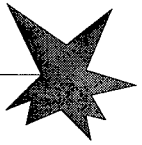
8th International Laser Physics Workshop
Lphys'99



Budapest, July 2–6, 1999

Program

AD NUMBER	DATE	DTIC ACCESSION NOTICE

1. REPORT IDENTIFYING INFORMATION

A. ORIGINATING AGENCY
RUSSIAN ACADEMY OF SCIENCES, RUSSIA

B. REPORT TITLE AND/OR NUMBER
8TH INTERNATIONAL LASER PHYSICS WORKSHOP

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8th International Laser Physics Workshop
Lphys'99

Budapest, July 2–6, 1999

Program

http://bird.szfki.kfki.hu/lphys99/

8th ANNUAL INTERNATIONAL LASER PHYSICS WORKSHOP (LPHYS'99)

ORGANIZED BY:

General Physics Institute, Russian Academy of Sciences, Moscow, Russia
The international journal "Laser Physics"
Hungarian Academy of Sciences
Research Institute for Solid State Physics and Optics, Hungarian Academy of Sciences, Budapest, Hungary

SPONSORED BY:

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Background

The eighth annual International Laser Physics Workshop (LPHYS'99) will be held from July 2 to July 6, 1999 in Budapest, Hungary. The Workshop will be a part of the World Conference for Science which will be the main UNESCO conference in 1999.

LPHYS'99 continues a series of Workshops held in Dubna 1992, Moscow/Volga river tour 1993, New York 1994, Moscow/Volga river tour (jointly with NATO SILAP Workshop) 1995, Moscow 1996, Prague 1997, and Berlin 1998.

The total number of Workshop participants is expected to be about 200. In the past, participation was typically from over 20 countries.

Proceedings

The Workshop materials accepted by the Steering and Advisory & Program Committees (plenary, invited, and contributed) will be published in the international journal Laser Physics. The total length of manuscript, including figures, tables and references, is limited to twelve pages. The rules of the manuscripts' preparation can be found in every issue after Issue 3 of 1995 or on the Laser Physics web site: http://www.maik.rssi.ru/journals/lasphys.htm

Two hard copies of manuscripts to be published in the journal Laser Physics can be either given to Prof. Igor V. Yevseyev, the Deputy Editor-in-Chief of Laser Physics, or mailed to: Prof. Igor V. Yevseyev, Department of Theoretical Physics, Moscow State Engineering Physics Institute, 31 Kashirskoe Shosse, Moscow 115409, Russia. No e-mail versions of papers please.

Scientific Seminars and Symposium

The workshop consists of the following seminars and symposium (organized by the respective cochairs) which feature invited plenary talks, contributed oral and poster papers. The official language of the workshop will be English.

Seminar 1
Modern Trends in Laser Physics

Co-Chairs: Charles M. Bowden (USA)
Kirill A. Prokhorov (Russia)
Wolfgang Sandner (Germany)

Seminar 2
Strong Field Phenomena

Co-Chairs: Wilhelm Becker (Germany)
See Leang Chin (Canada)
Gyôzô Farkas (Hungary)
Mikhail V. Fedorov (Russia)

Seminar 3
Laser Spectroscopy

Co-Chairs: Frank K. Tittel (USA)
Wilhelmus Witteman (The Netherlands)
Valery M. Yermachenko (Russia)

Seminar 4
Solid State Lasers and Nonlinear Optics

Co-Chairs: Gunter Huber (Germany)
Takatomo Sasaki (Japan)
Ivan A. Shcherbakov (Russia)

Seminar 5
Laser Methods in Medicine

Co-Chairs: Sergey A. Gonchukov (Russia)
Gerhard J. Müller (Germany)
Rudolf Steiner (Germany)

Symposium
Status and Future Directions of High-Power Laser Installations

Co-Chairs: See Leang Chin (Canada)
Wolfgang Sandner (Germany)
Ivan A. Shcherbakov (Russia)

Meeting Format and Location of the Events

Welcome Remarks	July 2	09.00-09.45 Auditorium
Welcome Party	July 2	19.30-23.00 Hotel Olympia
Conference Dinner	July 4	19.30-23.00 Hotel Olympia
Closing Remarks	July 6	18.15-18.25 Hall A
Plenary Sessions	July 2	09.45-11.45 Auditorium
	July 3	09.00-10.30 Auditorium
	July 4	09.00-11.45 Auditorium
	July 5	09.00-10.30 Auditorium
	July 6	09.00-10.30 Auditorium
Seminar 1	July 2	11.55-18.50 Hall A
	July 3	11.00-18.50 Hall A
	July 4	11.55-18.50 Hall A
	July 5	11.00-18.50 Hall A
	July 6	11.00-12.45 Hall A
	July 6	14.00-15.40 Hall B
Poster session	July 6	11.00-12.45 Vestibule
Seminar 2	July 2	11.55-18.50 Hall B
	July 3	11.00-18.50 Hall B
	July 4	11.55-18.50 Hall B
	July 5	11.00-18.50 Hall B
Poster session	July 6	11.00-12.45 Vestibule
Seminar 3	July 2	11.55-18.50 Hall C
	July 3	11.00-18.50 Hall C
Poster session	July 4	14.00-15.40 Vestibule
Seminar 4	July 4	11.55-18.50 Hall C
	July 5	11.00-18.50 Hall C
Seminar 5	July 5	11.00-18.15 Hall D
	July 6	11.00-16.15 Hall C
Poster session	July 6	14.00-17.00 Vestibule
Symposium	July 6	14.00-18.15 Hall A

Plenary talks

Bruce H.T. Chai (University of Central Florida, Orlando, USA)
Self frequency doubling in the Nd and Yb doped yttrium calcium oxyborate crystals

Louis DiMauro (Brookhaven National Laboratory, Upton, USA)
Strong-Field Interactions in the Tunneling Regime

D. DiVincenzo (IBM T. J. Watson Research Center, USA)
Prospects for Quantum Computing

W. Hogervorst (Vrije Universiteit, Amsterdam, The Netherlands)
XUV Laser Spectroscopy of Atoms and Molecules

W. Howard Lowdermilk (Lawrence Livermore National Laboratory, Livermore, USA)
NIF and the Path to Inertial Fusion Energy

Harm G. Muller (FOM-Institute, Atoms in Strong Field, Amsterdam, The Netherlands)
Resonance Enhancement of Recollision Processes in Strong-Field Photoionization as Revealed by Accurate Numerical Simulation

Wolfgang P. Schleich (Universität Ulm, Ulm, Germany)
The Art of Measuring Quantum States

Marlan O. Scully (Texas A&M University, USA)
Advances in Quantum Optics and Laser Physics via Quantum Coherence

