. Galembeck, and A.M. Brito-Silva (Pernambuco, Brazil)
Enhanced linear and nonlinear optical properties of composites containing silver and gold nanoparticles

- 19.30-19.45 5.6.8 A. Pirri, I. Liontos, R. Eramo, S. Cavaliere, C. Corsi, and M. Bellini (Firenze, Italy)
Ramsey spectroscopy of atomic bound states with extreme ultraviolet laser harmonics
- 19.45-20.00 5.6.9 R.E. Samad, P.A. da Ana, L.T. Bello, D. Santos Jr, F.J. Krug, A. Zanardi de Freitas, D.M. Zzell, and N.D. Vieira Jr (Sao Paulo, Brazil)
Determination of the amalgam constituents to the neighboring tooth tissue using femtosecond LIBS

Poster Session, Tuesday, July 6

Chair: S.Yu. Stremoukhov (Russia)

- P5.1 B. Alonso, Í.J. Sola, Ó. Varela, J. Hernández-Toro, C. Méndez, J.S. Román, A. Zaïr, and L. Roso (Salamanca, Spain)
Spatio-temporal reconstruction of pulses by fiber optic coupler spectral interferometry
- P5.2 J.-J. Zondy (La Plaine Saint-Denis, France), F.A. Camargo (Sao Paulo, Brazil), T. Zanon-Willette (La Plaine Saint-Denis, France), V. Petrov (Berlin, Germany), and N.U. Wetter (Sao Paulo, Brazil)
Cascaded Kerr-lens partial mode-locking and optimally coupled cw single-frequency operation of a Nd:YLF/ppKTP ring laser
- P5.3 F.E. Hernandez, L. de Boni, C. Toro (Orlando, USA), N. Lin (Stockholm, Sweden), F. Santoro, and A. Rizzo (Piza, Italy)
Nonlinear Optical Chiral Absorption (NOCA)
- P5.4 A. Yulin and V. Konotop (Lisbon, Portugal)
Dissipative solitons in cavities with positive and negative refractive indices
- P5.5 N.M. Barbosa Neto, A.E.H. Machado (Minas Gerais, Brazil), P.J. Gonçalves (Goiás, Brazil), I.E. Borissevitch, and S.C. Zilio (Sao Paulo, Brazil)
Nonlinear optics and excited state spectroscopy in porphyrinic systems
- P5.6 P.H.D. Ferreira, M.G. Vivas, J.P. Siqueira, L. De Boni, L. Misoguti, and C.R. Mendonça (Sao Paulo, Brazil)
Study of the two-photon-induced reduction of gold
- P5.7 A.A. Zhukov, P.A. Zhukov, S.A. Zibrov, G.V. Romanov (Moscow, Russia), Y.O. Dudin (Atlanta, USA), V.V. Vassiliev, V.L. Velichansky, and V.P. Yakovlev (Moscow, Russia)
Electromagnetically induced absorption and transparency in atomic vapor with a V-configuration of resonant transitions
- P5.8 V. Mestre, F.Q. da Silva, W.S. Martins, L.C. de Oliveira, M. Oriá, and M. Chevrollier (Paraíba, Brazil)
Reflection z-scan of an atomic vapor
- P5.9 F.A. Camargo (Sao Paulo, Brazil), T. Zanon-Willette (La Plaine Saint-Denis, France), N.U. Wetter (Sao Paulo, Brazil), and J.-J. Zondy (La Plaine Saint-Denis, France)
Tunable single-frequency Nd:YVO₄/BiB₃O₆ red laser for lithium spectroscopy
- P5.10 M.G. Vivas, D.L. Silva (Sao Paulo, Brazil), R. Zalesny, W. Bartkowiak (Wrocław, Poland), and C.R. Mendonca (Sao Paulo, Brazil)
Two-photon absorption cross-section spectra of carotenoids compounds

- P5.11 W.S. Martins, O. Di Lorenzo, M. Oriá, and M. Chevrollier (Paraíba, Brazil)
Laser-induced absorption monitored by selective reflection
- P5.12 G.F.B. Almeida, M.R. Cardoso, and C.R. Mendonca (Sao Paulo, Brazil)
Microstructuring of amorphous silicon thin films using fs-pulses
- P5.13 A.V. Ghiner (Maranhao, Brazil), A.G. Rudavets (Noginsk, Russia),
A.S.B. Sombra (Ceará, Brazil), and G.I. Surdutovich
Local fields on spherical surfaces and susceptibility of composite optical materials
- P5.14 R.A. de Matos, T. da Silva Cordeiro, R.E. Samad, A.Z. de Freitas,
N.D. Vieira Jr, and L.C. Courrol (Sao Paulo, Brazil)
Green synthesis of stable silver nanoparticles using Euphorbia Miliu latex
- P5.15 M. Traiche (Algiers, Algeria), T. Godin, M. Fromager, R. Moncorgé (Caen, France),
T. Catunda (Sao Paulo, Brazil), and K. Ait-Ameur (Caen, France)
Measurements of athermal and non-resonant population lensing effect in chromium doped materials
- P5.16 N.E. Kotova, V.I. Kovalev, and R G Harrison (Edinburgh, UK)
Experimental verification of the nature of slow light in stimulated Brillouin scattering
- P5.17 A.S. Chaves and T. Catunda (Sao Paulo, Brazil)
Z-scan in near and far-field
- P5.18 T.A. Chimenez, A.R.L. Caires, and S.L. Oliveira (Grande Dourados, Brazil)
Fluorescence spectroscopy applied to the study of thermal stability of biodiesel
- P5.19 T.A. Chimenez, A.R.L. Caires (Grande Dourados, Brazil), and
S.L. Oliveira (Mato Grosso, Brazil)
Analysis of the transesterification of oil to biodiesel using fluorescence spectroscopy
- P5.20 T.A. Chimenez, A.R.L. Caires (Grande Dourados, Brazil), and
S.L. Oliveira (Mato Grosso, Brazil)
Luminescence as a probe of the effects caused by storage time and conditions on the stability of biodiesel
- P5.21 M.R. Tejerina and G.A. Torchia (Buenos Aires, Argentina)
Double ring resonator angular rate sensor by using broad band laser sources
- P5.22 G.A. Torchia (Buenos Aires, Argentina), L. Maestro, M.R. Tejerina
(Madrid, Spain), F. Chen (Jinan, China), and D. Jaque (Madrid, Spain)
Ridge waveguides fabricated by fs micro-machined onto Carbon implantated planar structures in Nd³⁺ doped Lithium Niobate crystals
- P5.23 M.T. Carvalho, L.C.N. Scaduto, É.G. Carvalho, and M.A. Stefani (Sao Paulo, Brazil)
Effects of Gamma radiation on optical glasses-a study on the transmission spectra
- P5.24 F.C. Cruz, J.D. Marconi, A. Cerqueira S. Jr, and H.L. Fragnito (Sao Paulo, Brazil)
Optical frequency combs based on multiple four-wave mixing in highly nonlinear fibers
- P5.25 J.A. Sampaio, M.C. Filadelpho, and A.A. Andrade (Uberlândia, Brazil)
A photothermal study on praseodymium doped low silica calcium aluminate glass

- P5.26 A.L.N. Francisco, L.H. Azevedo, V.C. Galletta, L.P. Kowalski, D. Migliari, C. Pinto, and C. Kurachi (Sao Paulo, Brazil)
Fluorescence spectroscopy for early detection of oral cancer
- P5.27 A.C. Souza, V.S. Ferreira, S.L. Oliveira, M.H. de Paula (Mato Grosso, Brazil)
Quantification of water content in water-ethanol solutions by photothermal transparent transducer method
- P5.28 M.R. Cardoso, V. Tribuzi, D.T. Balogh, L. Misoguti, and C.R. Mendonça (Sao Paulo, Brazil)
Laser microstructuring of polymeric surfaces
- P5.29 L. De Boni and C.R. Mendonça (Sao Paulo, Brazil)
Polarized Z-scan technique using femtosecond continuum generation
- P5.30 K.H.Liu (Beijing, China)
Neutral dissociation of O₂ molecule induced by the femtosecond laser

Seminar 6
Physics of Cold Trapped Atoms

Monday, July 5

Seminar 6.1

Chairs: F. Dalfovo (Italy) and R.G. Hulet (USA)

- 11.00-11.20 6.1.1 M.D. Girardeau (Tucson, USA) and G.E. Astrakharchik (Barcelona, Spain)
Super Tonks-Girardeau states of trapped 1D Bose and Fermi gases
- 11.20-11.40 6.1.2 S. Giorgini (Povo, Italy)
Strongly interacting fermions: Itinerant ferromagnetism in 3D and BCS-BEC crossover in 2D
- 11.40-12.00 6.1.3 L. Salasnich (Padova, Italy)
Elementary excitations and thermodynamics of the unitary Fermi gas
- 12.00-12.20 6.1.4 X. Leyronas and F. Alzetto (Paris, France)
Equation of state of a polarized Fermi gas in the Bose-Einstein condensate limit
- 12.20-12.40 6.1.5 C.A.R. Sa de Melo (Atlanta, USA)
Evolution from BCS to BKT superfluidity in one-dimensional optical lattice

12.45-14.00

Lunch

Seminar 6.2

Chairs: M.D. Girardeau (USA) and S. Giorgini (Italy)

- 14.00-14.20 6.2.1 E. Zaremba, T.E. McIntosh, and R.J. Gooding (Kingston, Canada)
Multi-site mean field theory of the Mott insulator-superfluid transition
- 14.20-14.40 6.2.2 V. Penna (Torino, Italy), B. Capogrosso-Sansone (Cambridge, UK), and M. Guglielmino (Torino, Italy)
Mott insulator to superfluid transition in a Bose-Bose mixture
- 14.40-15.00 6.2.3 F. Dalfovo, M. Larcher (Povo, Italy), and M. Modugno (Sesto Fiorentino, Italy)
Diffusion of ultracold bosons in one-dimensional quasi-periodic potentials
- 15.00-15.20 6.2.4 A.B. Kuklov (Staten Island, USA) and B. Capogrosso-Sansone (Cambridge, USA)
Auto-localization of quantum flexible quasi-molecular chains in optical lattice
- 15.20-15.40 6.2.5 B. Wu (Beijing, China)
Self-consistent single band approximation for bosons in optical lattices
- 15.40-16.00 6.2.6 V.I. Yukalov and E.P. Yukalova (Dubna, Russia)
Mesoscopic disorder in double-well optical lattices
- 16.00-16.10 Discussion
- 16.15-16.45 **Coffee break**

Seminar 6.3

Chairs: A.B. Kuklov (USA) and V. Penna (Italy)

- 16.50-17.10 6.3.1 S.K. Adhikari (São Paulo, Brazil)
Anderson localization of a Bose-Einstein condensate in a disorder potential
- 17.10-17.30 6.3.2 G. Roati, D. Deissler, M. Zaccanti, C. D'Errico, M. Fattori, M. Modugno, G. Modugno, and M. Inguscio (Sesto Fiorentino, Italy)
A tunable Bose-Einstein condensate in disordered potentials

- 17.30-17.50 6.3.3 A. Pelster (Potsdam, Germany and Duisburg, Germany), T.D. Grass, and F.E.A. dos Santos (Berlin, Germany)
Real-time Ginzburg-Landau theory for ultracold bosons in optical lattices
- 17.50-18.10 6.3.4 K.K. Das (Kutztown, USA)
Coherent atomtronics transport with localized states
- 18.10-18.30 6.3.5 K. Sacha (Krakow, Poland), C.A. Mueller (Bayreuth, Germany), D. Delande (Paris, France), and J. Zakrzewski (Krakow, Poland)
Anderson localization of solitons
- 18.30-18.50 6.3.6 V.S. Shchesnovich (Santo André, Brazil) and D.S. Mogilevtsev (Minsk Belarus and Campinas, Brazil)
Quantum non-locality by a local dissipation in the Bose-Hubbard model: boson-pair dissipation channel and non-exponential decay
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Tuesday, July 6

Seminar 6.4

Chairs: B. Svistunov (USA) and B. Wu (China)

- 11.00-11.20 6.4.1 R.G. Hulet, S.E. Pollack, D. Dries, and E. Olson (Houston, USA)
Few body physics with ultracold atoms-the Efimov family tree
- 11.20-11.40 6.4.2 M. Zaccanti, B. Deissler, C. D'Errico (Sesto Fiorentino, Italy), M. Fattori (Sesto Fiorentino and Roma, Italy), M. Jona-Lasino, S. Müller, G. Roati, M. Inguscio, and G. Modugno (Sesto Fiorentino, Italy)
Observation of an Efimov spectrum in an atomic cloud
- 11.40-12.00 6.4.3 L. Tomio, M.T. Yamashita (São Paulo, Brazil), and T. Frederico (São José dos Campos, Brazil)
Borromean three-body heteroatomic resonances
- 12.00-12.20 6.4.4 J. Liu (Beijing, China)
Shapiro-like resonance in ultracold molecule production via an oscillating magnetic field
- 12.20-12.40 6.4.5 Y. Sagi, I. Almog, R. Pugatch, and N. Davidson (Rehovot, Israel)
Spectral narrowing and dynamical decoupling in a dense ensemble of optically trapped atoms

12.45-14.00

Lunch

Seminar 6.5

Chair: L. Salasnich (Italy) and E. Zaremba (Canada)