Sune Svanberg (Lund Institute of Technology, Lund, Sweden)
Medical Diagnostics Using Laser Techniques

Nikolai I. Tankovich (Thermolase Co., USA)
Laser Cosmetical Treatments in Dermatology

Herbert Walther (Max-Planck-Institut fur Quantenoptik, Garching, Germany)
The Generation of Fock-States in the One-Atom Maser

Scientific Program --- Schedule

	Auditorium	Hall A	Hall B	Hall C	Hall D
Friday, July 2, 1999					
09.00-09.45	Welcome Rem.				
09.45-10.30	Scully				
10.30-11.00	Coffee Break				
11.00-11.45	Svanberg				
11.55-12.45		Seminar 1	Seminar 2	Seminar 3	
12.45-14.00	Lunch				
14.00-16.15		Seminar 1	Seminar 2	Seminar 3	
16.15-16.45	Coffee Break				
16.45-18.50		Seminar 1	Seminar 2	Seminar 3	
19.30-23.00	Welcome Party				
Saturday, July 3, 1999					
09.00-09.45	Walther				
09.45-10.30	Hogervorst				
10.30-11.00	Coffee Break				
11.00-12.45		Seminar 1	Seminar 2	Seminar 3	
12.45-14.00	Lunch				
14.00-16.15		Seminar 1	Seminar 2	Seminar 3	
16.15-16.45	Coffee Break				
16.45-18.50		Seminar 1	Seminar 2	Seminar 3	
Sunday, July 4, 1999					
09.00-09.45	Schleich				
09.45-10.30	Chai				
10.30-11.00	Coffee Break				
11.00-11.45	Muller				
11.55-12.45		Seminar 1	Seminar 2	Seminar 4	
12.45-14.00	Lunch				
14.00-16.15		Seminar 1	Seminar 2	Seminar 4	
16.15-16.45	Coffee Break				
16.45-18.50		Seminar 1	Seminar 2	Seminar 4	
19.30-23.00	Conference Dinner				
Monday, July 5, 1999					
09.00-09.45	DiMauro				
09.45-10.30	Lowdermilk				
10.30-11.00	Coffee Break				
11.00-12.45		Seminar 1	Seminar 2	Seminar 4	Seminar 5
12.45-14.00	Lunch				
14.00-16.15		Seminar 1	Seminar 2	Seminar 4	Seminar 5
16.15-16.45	Coffee Break				
16.45-18.50		Seminar 1	Seminar 2	Seminar 4	Seminar 5
Tuesday, July 6, 1999					
09.00-09.45	Tankovich				
09.45-10.30	DiVincenzo				
10.30-11.00	Coffee Break				
11.00-12.45		Seminar 1		Seminar 5	
12.45-14.00	Lunch				
14.00-16.15		Symposium	Seminar 1	Seminar 5	
16.15-16.45	Coffee Break				
16.45-18.15		Symposium		Seminar 5	
18.15-18.25		Closing Rem.			

Plenary Sessions

Friday, July 2, 1999

Welcome Remarks

09.00-09.15 N. Kroó, Co-Chairman of Workshop

09.15-09.25 P.P. Pashinin, Deputy Chairman of Workshop

09.25-09.35 J. Janszky, the Member of Steering Committee, Chairman of the Local Organizing Committee

09.35-09.45 I.V. Yevseyev, the Member of Steering Committee, Deputy Editor-in-Chief of Laser Physics journal

Chair: P.P. Pashinin (Russia)

09.45-10.30 Marlan O. Scully (Texas A&M University, USA)
Advances in Quantum Optics and Laser Physics via Quantum Coherence

10.30-11.00 Coffee Break

Chair: N. Kroó(Hungary)

11.00-11.45 Sune Svanberg (Lund Institute of Technology, Lund, Sweden)
Medical Diagnostics Using Laser Techniques

Saturday, July 3, 1999

Chair: K.A. Prokhorov (Russia)

09.00-09.45 Herbert Walther (Max-Planck-Institut fur Quantenoptik, Garching, Germany)
The Generation of Fock-States in the One-Atom Maser

Chair: V.M. Yermachenko (Russia)

09.45-10.30 W. Hogervorst (Vrije Universiteit, Amsterdam, The Netherlands)
XUV Laser Spectroscopy of Atoms and Molecules

Sunday, July 4, 1999

Chair: Ch.M. Bowden (USA)

09.00-09.45 Wolfgang P. Schleich (Universität Ulm, Ulm, Germany)
The Art of Measuring Quantum States

Chair: I.A. Shcherbakov (Russia)

09.45-10.30 Bruce H.T. Chai (University of Central Florida, Orlando, USA)
Self frequency doubling in the Nd and Yb doped yttrium calcium oxyborate crystals

10.30-11.00 Coffee Break

Chair: M.V. Fedorov (Russia)

11.00-11.45 Harm G. Muller (FOM-Institute, Atoms in Strong Field, Amsterdam, The Netherlands)
Resonance Enhancement of Recollision Processes in Strong-Field Photoionization as Revealed by Accurate Numerical Simulation

Monday, July 5, 1999

Chair: W. Sandner (Germany)

09.00-09.45 Louis DiMauro (Brookhaven National Laboratory, Upton, USA)
Strong-Field Interactions in the Tunneling Regime

Chair: J. Janszky (Hungary)

09.45-10.30 W. Howard Lowdermilk (Lawrence Livermore National Laboratory, Livermore, USA)
NIF and the Path to Inertial Fusion Energy

Tuesday, July 6, 1999

Chair: I.V. Yevseyev (Russia)

09.00-09.45 Nikolai I. Tankovich (Thermolase Co., USA)
Laser Cosmetical Treatments in Dermatology

Chair: W. Schleich (Germany)

09.45-10.30 D. DiVincenzo (IBM T. J. Watson Research Center, USA)
Prospects for Quantum Computing

Seminar 1
Modern trends in laser physics

Friday, July 2, 1999

Chairs: O. Kocharovskaya (Russia) and Sajeev John (Canada)

11.55-12.25 G. Welch, V. Sautenkov, Y. Rostovtsev (Texas, USA), M. Kash (Texas and Lake Forest, USA), A. Zibrov (Texas and Boulder, USA), L. Hollberg (Boulder, USA), M. Lukin (Cambridge, USA), E. Fry and M. Scully (Texas, USA and Garching, Germany)
Slow light and hot atoms

12.25-12.55 János A. Bergou (New York, USA; Pécs, Hungary) and Marlan O. Scully (Texas, USA)
Correlated emission laser (CEL) and the CEL gyro