- 14.00-14.20 6.5.1 B. Svistunov (Amherst, USA), B. Capogrosso-Sansone (Cambridge, USA), S. Giorgini, S. Pilati (Povo, Italy), L. Pollet, N. Prokofev, and M. Troyer (Amherst, USA)
The Beliaev technique for a weakly interacting Bose gas
- 14.20-14.40 6.5.2 N. Dupuis (Paris, France)
Infrared behavior of a Bose superfluid
- 14.40-15.00 6.5.3 A. Fetter (Stanford, USA)
Large effect of vorticity on free expansion of a trapped condensate
- 15.00-15.20 6.5.4 J. Tempere, W. Casteels, and J.T. Devreese (Antwerpen, Belgium)
Probing polaron physics with impurities in a condensate
- 15.20-15.40 6.5.5 Y. Kawaguchi and M. Ueda (Tokyo, Japan)
Symmetry classification of the ground states of a spin-3 spinor Bose-Einstein condensate

- 15.40-16.00 6.5.6 B. Tanatar and E. Bekaroglu (Ankara, Turkey)
Two-dimensional condensates in quadratic plus quartic potentials
- 16.00-16.10 Discussion
- 16.15-16.45 **Coffee break**
- Seminar 6.6**
- Chairs:** A. Fetter (USA) and J. Tempere (Belgium)
- 16.50-17.10 6.6.1 I.B. Mekhov (Innsbruck, Austria and Saint Petersburg, Russia)
Quantum optics of strongly correlated atomic systems
- 17.10-17.30 6.6.2 B. Hall, M. Egorov, V. Ivannikov, R. Anderson, and A. Sidorov (Hawthorn, Australia)
Ramsey interferometry of a BEC: Phase evolution, revival and noise
- 17.30-17.50 6.6.3 M.J. Mark, E. Haller, J.G. Danzl, L. Reichsöllner, A. Klinger, O. Kriegelsteiner, R. Hart, and H.-C. Nägerl (Innsbruck, Austria)
Phases, transport, and scattering in low-dimensional quantum systems
- 17.50-18.10 6.6.4 V. Golovach (Grenoble, France)
Dynamic response of 1D bosons in a trap
- 18.10-18.30 6.6.5 F. Alzetto, R. Combescot, and X. Leyronas (Paris, France)
Particle distribution tail and related energy formula
- 18.30-18.50 6.6.6 N. Rahman (Treviso, Italy)
The principle of laser cooling and the electroweak theory
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Thursday, July 8

Seminar 6.7

Chairs: V.S. Bagnato (Brazil) and A. Smerzi (Italy)

- 11.00-11.20 6.7.1 K. Ziegler (Augsburg, Germany)
Localization in Hilbert space of small atomic systems
- 11.20-11.40 6.7.2 J. Brand, D.W. Hallwood, and Th. Ernst (Auckland, New Zealand)
Rotating Schrödinger cat states with strongly correlated ultracold atoms
- 11.40-12.00 6.7.3 M. Kobayashi, Y. Kawaguchi (Tokyo, Japan), M. Nitte (Kanagawa, Japan), and M. Ueda (Tokyo, Japan)
Collision dynamics of non-abelian vortices in spin-2 spinor Bose-Einstein condensates
- 12.00-12.20 6.7.4 M. Tsubota (Osaka, Japan)
Quantum turbulence and nonlinear phenomena in quantum fluids
- 12.20-12.40 6.7.5 J.A. Seman, E.A.L. Henn, R. Shiozaki (São Carlos, Brazil), G. Roati (Sesto Fiorentino, Italy), F.J. Poveda-Cuevas, K.M.F. Magalhães (São Carlos, Brazil), V.I. Yukalov (Dubna, Russia), M. Tsubota (Osaka, Japan), M. Kobayashi (Tokyo, Japan), K. Kasamatsu (Osaka, Japan), and V.S. Bagnato (São Carlos, Brazil)
Diagram of spatial structures formed during oscillatory excitation of an atomic superfluid: Route to turbulence and fragmentation

12.45-14.00

Lunch

Seminar 6.8

Chairs: M. Tsubota (Japan) and K. Ziegler (Germany)

- 14.00-14.20 6.8.1 A. Smerzi (Povo, Italy)
Persistent currents in toroidal traps
- 14.20-14.40 6.8.2 R. Kanamoto (Tokyo, Japan) and E.M. Wright (Tucson, USA)
Macroscopic superpositions of persistent flows on a ring

- 14.40-15.00 6.8.3 M. Guilleumas, M. Abad, R. Mayol, M. Pi (Barcelona, Spain), and D. Jezek (Buenos Aires, Argentina)
Dipolar condensates confined in a toroidal trap
- 15.00-15.20 6.8.4 S.R. Muniz (São Carlos, Brazil and Gaithersburg, USA), A. Ramanathan, K.C. Wright, K. Helmerson, G. Campbell, and W.D. Phillips (Gaithersburg, USA)
Persistent currents in a BEC produced in an all-optical toroidal trap
- 15.20-15.40 6.8.5 T. Salger, S. Kling, and M. Weitz (Bonn, Germany)
Directed transport of atoms in a Hamiltonian quantum ratchet
- 15.40-16.00 6.8.6 M. Abad, M. Guilleumas, R. Mayol, M. Pi (Barcelona, Spain), and D. Jezek (Buenos Aires, Argentina)
Josephson dynamics in toroidally confined dipolar condensates
- 16.00-16.10 Discussion
- 16.15-16.45 **Coffee break**
- Seminar 6.9**
- Chairs:** J. Brand (New Zealand) and D.A.W. Hutchinson (New Zealand)
- 16.50-17.10 6.9.1 Y.B. Band and Y. Japha (Beer-Sheva, Israel)
Entanglement, phase dynamics and spatial evolution of two-mode Bose-Einstein matter waves
- 17.10-17.30 6.9.2 M. Rigol (Washington, USA)
Breakdown of thermalization in finite one-dimensional systems
- 17.30-17.50 6.9.3 L.-B. Fu (Beijing, China)
Collective dynamics of two-species BEC mixtures in a double well potential
- 17.50-18.10 6.9.4 V. Fleurov, G. Dekel, V. Farberovich, and A. Soffer (Tel-Aviv, Israel)
Dynamics of macroscopic tunneling in elongated BEC
- 18.10-18.30 6.9.5 C. Klempt (Hannover, Germany)
A parametric amplifier of matter waves
- 18.30-18.50 6.9.6 M.K. Olsen and C.V. Chianca (Brisbane, Australia)
Measuring continuous variable entanglement in double well condensates
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Friday, July 9

Seminar 6.10

Chairs: Ph. Courteille (Brazil) and M. Salerno (Italy)

- 09.00-09.20 6.10.1 Y. Castin, A. Sinatra, and E. Witkowska (Paris, France)
Coherence time of a Bose-Einstein condensate
- 09.20-09.40 6.10.2 D.A.W. Hutchinson (Dunedin, New Zealand) and R.G. Scott (Trento, Italy)
The dynamics of decoherence between one-dimensional quasi-condensates
- 09.40-10.00 6.10.3 L.S. Cruz (São Paulo, Brazil), S. Maneshi, Ch. Zhuang, C.R. Paul, and A. Steinberg (Toronto, Canada)
Studies about decoherence and coherent control in optical lattices
- 10.00-10.20 6.10.4 B. Capogrosso-Sansone (Cambridge, USA)
Solids and supersolid with ultracold polar molecules
- 10.20-10.30 Discussion
- 10.30-11.00 **Coffee break**

Seminar 6.11

Chairs: Y.B. Band (Israel) and Y. Castin (France)

- 11.00-11.20 6.11.1 Ph. Courteille (Sao Carlos, Brazil), R. Kaiser (Nice, France), and N. Piovella (Milano, Italy)
Cooperative Mie scattering from ultracold atomic clouds
- 11.20-11.40 6.11.2 I. Spielman (Gaithersburg, USA)
Synthetic electromagnetic fields created with light
- 11.40-12.00 6.11.3 M. Salerno (Fisciano, Italy)
Matter wave compactons induced by time dependent interactions
- 12.00-12.20 6.11.4 V.V. Konotop (Lisboa, Portugal) and V.S. Shchesnovich (Santo André, Brazil)
Control of the Bose-Einstein condensate by dissipation. Nonlinear Zeno effect
- 12.20-12.40 6.11.5 L. Haddad and L.D. Carr (Golden, USA)
Solitons, skyrmions, and a zoo of nonlinear waves in the nonlinear Dirac equation
- 12.45-14.00 **Lunch**

Seminar 6.12

Chairs: S.K. Adhikari (Brazil) and V.V. Konotop (Portugal)

- 14.00-14.20 6.12.1 X. Antoine (Nancy, France), C. Besse (Lille, France), and P. Klein (Nancy, France)
Absorbing boundary conditions for Schrödinger equations with potential and nonlinear terms
- 14.20-14.40 6.12.2 M. Brewczyk and K. Gawryluk (Bialystok, Poland)
Dipolar resonances in oscillating magnetic fields
- 14.40-15.00 6.12.3 G. Telles (Atlanta, USA and São Carlos, Brazil), T. Ishikawa, M. Gibbs, and Ch. Raman (Atlanta, USA)
LIAD loaded sodium magneto-optical trap
- 15.00-15.20 6.12.4 M. Litinskaya (Vancouver, Canada and Troitsk, Russia), F. Herrera, and R.V. Krems (Vancouver, Canada)
Controlled dynamics of rotational excitons in optical lattices with polar molecules
- 15.20-15.40 6.12.5 H. Bender, Ph. Courteille, C. Marzok, Ch. Stehle, C. Zimmermann, and S. Slama (Tübingen, Germany)
Direct measurement of intermediate-range Casimir-Polder potentials
- 15.40-16.00 6.12.6 E.F. de Lima, V.S. Bagnato (São Carlos, Brazil), T.-S. Ho, and H. Rabitz (Princeton, USA)
Control of photoassociative ionization of cold sodium atoms
- 16.00-16.10 Discussion
- 16.15-16.45 **Coffee break**

Seminar 6.13

Chair: V.I. Yukalov (Russia)

- 16.50-17.10 6.13.1 K.M.F. Magalhães, R.F. Shiozaki, E.A.L. Henn, M.A. Caranhas, V.S. Bagnato (São Carlos, Brazil), and V. Romero-Rochin (Mexico, Mexico)
State equation of trapped atoms using global variables: isochronic approach
- 17.10-17.30 6.13.2 M.C. de Oliveira (Campinas, Brazil)
Phase transition, entanglement and squeezing in a triple-well condensate
- 17.30-17.50 Discussion

Poster Session, Tuesday, July 6

Chair: S.K. Adhikari (Brazil)

- P6.1 G.G. Bagnato, R.F. Shiozaki, K.L. Magalhães, and V.S. Bagnato (São Carlos, Brazil)
Analysis of the density distribution in a turbulent atomic superfluid
- P6.2 C.C. Branco, P.E.S. Tavares, R.F. Shiozaki (São Carlos, Brazil), G. Roati (Sesto Fiorentino, Italy), K.M.F. Magalhães, and V.S. Bagnato (São Carlos, Brazil)
Sequential imaging acquisition for Bose-Einstein condensates experiments
- P6.3 P. Capuzzi and D. Jezek (Buenos Aires, Argentina)
Free expansion of Bose-Einstein condensates with initially applied velocity fields
- P6.4 M.A. Caracanhas, R.P. Teles, and V.S. Bagnato (São Carlos, Brazil)
Investigation of the hydrodynamic effects in the Bose-Einstein condensate with vortices in a regular and turbulent regime
- P6.5 S.A. Carvalho, L.E.E. de Araujo, and F.C. Cruz (Campinas, Brazil)
An improved magneto-optical trap for calcium and prospects for two-photon Doppler cooling
- P6.6 P. Castilho, J.A. Seman, F.J. Poveda-Cuervas (São Carlos, Brazil), G. Roati (Sesto Fiorentino, Italy), V.S. Bagnato, and K.M.F. Magalhães (São Carlos, Brazil)
Studies on the thermodynamics of ultracold atoms using an optical dipole trap
- P6.7 Y. Cheng and S.K. Adhikari (São Paulo, Brazil)
Symmetry breaking in a localized interacting binary Bose-Einstein condensate in a bichromatic optical lattice
- P6.8 A. de Freitas Smaira, S.T. Müller, V.S. Bagnato, and D.V. Magalhães (São Carlos, Brazil)
Determination of atomic temperature in an atomic clock operating with free expanding cloud of atoms
- P6.9 D.M. Jezek and H.M. Cataldo (Buenos Aires, Argentina)
Angular momentum versus winding number of a Bose-Einstein condensate in a ring-shaped optical lattice
- P6.10 D.A.W. Hutchinson, D. Schumayer, S.C. Cormack (Dunedin, New Zealand), B.P. van Zy (Antigonish, Canada), and E. Zarembo (Kingston, Canada)
Going beyond the local density approximation: the two-dimensional trapped Bose gas
- P6.11 K. Merloti (São Carlos, Brazil), J. Dalibard, and F. Gerbier (Paris, France)
Laser cooling and trapping for Ytterbium atoms: feasibility and laser implementation studies
- P6.12 A.N. Novikov, V.O. Nesterenko, and A.Yu. Cherny (Dubna, Russia)
Adiabatic transport of Bose-Einstein condensate in a double-well trap
- P6.13 R. Paiva, R. Muhammad, R.F. Shiozaki, A.L. de Oliveira, K.M.F. Magalhães, O. Morizot, and V.S. Bagnato (São Carlos, Brazil)
Studying unidimensional system of cold atoms using photoassociative ionization of Na inside a storage ring