13.00-14.00 Lunch

Chairs: E. A. Vinogradov (Russia) and E. Wintner (Austria)

14.00-14.30 P. Meystre and M.G. Moore (Tucson, USA)
Optical control and entanglement of matter wave fields

14.30-15.00 M. Fleischhauer (Munich, Germany)
Radiative atom–atom interactions in optically dense media

15.00-15.30 K.V. Krutitsky (Ulyanovsk, Russia), F. Burgbacher and J. Audretsch (Konstanz, Germany)
Microscopic theory of the interaction of ultracold dense Bose and Fermi gases with electromagnetic field

15.30-15.55 V.S. Bagnato, G. Telles, A. Antunes, P. Cardona, M. Santos, and L. Marcassa (Sao Paulo, Brazil)
The study of cold collisions involving different species

15.55-16.15 V.I. Yukalov, E.P. Yukalova and V.S. Bagnato (Sao Paulo, Brazil)
Excited coherent modes of ultracold trapped atoms

16.15-16.45 Coffee Break

Chairs: P. Domokos (Hungary) and J.D. Franson (USA)

16.45-17.15 J.M. Zavada (London, UK)
Optical properties and novel applications of rare earth-doped III-nitride semiconductors

17.15-17.45 A.S. Shumovsky, Ö.E. Müstecaplioglu, and M. Ünsal (Bilkent, Turkey)
Stokes parameters and stokes operators

SEMINAR 1 --- MODERN TRENDS IN LASER PHYSICS

17.45-18.15 V. Samartsev (Kazan, Russia)
Long-lived photon echo and optical phase memory

18.15-18.40 A.A. Kalachev and V.A. Zuikov (Kazan, Russia)
Long-lived optical superradiance in the Van-Vleck paramagnetics

18.40-19.05 S.N. Bagayev, S.V. Chepurov, A.G. Khamoyan, V.M. Klementyev, S.A. Kuznetsov, V.S. Pivtsov, and V.F. Zakharyash (Novosibirsk, Russia)
High stable femtosecond Ti:Sa laser and its use in the metrology

19.30-23.00 Welcome Party

Saturday, July 3, 1999

Chairs: Charles Bowden (USA) and Lev Rivlin (Russia)

11.00-11.35 Sajeev John (Toronto, Canada)
Quantum and nonlinear optics in a photonic band gap

11.35-12.10 Michael Scalora, Mark J. Bloemer, Charles M. Bowden (Huntsville and Redstone Arsenal, USA)
Laminated photonic band structures with high conductivity and high transparency: metals under a new light

12.10-12.45 Shi-Yao Zhu (Hong Kong)
Spontaneous emission in three-dimensional photonic crystals

12.45-14.00 Lunch

Chairs: Janos A. Bergou (Hungary) and John Zavada (UK)

14.00-14.35 J.D. Franson, T.B. Pittman, and B.C. Jacobs (Laurel, USA)
Nonlinear optics at low intensities using photon exchange interactions

14.35-15.10 Hans Briegel (Munich, Germany)
Quantum computing in optical lattices

15.10-15.45 D.G. Cory, T.F. Havel, R. Laflamme, Y. Sharf, S. Somaroo, C.H. Tseng (Cambridge, USA)
Quantum computing using NMR

15.45-16.20 Charles M. Bowden, and Shawn D. Pethel (Redstone Arsenal, USA)
Quantum computation via laser pulse induced electronic excitation controlled electron-nuclear transferred hyperfine interactions

16.20-16.45 Coffee Break

Chairs: V.S. Bagnato (Brazil) and Prem Kumar (USA)

16.45-17.20 P.H. Bucksbaum (Ann Arbor, USA)
Quantum control and quantum algorithms

17.20-17.50 P. Domokos (Budapest, Hungary), V. Lefevre, J. Hare, J.M. Raimond, L. Davidovich (Paris, France), and I. Protsenko (Moscow, Russia, Rio de Janeiro, Brazil)
Quantum theory of a thresholdless laser

17.50-18.15 R.N. Shakhmuratov (Leuven, Belgium; Kazan, Russia), A. Szabo (Ottawa, Canada), G. Kozyreff and P. Mandel (Bruxelles, Belgium), R. Coussement and J. Odeurs (Leuven, Belgium)
Dark state in ruby: analysis of the feasibility

18.15-18.40 B.-U. Runge, B. Böck, U. Bolz, J. Boneberg, V. Buyok, P. Brüll, J. Eisenmenger, C. Häfner, S. Herminghaus, J. Schiessling, and P. Leiderer (Konstanz, Germany)
Magneto-optic studies of superconductors down to nanosecond time resolution

18.40-19.05 Yu.E. Lozovik, A.L. Dobryakov, S.P. Merkulova (Troitsk, Russia), S.A. Kovalenko, V.M. Farztdinov (Berlin, Germany), V.A. Karavanskii (Moscow, Russia)
Femtosecond Spectroscopy of Porous and Cluster Materials

19.05-19.25 P. García-Fernández, C. Cabrillo (Madrid, Spain)
Quantum noise reduction in singly resonant optical devices

19.25-19.45 A.V. Kir'yanov (Leon, Mexico; Moscow, Russia), Yu.O. Barmenkov and A.N. Starodumov (Leon, Mexico), V.-P. Lippanen, J. Vanhanen, T. Jaaskelainen (Joensuu Univ, Finland), N.M. Kozhevnikov (St.-Petersburg, Russia)
Study of phase grating recording in 4-keto Bacteriorhodopsin using phase-modulated beams technique

Sunday, July 4, 1999

Chairs: T. Kiss (Hungary) and M.I. Kolobov (Germany)

11.55-12.25 E. Wintner, I.T. Sorokina, E. Sorokin (Wien, Austria)
Diode-pumped ultrashort pulse solid-state lasers

12.25-12.55 Richard L. Fork, Lisa J. Gamble, William M. Diffey (Huntsville, USA)
Spatially extended modelocking

13.00-14.00 Lunch

Chairs: A. Mysyrowicz (France) and R. Shakhmuratov (Russia)

14.00-14.35 O. Kocharovskaya, R. Kolesov and Yu. Rostovtsev (Texas, USA, and Moscow, Russia)
Coherent optical control of gamma-ray nuclear spectra

14.35-15.05 Lev Rivlin (Moscow, Russia)
Cold atoms as a source of monochromatic and coherent nuclear gamma-radiation

SEMINAR 1 --- MODERN TRENDS IN LASER PHYSICS

15.05-15.35 V.I. Yukalov and E.P. Yukalova (Dubna, Russia)
Formation of directed beams from atom lasers

15.35-16.00 A.A. Zadernovsky (Moscow, Russia)
Ignition of burst two-quantum generation of coherent gamma-photons