- P6.14 C.L. Pando L. (Pueblo, Mexico) and E.J. Doedel (Montreal, Canada)
Bifurcations, dominant modes and localized chaos near relative equilibria in a ring of BEC
- P6.15 E.E. Pedrozo, R.R. Paiva, V.S. Bagnato, and K.M.F. Magalhães (São Carlos, Brazil)
Study of collisions of sodium atoms at low temperatures using two-photon absorption
- P6.16 A. Pelster (Potsdam, Germany and Duisburg, Germany) and A.R.P. Lima (Berlin, Germany)
Collective motion of polarized dipolar Fermi gases in the hydrodynamic regime
- P6.17 F.J. Poveda C., J.A. Seman, P.C. Castilho (São Carlos, Brazil), G. Roati (Sesto Fiorentino, Italy), K.M.F. Magalhães, and V.S. Bagnato (São Carlos, Brazil)
Experiments with magnetic induction produced by ultracold atoms
- P6.18 E.R.F. Ramos (São Carlos, Brazil), S.E. Pollack, D. Dries, R.G. Hulet (Houston, USA), K.M.F. Magalhães, E.A.L. Henn, M.A. Caracanhas, and V.S. Bagnato (São Carlos, Brazil)
Collective excitation of a Bose-Einstein condensate by modulation of the atomic scattering length
- P6.19 R.F. Shiozaki, M.A. Caracanhas (São Carlos, Brazil), V. Romero-Rochin (Mexico, Mexico), J.A. Seman (São Carlos, Brazil), G. Roati (Sesto Fiorentino, Italy), K.M.F. Magalhães, and V.S. Bagnato (São Carlos, Brazil)
Determination of zero-temperature pressure investigating density distribution of a Bose-Einstein condensate
- P6.20 P.E.S. Tavares, J.A. Seman, R.F. Shiozaki, V.S. Bagnato, and K.M.F. Magalhães (São Carlos, Brazil)
Studying atomic superfluids using random excitation: the control system
- P6.21 R.P. Teles, M. Caracanhas and V.S. Bagnato (São Carlos, Brazil)
Expansion of a central vortex in Bose-Einstein condensate
- P6.22 G. Telles (Atlanta, USA and São Carlos, Brazil), M. Gibbs, and Ch. Raman (Atlanta, USA)
Ultracold magnetically trapped sodium and rubidium
- P6.23 L.E. Young S. and S.K. Adhikari (São Paulo, Brazil)
Cigar- and disk-shaped Fermi superfluid in the BEC-unity crossover

Seminar 7
Quantum Information Science

Monday, July 5

Seminar 7.1

Chair: L.C. Kwek (Singapore)

- 11.00-11.30 7.1.1 W.A. Coish, (Waterloo, Canada), M. Hennrich, J.T. Barreiro, T. Monz, P. Schindler, M. Chwalla, O. Gühne, C.F. Roos, and R. Blatt (Innsbruck, Austria)
Experimental multiparticle-entanglement-high-fidelity generation and decoherence dynamics
- 11.35-12.05 7.1.2 H.A. Bachor (Acton, Australia)
Multimode entanglement with transverse spatial modes
- 12.10-12.40 7.1.3 F. Ferreyrol, R. Blandino, M. Barbieri, R. Tualle-Brouri, and P. Grangier (Palaiseau, France)
New adventures in non-Gaussian space

12.45-14.00

Lunch

Seminar 7.2

Chair: F. De Martini (Italy)

- 14.00-14.30 7.2.1 M. Lucamarini, G. Di Giuseppe, D. Vitali, and P. Tombesi (Camerino, Italy)
Active compensation of noise in a communication channel
- 14.35-15.05 7.2.2 I. Lucio-Martinez, P. Chan, X. Mo, S. Hosier, and W. Tittel (Calgary, Canada)
Real-world quantum key distribution with quantum frames
- 15.10-15.40 7.2.3 V. Usenko and R. Filip (Olomouc, Czech Republic)
Nonclassicality of quantum states of light in the continuous-variable quantum key distribution
- 15.45-16.15 7.2.4 S.N. Molotkov (Chernogolovka, Russia)
Free space relativistic quantum cryptography

16.15-16.45

Coffee break

Seminar 7.3

Chair: P. Tombesi (Italy)

- 16.45– 17.15 7.3.1 S. Barland, M. Giudici, and J.R. Tredicce (Valbonne, France)
Using localized structures in optics for information processing
- 17.20-17.50 7.3.2 X.-L. Feng, C. Wu, H. Sun, and C.H. Oh (Singapore, Singapore)
Geometric entangling gates in decoherence-free subspaces with minimal requirements
- 17.55-18.25 7.3.3 A.Z. Khoury (Niteroi, Brazil)
Optical vortices for quantum information tasks
- 18.30-18.50 7.3.4 V. Lakshminarayanan (Waterloo, Canada), I. Ashraf, and T. Mahmood (Islamabad, Pakistan)
A modification of Grover's quantum search algorithm

Tuesday, July 6

Seminar 7.4

Chair: M. Genovese (Italy)

- 11.00-11.30 7.4.1 F. De Martini and F. Sciarrino (Rome, Italy)
Macroscopic quantum superpositions, macrorealism and the quantum to classical transition
- 11.35-12.05 7.4.2 M.V. Chekhova (Erlangen, Germany)
Measurement of intensity correlations: photocurrent multiplication versus photocurrent subtraction
- 12.10-12.40 7.4.3 K.N. Cassemiro, A.S. Villar (Erlangen, Germany), A.S. Coelho, F.A.S. Barbosa, M. Martinelli, and P. Nussenzveig (San Paulo, Brazil)
Multicolor continuous-variable entanglement
- 12.45-14.00 **Lunch**

Seminar 7.5

Chair: Y. Shih (USA)

- 14.00-14.25 7.5.1 U.L. Andersen (Lyngby, Denmark)
Measuring the coherent state of light
- 14.30-14.55 7.5.2 H.-W. Lee (Daejeon, Korea)
Single photon operations in cavity QED
- 15.00-15.25 7.5.3 S.A. Moiseev, S.N. Andrianov, and F.F. Gubaidullin (Kazan, Russia)
Quantum computer on the separate multi-atomic ensembles with multi-qubit quantum memory
- 15.30-15.55 7.5.4 Y.-H. Kim (Pohang, Korea)
Observing photonic de Broglie waves without the noon state
- 15.55-16.15 7.5.5 A. Predojević, H. Jayakumar, I. Söllner, and G. Weihs (Innsbruck, Austria)
Semiconductor quantum dot photonic interface
- 16.15-16.45 **Coffee break**

Seminar 7.6

Chair: P. Mataloni (Italy)

- 16.45- 17.15 7.6.1 Y. Shih (Baltimore, USA)
New type of Einstein-Podolsky-Rosen-Bell experiment using chaotic light
- 17.20-17.50 7.6.2 R. Meyers (Adelphi, USA)
Quantum ghost imaging experiments in adverse environments
- 17.55-18.25 7.6.3 M. Genovese, G. Brida, and I. Ruo Berchera (Turin, Italy)
Exploiting PDC spatial correlations for realising sub shot noise quantum imaging
- 18.30-18.50 7.6.4 A. Bahabad (Boulder, USA), A. Arie (Tel Aviv, Israel), M. Pysher, P. Peng, and O. Pfister (Charlottesville, USA)
Triply concurrent nonlinearities in periodically poled $KTiOPO_4$ for quantum computing over the optical frequency comb