16.00 - 16.20 Lev Rivlin (Moscow, Russia)
Transmission of cold atom interference pattern through (2+1)D potential well

16.20-16.45 Coffee Break

Chairs: A. Gaeta (USA) and W.P. Schleich (Germany)

16.45-17.15 V.M. Shalaev, W. Kim, V.P. Safonov, and R.L. Armstrong (Las Cruces, NM, USA)
Fractals in microcavities: New feasibilities for laser physics and photonics

17.15-17.45 E.A. Vinogradov, Yu.E. Lozovik, Yu.A. Matveets, V.M. Farztdinov, A.L. Dobryakov (Troitsk, Russia)
Electron injection dynamics through the Shottky barrier

17.45-18.15 Yu.E. Lozovik (Troitsk, Russia), A.M. Fedotov and N.B. Narozhny (Moscow, Russia)
Excitation of an atom in nonstationary cavity and dynamic Casimir effect

18.15-18.35 Lev Rivlin (Moscow, Russia)
Is the Photon Mass Zero ? (Extraordinary photon behavior in context of cavity electrodynamics)

18.35-18.55 A.M. Fedotov, N.B. Narozhny (Moscow, Russia), and Yu.E. Lozovik (Troitsk, Russia)
Dynamic Cazimir effect in sudden approximation

19.30-23.00 Conference Dinner

Monday, July 5, 1999

Chairs: P. Meystre (USA) and V.V. Samartsev (Russia)

11.00-11.30 W.P. Schleich (Ulm, Germany)
Quantum carpets and vortices in Bose-Einstein condensates

11.30-12.00 A. Gatti, E. Brambilla (Milano, Italy), L.A. Lugiato (Como, Italy), and M. Kolobov (Essen, Germany)
Quantum entangled images

12.00-12.25 M.I. Kolobov (Essen, Germany)
Noiseless amplification of optical images

12.25-12.50 A.V. Sergienko, A.F. Abouraddy, B.E.A. Saleh, and M.C. Teich (Boston, USA)
Large spatial entanglement and quantum interferometry

12.50-14.00 Lunch

Chairs: A. Gatti (Italy) and V.M. Shalaev (USA)

14.00-14.30 Prem Kumar, Sang-Kyung Choi, and Michael Vasilyev (Evanston, USA)
Spatially broadband parametric amplification: quantum-noise correlations and noiseless optical amplification of images

14.30-15.00 A. Maître, M. Vaupel, C. Fabre (Paris, France)
Transverse classical and quantum structures in a triply resonant OPO

15.00-15.25 A. Czitrovszky, P. Jani, A. Nagy (Budapest, Hungary) and A. Sergienko (Boston, USA)
Photometric measurements of quantum efficiency using quantum two-photon field

15.25-15.50 Z. Kis, T. Kiss, J. Janszky and P. Adam (Budapest, Hungary), S. Wallentowitz and W. Vogel (Rostock, Germany)
Detection of non-classical oscillations in phase-space by cascaded optical homodyning

15.50-16.15 Guillaume Petite (Saclay, France)
Understanding the effects of ionizing radiation on matter with ultrashort pulsed lasers

16.15-16.45 Coffee Break

Chairs: P.H. Bucksbaum (USA) and A. Shumovsky (Turkey)

16.45-17.15 Alexander L. Gaeta, Doug Homoelle, Kevin Moll, and Stephan Wielandy (Ithaca, USA)
Catastrophic collapse of ultrashort pulses in condensed matter

17.15-17.45 S. L. Chin, A. Talebpour, S. Petit, A. Proulx and J. Yang (Laval University, Quebec, Canada)
From intense femtosecond pulse propagation into white light laser

17.45-18.10 R. Sauerbrey, S. Niedermeier, F. Ronneberger, H. Schillinger (Jena, Germany), H. Wille, M. Rodriguez, L. Wôste, and P. Rairoux (Berlin, Germany)
Long range propagation of terawatt laser pulses in the earth atmosphere

18.10-18.35 N. Akozbek and C. M. Bowden (Redstone Arsenal, USA), A. Talebpour and S. L. Chin (Laval University, Quebec, Canada)
Femtosecond pulse propagation in the air: Variational analysis

18.35-19.00 A. Mysyrowicz, S. Tzortzakis, M.A. Franco, Y.-B. André, A. Chiron, B. Lamouroux, and B.S. Prade (Palaiseau, France)
Formation of a conducting plasma channel in air by self-guided femtosecond laser pulses

19.00-19.25 M. Mlejnek, E.M. Wright, and J.V. Moloney (Tucson, USA)
A dynamic spatial replenishment scenario for femtosecond pulses propagating in air – A route to optical turbulence?

19.25-19.45 A.V. Andreev (Moscow, Russia)
Interaction of atom with superstrong laser field

19.45-20.00 F. Morales, E. Fiordilino and R. Daniele (Palermo, Italy)
Harmonic generation in presence of a multimode laser field

Tuesday, July 6, 1999

Seminar 1
Subsection
Physics Of Cold Atoms

Co-chairs: W.P. Schleich (Germany) and V.P. Yakovlev (Russia)

11:00-11:25 Roy Glauber (Harvard University, USA)
Coherence and Correlations in Ultracold Atomic Fields

11:25-11:50 Howard Carmichael (Oregon, USA)
Multi-atom effects in cavity QED with atomic beams

11:50-12:15 Pierre Meystre, and E.V. Goldstein (Tucson, USA)
Recent progress in nonlinear atom optics

12:15-12:40 S. Meneghini (University of Ulm), I. Jex, K.A.H. van Leeuwen, W. Schleich, V.P. Yakovlev, and M.R. Kasimov (Moscow, Russia)
Atomic beams in longitudinally modulated light crystals

12.45-14.00 Lunch

14:00-14:25 William Schieve, D. Johnson (Austin, USA)
Detection statistics in the micromaser

14:25-14:50 Janos Bergou (New York, USA; Budapest, Hungary), M. Jacob, and Y. Abranyos (New York, USA)
Generation of correlated photon pairs in the resonance fluorescence of a bichromatically driven trapped four-level atom

14:50-15:15 Krzisztof Wodkiewicz (Warsaw, Poland)
Fractional dynamics of the wave packets in phase space

15:15-15:40 Alexander Kaplan (Baltimore, USA)
Laser-powered single-atom motional oscillator

11.00-12.45 Poster Session of Seminar 1

Chair: K.A. Prokhorov (Russia)