Thursday, July 8

Seminar 7.7

Chair: C. Monken (Brazil)

- 11.00-11.30 7.7.1 L. Sansoni, F. Sciarrino, G. Vallone, P. Mataloni (Rome, Italy), A. Crespi, R. Ramponi, and R. Osellame (Milan, Italy)
Polarization entangled state measurement on a chip

- 11.35-12.05 7.7.2 N. Rutter, E. Van Keuren (Washington, USA), S.V. Polyakov, A. Muller, A. Ling, E.B. Flagg, A.L. Migdall, and G.S. Solomon (Gaithersburg, USA)
Indistinguishability of Photons from Dissimilar Sources
- 12.10-12.40 7.7.3 I. Spielman, N. Lundblad, J.M. Obrecht, and J.V. Porto (Gaithersburg, USA)
Addressable clock states in a double well optical lattice
- 12.45-14.00 **Lunch**
- Seminar 7.8**
Chair: R. Wahiddin (Malaysia)
- 14.00-14.25 7.8.1 L. Davidovich (Rio de Janeiro, Brazil)
Open-system dynamics of entanglement
- 14.30-14.55 7.8.2 J.H. Eberly and X.F. Qian (Rochester, USA)
Can the moon affect entanglement transfer?
- 15.00-15.25 7.8.3 M.V. Fedorov, P.A. Volkov, and Yu.M. Mikhailova (Moscow, Russia)
Entanglement of qutrits and ququarts
- 15.30-15.55 7.8.4 A. Smerzi (Trento, Italy)
Entanglement and distinguishability of quantum states
- 15.55-16.15 7.8.5 M. da Silva Mendes and D. Felinto (Recife, Brazil)
Analysis of efficiency and scalability of the DLCZ protocol for quantum repeaters
- 16.15-16.45 **Coffee break**
- Seminar 7.9**
Chair: Z. Hradil (Czech Republic)
- 16.45– 17.15 7.9.1 L.C. Kwak (Singapore, Singapore)
Multipartite entanglement witnesses via structure factors
- 17.20-17.50 7.9.2 G. Björk (Kista, Sweden), C. Kothe, and M. Bourennane (Stockholm, Sweden)
Arbitrarily high super-resolving phase measurements without entanglement or joint detection
- 17.55-18.25 7.9.3 J.L. O'Brien (Bristol, UK), K.J. Resch (Waterloo, Canada), S.D. Bartlett (Sydney, Australia), G.G. Gillett, R.B. Dalton, B.P. Lanyon, M.P. Almeida, M. Barbieri, G.J. Pryde, and A.G. White (Brisbane, Australia)
Experimental feedback control of quantum systems using weak measurements
- 18.30-18.50 7.9.4 W. Laskowski (Gdansk, Poland), G. Toth (Bilbao, Spain), A. Ozawa, W. Wieczorek, R. Krischek, C. Schwemmer, P. Michelberger, N. Kiesel, T. Udem, and H. Weinfurter (Garching, Germany)
Multi-photon entanglement experiments at high rates

Friday, July 9

Seminar 7.10

Chair: H. Bachor (Australia)

- 9.00-9.25 7.10.1 Z. Zhang, Q.D. Xuan, and P.L. Voss (Metz, France)
Progress on a discretely modulated continuous wave local oscillator QKD
- 9.30-9.55 7.10.2 M.V. Chekhova, T.Sh. Iskhakov (Erlangen, Germany), I.N. Agafonov, and O.A. Shumilkina (Moscow, Russia)
Squeezed vacuum and its applications

- 10.00-10.25 7.10.3 E. Bimbard, N. Jain, A. MacRae, and A.I. Lvovsky (Calgary, Canada)
Single-mode quantum engineering of light
- 10.30-11.00 **Coffee break**
- Seminar 7.11**
- Chair:** M. Hennrich (Austria)
- 11.00-11.30 7.11.1 I.M. Sokolov (St.-Petersburg, Russia)
Light scattering and trapping in ultracold atomic ensemble under conditions of electromagnetically induced transparency
- 11.35-12.05 7.11.2 D. Moretti, D. Felinto, and J.W.R. Tabosa (Recife, Brazil)
Nonlinear spectroscopy of a coherently prepared atomic ensemble
- 12.10-12.40 7.11.3 F.A.A. El-Orany and M.R.B. Wahiddin (Kuala Lumpur, Malaysia)
Linear atomic quantum coupler
- 12.45-14.00 **Lunch**
- Seminar 7.12**
- Chair:** L. Davidovich (Brazil)
- 14.00-14.25 7.12.1 W.M. Pimenta, M.R. Barros, B.M.G. Teixeira, J.G. Fonseca, M.A. Carvalho, J. Ferraz, M.T. Cunha, and S. Padua (Belo Horizonte, Brasil)
Minimal tomography and Deutsch-Jozsa algorithm in spatial variables
- 14.30-14.55 7.12.2 Z. Hradil and J. Řeháček (Olomouc, Czech Republic)
Operational tomography
- 15.00-15.25 7.12.3 C. Silberhorn, K. Laiho, K.N. Cassemiro, and M. Avenhaus (Erlangen, Germany)
Quantum state detection with photon counting detectors
- 15.30-15.55 7.12.4 M.V. da Cunha Pereira, L. Perez Filpi, and C.H. Monken (Belo Horizonte, Brazil)
Measurement of the Gouy phase shift of a two-photon correlation beam
- 15.55-16.15 7.12.5 D. Goyeneche, A. de la Torre (Mar del Plata, Argentina)
Quantum state reconstruction
- 16.15-16.45 **Coffee break**
- Seminar 7.13**
- Chair:** C.H. Oh (Singapore)
- 16.45– 17.15 7.13.1 D. Strekalov, J. Fürst, D. Elser, U.L. Andersen, C. Marquardt, and G. Leuchs (Erlangen, Germany)
Squeezed light from a whispering gallery OPO
- 17.20-17.50 7.13.2 G.P. Temporão, G.B. Xavier, and J.P. von der Weid (Rio de Janeiro, Brazil)
Polarization effects in fiber optic based quantum communication
- 17.55-18.25 7.13.3 A.B. Klimov (Guadalajara, Mexico), G. Björk, J. Söderholm (Kista, Sweden), L.S. Madsen, M. Lassen, U.L. Andersen (Lyngby, Denmark), J. Heersink, R. Dong, Ch. Marquardt, G. Leuchs, and L.L. Sánchez-Soto (Erlangen, Germany)
Assessing the polarization of a quantum field from stokes fluctuations
- 18.25-18.45 7.13.4 S.P. Walborn, R.M. Gomes, A. Salles, F. Toscano, and P.H. Souto Ribeiro (Rio de Janeiro, Brazil)
Non-Gaussian entanglement and entropic non-locality criterion
- 18.45-18.47 S.P. Kulik (Russia)
Closing remarks