1. P. Adam, A. Kárpáti, J. Janszky and E. Lugosi (Budapest, Hungary)
   Relations between input and output states of integrated optical systems
2. V.V. Apollonov, A.I. Artemyev, M.V. Fedorov, E.A. Shapiro (Moscow, Russia), and J.K. McIver (Albuquerque, USA)
   Gas-plasma and superlattice free-electron lasers exploiting a medium with periodically modulated refractive index
3. V.P. Bykov (Moscow, Russia)
   Nature of photocounts and laser detecting of coherent optical signals
4. A.A. Chernenko, I.M. Beterov, O.I. Permyakova (Novosibirsk, Russia)
   Amplification without inversion on the transitions from autoionizing states of Yb atom
5. Z.G. Melikishvili, M.I. Djibladze, L.E. Berdzenishvili (Tbilisi, Georgia)
   Quasistationary laser plasma
6. S. Szabó, P. Adam, and J. Janszky (Budapest, Hungary)
   Phase optimized states via coherent-state superpositions

Seminar 2
Strong-Field Phenomena

Friday, July 2, 1999

Chair: S.L. Chin (Canada)

11.55-12.25 F. Krausz (Vienna, Austria)
Extreme nonlinear optics with few-cycle laser pulses

12.25-12.55 Cs. Tóth, D.-E. Kim, B.C. Walker, T. Guo, C.W. Siders, A. Cavalleri, C.P. J. Barty (San Diego, USA)
Ultrafast coherent and incoherent and incoherent X-ray generation by inner-shell atomic processes induced by 25fs 1J pulses of high-power CPA lasers

13.00-14.00 Lunch

Chair: A. Maquet (France)

14.00-14.30 M. Gavrila (Cambridge, USA)
Atomic spectroscopy in intense laser fields

14.30-15.00 K.T. Taylor, J.S. Parker, D. Dundas, L.R. Moore, J.F. Mc Cann, E.S. Smith (Belfast, UK)
Laser-driven few-electron atoms and molecules

15.00-15.25 R.M. Potvliege (Durham, UK)
Quasienergy spectrum and multiphoton dynamics

15.25-15.50 A. Becker and F.H.M. Faisal (Bielefeld, Germany)
Multiple ionization processes in noble gas atoms in femtosecond laser pulses

15.50-16.15 V.D. Taranukhin and N.Yu. Shubin (Moscow, Russia)
High order harmonic generation by multielectron atoms

16.15-16.45 Coffee break

Chair: M. Gavrila (USA)

16.45-17.10 N.B. Narozhny and M.S. Fofanov (Moscow, Russia)
QED effects in a strong two-mode plane electromagnetic wave

17.10-17.35 H.-J. Kull, J. Görlinger, and L. Plagne (Aachen, Germany)
Multielectron processes in electron-ion scattering in strong laser fields

17.35-18.00 R. Karapetian (Moscow, Russia)
Motion of an atomic electron in strong laser field

18.00-18.25 A. Cionga (Bucharest, Romania)
Free-free transitions in electron-hydrogen

18.25-18.50 Z. Kaminski, P. Panek and F. Ehlotzky (Innsbruck, Austria)
Asymmetry, angular and polarizational effects in relativistic free-free transitions in a powerful laser field

19.30-23.00 Welcome Party

Saturday, July 3, 1999

Chair: L. DiMauro (USA)

11.00-11.25 S.P. Goreslavsky (Moscow, Russia)
Photoionization assisted by rescattering: quantum theory in semi-classical limit

11.25-11.50 R. Kopold and W. Becker (Berlin, Germany)
Above-threshold ionization for elliptical polarization

11.50-12.15 V.P. Krainov (Moscow, Russia)
Energy and angular distribution of relativistic electrons in a tunneling ionization of atoms by circularly polarized laser radiation

12.15-12.40 S. Bivona, R. Burlon, C. Leone (Palermo, Italy)
Photoelectron current modulation in multiphoton detachment oh H^-

13.00-14.00 Lunch

Chair: V.P. Krainov (Russia)

14.00-14.30 U. Eichmann, M. Dammasch, M. Dörr, W. Becker, H. Maeda and W. Sandner (Berlin, Germany)
Collective multielectron tunneling ionization

14.30-15.00 B. Zon (Voronezh, Russia)
Many particle aspects of tunneling

15.00-15.25 J. Bauer (Lodz, Poland)
Classical simulation for atoms and molecules in intense laser fields

15.25-15.50 A. Scrinzi, M. Geissler, and T. Brabec (Vienna, Austria)
Quasistatic laser field ionization of Hydrogen and Helium

15.50-16.15 M.A. Efremov and M.V. Fedorov (Moscow, Russia)
Classical and quantum-mechanical versions of the Kapitza-Dirac effect

16.15-16.45 Coffee break

Chair: H.G. Muller (The Netherlands)

16.45-17.10 A.M. Popov, O.V. Tikhonova, and E.A. Volkova (Moscow, Russia)
Hydrogen atom in a strong laser field

17.10-17.35 R.M. Potvliege (Durham, UK)
Adiabatic stabilization of circular states: phase control in two-colour fields and magnetic coupling

17.35-18.00 D. Bauer (Darmstadt, Germany)
Stabilization of two-electron systems in intense laser fields

18.00-18.25 N.J. Kylstra, A. Patel and P.L. Knight (London, UK)
Laser pulse effects in the stabilization of atoms in intense, high frequency fields

18.25-18.50 R. Parzhynski, M. Sobczak, and A. Wojcik (Poznan, Poland)
The effect of nonresonant l=1, n=0 electric dipole migration on Rydberg atom photoionization

Sunday, July 4, 1999

Chair: N.B. Narozhny (Russia)

11.55-12.20 A. Maquet, R. Taïeb, and V. Véniard (Paris, France)
Relativistic effects in atom-laser interactions

12.20-12.45 C.H. Keitel, S.X. Xu, C. Szymanowski, M. Casu and D.J. Urbach (Freiburg, Germany)
Relativistic laser-ion interactions: dynamics and X-ray radiation

13.00-14.00 Lunch

Chair: A.M. Popov (Russia)

14.00-14.30 S.L. Chin, A. Talebpour, and J. Yang (Quebec, Canada)
Inner shell electron ejection and fluorescence of molecules using intense femtosecond Ti-sappfire laser pulses

14.30-15.00 A. Bandrauk (Shebrooke, Canada)
Phase control of ionization of molecules

15.00-15.25 M. Ivanov, J. Karzhmarek, and P.B. Corkum (Ottawa, Canada)
Optical twister for molecules

15.25-15.50 F.H.M. Faisal and A. Becker (Bielefeld, Germany)
Intense field ionization of molecules

15.50-16.15 A.I. Andriushin and M.V. Fedorov (Moscow, Russia)
Orientation of molecules in a strong laser field

16.15-16.45 Coffee break

Chair: S.P. Goreslavsky (Russia)

16.45-17.10 P. Mulser, D. Bauer, S. Hain, and R. Ruhl (Darmstadt, Germany)
Present understanding of superintense laser-solid interactions

17.10-17.35 Zs. Tóth, B. Hopp, A. Mechler, Zs. Bor, S.D. Moustaisis, C. Kalpouzos and C. Fotakis (Szeged, Hungary)
Reflectivity transients on solid surfaces induced by high-power excimer laser irradiation

17.35-18.00 G. Ferrante, N. Zarcone, S. Basile, P. Porshnev and O. Petrova (Palermo, Italy)
Evolution of highly anisotropic plasma distribution functions in strong laser fields

18.00-18.25 S. Nuzzo, G. Ferrante, N. Zarcone, S. Basile (Palermo, Italy)
Elementary kinetic theory of strong field frequency and multiplication wave mixing

18.25-18.50 V.P. Krainov and M.B. Smirnov (Moscow, Russia)
Thomas-Fermi metal clusters in a laser field

19.30-23.00 Conference Dinner

Monday, July 5, 1999

Chair: F. Ehlotzky (Austria)

11.00-11.25 M.Yu. Kuchiev and V.N. Ostrovsky (Sydney, Australia)
Quantum theory of a high harmonic generation as a three-step process

11.25-11.50 I. Földes, J.S. Bakos, K. Gál, Z. Juhász, G. Kocsis, S. Szatmári, and G. Veres (Budapest, Hungary)
Properties of high harmonics generated by ultrashort UV laser pulses on solid surfaces

11.50-12.15 C. Lyngå, M. Bellini, C. Delfin, D. Descamps, M.B. Gaarde, T.W. Hänsch, J.-F. Hergott, A. L'Huillier, H. Merdji, J. Norin, P. Salieres and C.-G. Wahlström (Lund, Sweden)
Coherence properties and applications of high-order harmonics

12.15-12.40 M.A. Sukharev and V.P. Krainov (Moscow, Russia)
High-order harmonics generated by H_2^+ in a strong laser field

13.00-14.00 Lunch

Chair: F. Faisal (Germany)

14.00-14.30 Ph. Martin (Saclay, France)
Time-resolved photoemission spectroscopy using high-order harmonics

14.30-15.00 D.B. Milosevich, and A.F. Starace (Berlin, Germany)
Control of high harmonic generation and laser-assisted X-ray-atom scattering with static electric and magnetic fields

15.00-15.25 B. Carre, L. Le D'eroff, P. Salieres, D. Joyeux (Saclay, France)
Spatial and temporal coherence of high-order harmonics

15.25-15.50 R. Grobe (Normal, IL, USA)
Generation of higher harmonics in relativistic ionization of magnetically dressed atoms

15.50-16.15 V. Véniard, R. Taïeb, and A. Maquet (Paris, France)
A simple model for harmonic generation on atomic clusters

16.15-16.45 Coffee break

Chair: W. Becker (Germany)

16.45-17.10 S. Meyer, B. Chichkov and B. Wellegehausen (Hannover, Germany)
High-order harmonic generation in absorbing media and high order parametric amplification

17.10-17.35 V.T. Platonenko and V.V. Strelkov (Moscow, Russia)
Attosecond pulse generated with an ultrashort laser pulse

17.35-18.00 D. Persano Adorno, G. Ferrante, M. Zarcone (Palermo, Italy)
Far-infrared harmonic generation in semiconductors. A Monte-Carlo simulation

18.00-18.25 N.B. Narozhny and M.S. Fofanov (Moscow, Russia)
Relativistic ponderomotive effect

18.25-18.50 M.V. Fedorov and D.R. Bitouk (Moscow, Russia)
Relativistic ponderomotive forces

Tuesday, July 6, 1999

11.00-12.45 Poster Session of Seminar 2

Chair: M.V. Fedorov (Russia)

1. V.E. Chernov and B.A. Zon (Voronezh, Russia)
X-ray laser induced nuclear decay: resonance internal conversion

2. S.M. Fedorov, O.V. Tikhonova, and M.V. Fedorov (Moscow, Russia)
Interference vs. transient stabilization of Rydberg atoms in a strong light field

3. A. Jaron, J.Z. Kaminski, and F. Ehlotzky (Innsbruck, Austria)
Asymmetries in the angular distribution of above threshold ionization in an elliptically polarized field

4. V.L. Kalashnikov, D.O. Krimer, T.G. Poloyko (Minsk, Belarus)
Weak-nonlinear solution in the solid-state laser with semiconductor saturable absorber

5. Z. Kaminski and F. Ehlotzky (Innsbruck, Austria)
Transitional effects in electron-atom scattering in a laser field near the interface between radiation filled space and vacuum

6. V.T. Platonenko and V.V. Strelkov (Moscow, Russia)
Analytical formulae for high harmonic amplitudes

7. S. Varro, Gy. Farkas, and F. Ehlotzky (Innsbruck, Austria)
Generation of X-rays by irradiating metal surfaces with a powerful laser beam in a presence of a strong static electric field

8. S.V. Popruzhenko, S.P. Goreslavsky (Moscow, Russia)
Scalings of the interference structure in the photoelectron distribution on the ATI plateau

9. C. Reinhardt, S. Scorupka, H. Kawano, B. Chichkov, and B. Wellegehausen (Hannover, Germany)
Efficient VUV and XUV generation with a fs KrF laser

10. V.D. Taranukhin (Moscow, Russia)
Large relativistic ponderomotive forces in electromagnetic field of arbitrary strength

11. C. Trump, H. Rottke, G. Korn, M. Wittemann, and W. Sandner (Berlin, Germany)
Probing strong field photodissociation of

12. V.I. Trunov, A.V. Kirpichnikov, E.V. Pestryakov, V.V. Petrov (Novosibirsk, Russia)
Formation of ultrafast optical pulses in lasers with ultrawide gainband

13. E.A. Shapiro, M. Kalinski, P. Bellomo, J. Eberly (Moscow, Russia; Rochester, NY, USA)
Quantum control via localized Rydberg states

14. V.V. Suran and I.I. Bondar (Uzhgorod, Ukraine)
Direct two-electron mechanism of doubly-charged ions formation: resonant structure of A^{2+} yield

15. D.F. Zaretsky and E.A. Nersesov (Moscow, Russia)
The time duration of high harmonic generation in the process of ATI

16. D.F. Zaretsky and E.A. Nersesov (Moscow, Russia)
The amplification of high harmonics in the process of ATI

17. Z. Kaminski, P. Panek and F. Ehlotzky (Innsbruck, Austria) (See lecture: Sunday, 18:25)
Asymmetry, angular and polarizational effects in relativistic free-free transitions in a powerful laser field