Poster Session, Tuesday, July 6

Chair: S. Kulik (Russia)

- P7.1 I.N. Agafonov (Moscow, Russia), M.V. Chekhova, T.Sh. Iskhakov, and G. Leuchs (Erlangen, Germany)
Two-color bright squeezed vacuum
- P7.2 L.V. Gerasimov, I.M. Sokolov, and D.V. Kupriyanov (St.-Petersburg, Russia)
Coherent control of diffuse light dynamics in an ultracold atomic gas
- P7.3 J. Park and H.-W. Lee (Daejeon, Korea)
Verification of the photon commutation relation through cavity QED
- P7.4 S.A. Moiseev (Kazan, Russia)
Efficient multi-mode photon echo quantum memory
- P7.5 M.V. Fedorov, P.A. Volkov, and Yu.M. Mikhailova (Moscow, Russia)
How to measure the degree of entanglement of biphoton qutrits and ququarts
- P7.6 I.Z. Latypov, A.A. Kalinkin, A.V. Shkalikov, A.A. Kalachev, and V.V. Samartsev (Kazan, Russia)
Generation of narrow-band correlated photon pairs by spontaneous down conversion in a cavity
- P7.7 S.S. Straupe, D.I. Ivanov, S.P. Kulik (Moscow, Russia), and A.A. Kalinkin (Kazan, Russia)
Transverse entanglement and Schmidt modes in spontaneous parametric down conversion
- P7.8 Q.-J. Tong, J.-H. An, H.-G. Luo (Lanzhou, China), and C.H. Oh (Singapore, Singapore)
Mechanism of entanglement preservation
- P7.9 M. Al-Amri (Riyadh, Saudi Arabia), J. Evers (Heidelberg, Germany), and M.S. Zubairy (College Station, Texas)
Quantum teleportation of four-dimensional qudits

Seminar 8
Nanophotonics

Thursday, July 8

Seminar 8.1 Photonic Crystals

Chairs: A.N. Grigorenko (UK) and J. Weiner (USA)

- 11.00-11.25 8.1.1 J. Weiner (Gaithersburg, USA)
The physics of light transmission through subwavelength apertures and aperture arrays
- 11.25-11.50 8.1.2 M.V. Bogdanova, S.A. Belousov, I.A. Valuev, and A.V. Deinega (Moscow, Russia)
Efficiency enhancement in photonic crystal based optical chemical sensors
- 11.50-12.15 8.1.3 V. Pashinin (Moscow, Russia), P. Peier, H. Merbold, T. Feurer (Bern, Switzerland), and K.A. Nelson (Cambridge, USA)
2D photonic crystal structures in slab waveguides: laser micro-machining of and imaging of THz waves
- 12.15-12.40 8.1.4 A.N. Grigorenko, A.K. Geim, H.F. Gleeson, V. Kravets, and F. Schedin (Manchester, UK)
Metamaterials with extraordinary optical properties.

12.45-14.00

Lunch

Seminar 8.2 Metal Nanoparticles, Plasmonics, and Metamaterials

Chairs: B.-H.V. Borges (Brazil) and V.V. Kononenko (Russia)

- 14.00-14.25 8.2.1 A.V. Kabashin (Marseille, France)
Plasmonics structures and metamaterials for biosensing
- 14.25-14.50 8.2.2 G.A. Torchia, F. Videla, D. Schinca, and L.B. Scaffardi (Buenos Aires, Argentina)
Silver nanoparticles: generation and fragmentation by using femtosecond ablation inside of deionised water solution
- 14.50-15.15 8.2.3 V.A.G. Rivera, S.P.A. Osorio, Y. Messaddeq, L.A.O. Nunes, and E. Marega (São Carlos, Brazil)
Gain medium for plasmonic waveguide
- 15.15-15.40 8.2.4 L.O. Diniz, F.D. Nunes, E. Marega Jr., and B.-H.V. Borges (São Carlos, Brazil)
Metal-insulator-metal cascaded cavities for wavelength filtering applications
- 15.40-16.00 8.2.5 G.A. Torchia, F. Videla, D. Schinca, L.B. Scaffardi (Buenos Aires, Argentina), P. Moreno, L. Roso (Salamanca, Spain), L. Giovanetti, and J.R. López (La Plata, Argentina)
Super continuum effects in gold nanoparticles fragmentation irradiated by ultra-short laser pulses

16.15-16.45

Coffee break

Seminar 8.3 Laser Nanostructuring, Nanoprocessing, and Nanoengineering

Chairs: A.V. Kabashin (France) and Y. Prior (Israel)

- 16.45-17.10 8.3.1 P.K. Kashkarov (Moscow, Russia)
Nonlinear optical phenomena in nanostructured silicon
- 17.10-17.35 8.3.2 K. Merloti (São Carlos, Brazil), J. Dalibard, and F. Gerbier (Paris, France)
Laser cooling and trapping for Ytterbium atoms: feasibility and laser implementation studies

- 17.35-18.00 8.3.3 Y. Prior and A.A. Milner (Rehovot, Israel)
AFM tip assisted laser induced surface modification
- 18.00-18.25 8.3.4 I.A. Balakhnina, N.N. Brandt, A.Yu. Chikishev, Y.S. Kimberg, and N.L. Rebrikova (Moscow, Russia)
Spectroscopic diagnostics of Russian icons painted with lead white
- 18.25-18.50 8.3.5 V. Kononenko, V. Pashinin, B. Galagan, S. Sverchkov, B. Denker, and V. Konov (Moscow, Russia)
Activation of color centers in bismuth phosphate glass by femtosecond laser irradiation

Friday, July 9

Seminar 8.4 Quantum Dots, Nanowires, and Nanotubes

Chairs: E. Marega Jr. (Brazil) and V. Pustovoy (Russia)

- 11.00-11.25 8.4.1 E. Marega Jr. (São Carlos, Brazil)
Fabrication of semiconductor quantum dots for nanophotonics applications
- 11.25-11.50 8.4.2 P.M.A. Farias, B.S. Santos, A. Fontes, E.S. Leite, C.R. Chaves, R.B. Lira, R.C.B.Q. Figueiredo, E.I.C. Beltrão, O.D.F. Cardozo (Recife, Brazil), and D. Scordo (Buenos Aires, Argentina)
Fluorescent compact water soluble quantum dots for three-dimensional bioimaging
- 11.50-12.15 8.4.3 V. Pustovoy (Moscow, Russia)
Luminescent silicon quantum dots
- 12.15-12.35 8.4.4 E.S. Leite, G.A. de L. Pereira, B.S. Santos, A. Fontes, and P.M.A. Farias (Recife, Brazil)
A chemometric approach for the enhancement of fluorescence intensity of water soluble quantum dots