18. S. Haan (USA)
Near threshold one-photon photoionization in a one-dimensional delta-function system

Seminar 3
Laser Spectroscopy

Friday, July 2, 1999

Chair: W. Hogervorst (The Netherlands)

11.55-12.25	W.J. Witteman (Enschede, The Netherlands) *Prospects for extending the stable pulse duration of short wave eximer lasers*
12.25-12.55	F. K. Tittel (Houston, USA) *Novel diode based sensors for gas sensing applications*
12.55-14.00	**Lunch**

Chair: F.K. Tittel (USA)

14.00-14.35	A.E. Dudelzak, E.V. Browell, A.I. Carswell (St-Hubert, Canada) *Progress in ORACLE (Ozone Research with Advanced Cooperative Lidar Experiment): joint NASA-CSA development of a space-based ozone dial*
14.35-15.10	G. Djotyan, J. Bakos, Zs. Sörlei, J. Szigeti, P. Ignácz, Z. Tóth, (Budapest, Hungary) *Interaction of frequency-chirped bichromatic laser pulses with multilevel atoms: Writing and storage of optical information*
15.10-15.45	A.V. Sokolov, D.D. Yavuz, D.R. Walker, G. Y. Yin, and S.E. Harris (Stanford, USA) *Subfemtosecond pulse generation by molecular modulation*
16.15-16.45	**Coffee break**

Chair: S.N. Bagayev (Russia)

16.45-17.20	N.N. Rubtsova, E.B. Khvorostov, S.A. Kochubey, L.S. Vasilenko (Novosibirsk, Russia), and I.V. Yevseyev (Moscow, Russia) *Polarization properties of the photon echoes in the Ytterbium vapor: dependence on the exciting pulse areas*
17.20-17.55	R.N. Shakhmuratov (Leuven, Belgium) *Locking and unlocking of the transient nutation signal*
17.55-18.25	V.A. Zuikov, J. Gallus, O. Ollikainen, A.K. Rebane, U.P. Wild, A.A. Kalachev, V.V. Samartsev (Kazan, Russia) *The spatial and spectral properties of the femtosecond photon echo and the angle echo-spectroscopy possibility*

18.25-18.50 V.A. Zuikov, A.A. Kalachev, V.V. Samartsev, A.M. Shegeda (Kazan, Russia)
Optical Superradiance in the $LaF_3:Pr^{3+}$- Crystal

19.30-23.00 Welcome Party

Saturday, July 3, 1999

Chair: W.J. Witteman (The Netherlands)

11.00-11.35 U. Hinze, B.N. Chichkov, E. Tiemann, B. Wellegehausen (Hannover, Germany)
Resonant CW four-wave mixing and parametric amplification

11.35-12.10 A.F. Semerok, B. Larousse, A. Pailloux (Saclay, France)
Optical diagnostics system for measuring SUPER-ERIC plasma parameters

12.10-12.45 W. Chen, J. Burie, D. Boucher (Dunkerque, France)
A widely tunable difference-frequency spectrometer for high-resolution infrared laser spectroscopy

12.45-14.00 Lunch

Chair: P.E. Toschek (Germany)

14.00-14.30 Z. Bozoki, A. Mohacsi, M. Szakall, G. Szabo and Z. Bor (Szeged, Hungary)
High stability external cavity diode laser system for photoacoustic gas detection

14.30-15.00 A. Kireev, M.A. Gubin, E.V. Koval'chuk, M.V. Petrovskiy, E.A. Petrukhin, A.S. Shelkovnikov, D.A. Tyurikov (Moscow, Russia)
Double-mode He-Ne and diode-pumped RbCl:Li/F_A(II) lasers for precise measurements in the 3.0-3.4 μm region

15.00-15.25 L. Feenstra, H.M.J. Bastiaens, P.J.M. Peters and W.J. Witteman (Enschede, The Netherlands)
On the extension of the pulse length of a discharge excited ArF excimer laser

15.25-15.50 T. Nagy, P. Simon, S. Szatmári (Szeged, Hungary)
Spectral evolution of short pulses in KrF amplifiers

16.15-16.45 Coffee break

Chair: N.N. Rubtsova (Russia)

16.45-17.10 J.H. Eberly, E.A. Shapiro, M. Kalinski, P. Bellomo (Rochester, USA)
Quantum phase lock in Rydberg atoms

17.10-17.35 S.N. Bagayev (Novosibirsk, Russia)
Highly stable femtosecond lasers and their application for the creation of a new optical clock

17.35-18.00 E.V. Baklanov, A.V. Denisov (Novosibirsk, Russia)
High precision calculations of the low-lying energy levels of the three body Coulomb system

Sunday, July 4, 1999

14.00-15.40 Poster Session of Seminar 3

Chair: V.M. Yermachenko (Russia)

1. T.G. Mitrofanova, V.A. Zuikov, A.A. Kalachev, V.V. Samartsev (Kazan, Russia)
Accumulated long-lived photon echo in the Van-Fleck paramagnetics and problem of optical memory

2. A.V. Taichenachev, A.M. Tumaikin and V.I. Yudin (Novosibirsk, Russia)
Simple theoretical model for electromagnetically induced absorption: Four-state N-atom

3. O.N. Prudnikov, A.V. Taichenachev, A.M. Tumaikin and V.I. Yudin (Novosibirsk, Russia)
New friction force caused by spontaneous radiation pressure

4. N.P. Konopleva, A.M. Tumaikin (Novosibirsk, Russia)
Magnetically induced amplification without inversion in three-level cascade scheme

5. A.V. Taichenachev, A.M. Tumaikin, V.I. Yudin (Novosibirsk, Russia)
Two-dimensional sideband Raman cooling and m = 0 Zeeman state preparation in an optical lattice

Seminar 4
Solid State Lasers and Nonlinear Optics

Sunday, July 4, 1999

Chair: Yusuke Mori (Japan)

11.55-12.20 H.P. Weber, R. Weber, Th. Graf (Bern, Switzerland)
High-power diode-pumped solid-state lasers

12.20-12.45 K. Yoshida (Osaka, Japan), A. Ikesue (Kyoto, Japan), T. Taira (Okazaki, Japan)
Optical properties and diode pumped operation of high-performance Nd doped YAG ceramics for solid-state lasers

12.45-14.00 Lunch

Chair: H.P. Weber (Switzerland)