12.45-14.00 **Lunch**

Seminar 8.5 Nanomaterials, Imaging, and Spectroscopy

Chairs: M. Lipson (USA) and J. Martorell (Spain)

- 14.00-14.25 8.5.1 M. Lipson (Ithaca, USA)
Transformation optics in the optical regime
- 14.25-14.50 8.5.2 G.J. Salamo (Fayetteville, USA)
Observation of PT -symmetry breaking in complex optical potentials
- 14.50-15.15 8.5.3 R.J.R. Vieira and N.U. Wetter (São Paulo, Brazil)
Diode-pumped, stimulated random emission using a powder of $Nd:YVO_4$
- 15.15-15.40 8.5.4 R. Betancur, X. Elias, S. Pasini, L.T. Vuong, R. Macovez, and J. Martorell (Barcelona, Spain)
Optical control of the exciton diffusion in organic solar cells
- 15.40-16.00 8.5.5 M.D. Teodoro, G.E. Marques, V. Lopez-Richard, E. Marega Jr. (São Carlos, Brazil), and G.J. Salamo (Fayetteville, USA)
Optical Aharonov-Bohm interference from neutral excitons in type-I nanorings
- 16.15-16.45 **Coffee break**

Seminar 9
Fiber Lasers
Friday, July 9, 2010

Seminar 9.1

Chairs: M. Dubinskii (USA)

- 09.00-9.30 9.1.1 V.I. Kovaley and R.G. Harrison (Edinburgh, UK)
A new nonlinear-wave-equation formalism for stimulated Brillouin scattering
- 09.30-10.10 9.1.2 Q. Lou, J. Zhou, B. He, and S. Du (Shanghai, China)
High power CW and pulsed fiber lasers and there applications
- 10.10-10.30 9.1.3 N.E. Kotova, V.I. Kovaley, and R.G. Harrison (Edinburgh, UK)
Peculiarities of Stokes pulse generation and amplification via stimulated Brillouin scattering in optical fibres
- 10.30-11.00 **Coffe break**

Seminar 9.2

Chairs: S. Todoroki (Japan)

- 11.00-11.20 9.2.1 J.A. Alvarez-Chavez, F. Martinez-Piñon, S.I. Rivera-Manrique (León, Mexico), and H.L. Offerhaus (Enschede, Netherlands)
High-energy, semi-Gaussian, large mode area, Yb³⁺ and Er³⁺/Yb³⁺ -doped fiber laser cavity designs
- 11.20-11.40 9.2.2 J. Zhang and M. Dubinskii (Adelphi, USA)
Power and efficiency scaling of resonantly cladding-pumped Er-doped LMA fiber lasers
- 11.40-12.00 9.2.3 C. Cuadrado-Laborde (Buenos Aires, Argentina), A. Díez, J.L. Cruz, and M.V. Andrés (Valencia, Spain)
Actively Q-switched and modelocked all fiber lasers
- 12.00-12.20 9.2.4 O. Pottiez, R. Grajales-Coutiño (Leon, Mexico), J.-C. Hernandez-Garcia (Puebla, Mexico)
Generation of long broadband pulses with a figure-8 fiber laser
- 12.20-12.40 9.2.5 D.V. Churkin, I.D. Vatnik, and S.A. Babin (Novosibirsk, Russia)
Cascaded random distributed feedback fibre laser
- 12.45-14.00 **Lunch**

Seminar 9.3

Chairs: H.G. Limberger (Switzerland)

- 14.00-14.20 9.3.1 V.A. Akulov, S.A. Babin, S.I. Kablukov, and K.S. Raspopin (Novosibirsk, Russia)
Intracavity frequency doubling of Yb-doped fiber laser with 540-550 nm tuning
- 14.20-15.00 9.3.2 A. Ruch, I. Hart, and M.E. Fermann (Ann Arbor, USA)
Yb-doped fiber laser frequency combs
- 15.00-15.40 9.3.3 S. Todoroki (Tsukuba, Japan)
Light and voids of fiber fuse: precise comparison of in situ image and fused fibers
- 15.40-16.00 9.3.4 A. Flores-Rosas, E.A. Kuzin (Puebla, Mexico), O. Pottiez (Leon, Mexico), B. Ibarra-Escamilla, and M. Duran Sanchez (Puebla, Mexico)
Optical switch based on stimulated Raman scattering in optical fibers

16.00-16:20 9.3.5 A.E. Levchenko, Y.P. Yatsenko, A.F. Kosolapov, M.E. Likhachev, S.L. Semjonov, and E.M. Dianov (Moscow, Russia)
Broadband parametric wavelength conversion with large anti-Stokes shift in microstructure fibre with germanosilicate core in CW regime

16.20-16.45 **Coffee break**

Seminar 9.4

Chair: A.E. Levchenko (Russia)

16.45-17.25 9.4.1 H.G. Limberger, C. Ban (Lausanne, Switzerland), V.M. Mashinsky, V.V. Dvoyrin, L.I. Bulatov, and E.M. Dianov (Moscow, Russia)
ArF laser induced refractive index and luminescence changes in Bi-doped aluminosilicate fibers

Poster Session, Tuesday, July 6

Chair: A.E. Levchenko (Russia)

- P9.1 G. Martinez-Romero, F. Martinez-Pinon, J.A. Alvarez-Chavez (Mexico, Mexico), and H.L. Offerhaus (Enschede, Netherlands)
Analysis of fundamental and higher-order mode distribution in high-intensity double-clad, Yb^{3+} and Er^{3+}/Yb^{3+} doped fiber lasers
- P9.2 S.I. Rivera-Manrique (Mexico, Mexico), J.L. Jacques (Portland, USA), and J.A. Álvarez-Chávez (Mexico, Mexico)
High-intensity Yb^{3+} -doped laser cavity-design for acupuncture applications
- P9.3 I.L. Villegas, C. Cuadrado-Laborde, A. Díez, J.L. Cruz (Burjassot, Spain), M.A. Martínez-Gámez (Leon, Mexico), and M.V. Andrés (Burjassot, Spain)
Modelocked Yb all-fiber laser based on in-fiber acousto-optic modulation
- P9.4 V.M. Yermachenko, V.N. Petrovskiy, P.S. Dzhumaev, V.I. Polsky, V.L. Yakushin, N.M. Prokopova, A.P. Streltsov, and V.G. Shtamm (Moscow, Russia)
Laser cladding using of radiation of fiber laser
- P9.5 V.M. Yermachenko, V.N. Petrovskiy, V.D. Mironov, N.V. Naumov, P.S. Dzhumaev, V.I. Polsky, V.L. Yakushin, K.A. Bubnov, and N.M. Prokopova (Moscow, Russia)
Technology of polishing of titanium surface by radiation of a fiber laser
- P9.6 V.M. Yermachenko, A.P. Kuznetsov, V.N. Petrovskiy, N.M. Prokopova, A.P. Streltsov, and S.A. Uspenskiy (Moscow, Russia)
Peculiarities welding of the metals by radiation of powerful fiber laser

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