14.00-14.25 P. Maak, L. Jakab, P. Richter (Budapest, Hungary), H.J. Eichler, B. Liu (Berlin, Germany)
Acoustooptic Q-switching of an Er:YSGG solid state laser

14.25-14.50 S. Kueck, L. Fornasiero, E. Mix, G. Huber (Hamburg, Germany)
Investigation of Cr doped MgO and Sc_2O_3 as potential laser sources for the near infrared spectral range

14.50-15.15 V. Peters, E. Mix, L. Fornasiero, K. Petermann, G. Huber (Hamburg, Germany)
Efficient laser operation of Yb^{3+} : Sc_2O_3 and spectroscopic characterization of Pr^{3+} in cubic sesquioxides

15.15-15.35 T. Sorokina, S. Naumov, E. Sorokin, E. Wintner (Wien, Austria) and A.V. Shestakov (Moscow, Russia)
Compact diode-pumped continuous-wave Cr:YAG laser vskip 1 cm

15.35-15.55 N.N.Il'ichev, P.P.Pashinin (Moscow, Russia)
Continious wave operation of F^{2-}— color centers laser in LiF at 1.15 mcm

15.55-16.15 G.A. Bufetova, V.F. Seregin, I.A. Shcherbakov, V.B. Tsvetkov (Moscow, Russia), A.M. Zabaznov (Minsk, Belarus)
Analysis and modeling of the thermolens dynamical behavior in pulsed solid-state lasers

16.15-16.45 Coffee break

Chair: R. Szipocs (Hungary)

16.45-17.15 I.V. Klimov, D.A. Nikolaev, I.A. Shcherbakov, V.B. Tsvetkov (Moscow, Russia)
Neodimium lasers, operating at different wavelength on $4F_{3/2} - 4I_{13/2}$ transition in a number of crystal hosts

17.15-17.40 L. Ivleva, N. Bogodaev, N. Polozkov, P. Lykov, V. Osiko (Moscow, Russia)
Holographic recording and beam coupling in barium-strontium niobate single crystals doped with cobalt

17.40-18.05 A.V. Podlipensky, N.V. Kuleshov, V.G. Shcherbitsky, V.P. Mikhailov, V.I. Levchenko, V.N. Yakimovich (Minsk, Belarus)
Cr^{2+}:ZnSe and Co^{2+}:ZnSe saturable-absorber Q-switches for the Er:glass laser at 1.54 μm

18.05-18.30 A.A. Lagatsky, N.V. Kuleshov, V.P. Mikhailov (Minsk, Belarus)
CW laser performance of diode-pumped Yb:KYW and Yb:KGW

19.30-23.00 Conference Dinner

Monday, July 5, 1999

Chair: I.A. Shcherbakov (Russia)

11.00-11.30 Yusuke Mori, Masashi Yoshimura, Takatomo Sasaki (Osaka, Japan)
Recent development of nonlinear optical borate crystals for UV generation

11.30-11.55 József A. Fülöp, Attila P. Kovács, Zsolt Bor (Szeged, Hungary)
Improved two-pass second harmonic generation of femtosecond pulses

11.55-12.20 P.B.W. Burmester, T. Kellner, S. Kueck, K. Petermann, G. Huber (Hamburg, Germany)
Type I noncritically phase-matched second harmonic generation in (Gd, Y) COB?

12.20-12.45 P. Apai, S. Lako, R. Szipocs (Budapest, Hungary) and M.B. Danailov (Trieste, Italy)
Broad-band photorefractive phase conjugation in a dispersive scheme

12.45-14.00 Lunch

Chair: N.N. Il'ichev (Russia)

14.00-14.25 R. Menzel, V. Raab, D. Lorenz, A. Heuer (Potsdam, Germany)
New developments of phase conjugating mirrors based on stimulated Brillouin scattering

14.25-14.50 Michiyuki Endo and Gorachand Ghosh (Tsukuba, Japan)
Estimation of phase noise in a mode-locked tunable laser

14.50-15.15 R. Szipocs (Budapest, Hungary), A. Euteneuer, E. Finger, M. Hofmann (Marburg, Germany), A. Kohazi-Kis (Budapest, Hungary)
Multi-color, mode-locked Ti : sapphire laser with zero pulse jitter

15.15-15.40 P. Tosin, W. Luthy, and H.P. Weber (Bern, Switzerland)
Manufacture of fibers with multiple claddings

15.40-16.05 A.V. Kir'yanov, N.N. Il'ichev (Moscow, Russia), and V. Aboites (Leon, Mexico)
Polarisation bistability in a Nd:YAG laser passively Q-switched with a Cr^{4+}: YAG crystal under the weak resonant signal control

16.15-16.45 Coffee break

Chair: Michiyuki Endo (Japan)

16.45-17.10 N.V. Kuleshov, A.V. Podlipensky, V.G. Shcherbitsky, V.P. Mikhailov, V.I. Levchenko, V.N. Yakimovich (Minsk, Belarus)
Laser performance of diffusion-doped Cr^{2+}: ZnSe

17.10-17.35 D.O. Krimer, V.L. Kalashnikov, I.G. Poloyko (Minsk, Belarus)
Weak-nonlinear soliton in the solid-state laser with semiconductor saturable absorber

17.35-18.00 V.L. Kalashnikov, D.O. Krimer, F. Mejid, I.G. Poloyko (Minsk, Belarus)
Automodulatios in cw solid-state ultrashort lasers mode-locked by kerr-lensing

18.00-18.25 L.A. Kotomtseva, S.G. Rusov (Minsk, Belarus)
Multivalued steady states, switching regimes and nonlinear dynamics in a solid state laser with a saturable absorber

18.25-18.50 E.V. Pestryakov, V.V. Petrov, V.I. Trunov, A.V. Kirpichnikov, A.I. Alimpiev (Novosibirsk, Russia)
Prospects for superbroadband laser media based on beryllium aluminate crystals

Seminar 5
Laser Methods in Medicine

Monday, July 5, 1999

Chairs: G. Müller (Germany) and S. Gonchukov (Russia)

11.00-11.40	G. Müller, D. Schaldach, A. Roggan, J. Helfmann, J. Beuthan (Berlin, Germany) *Laser optics in medical diagnostics and therapy*
11.40-12.15	A. Sergeev (Nizhniy Novgorod, Russia) *Recent developments in optical coherence tomography*
12.15-12.45	H. van den Bergh, J.-P. Ballini, M. Sickenberg (Lausanne, Switzerland) *Photodynamic therapy of age related macular degeneration: pharmacokinetics and therapeutic results*
12.45-14.00	**Lunch**

Chairs: H. Weber (Switzerland) and A. Priezzhev (Russia)

14.00-14.30	G. Klebanov, M. Kreinina, T. Chichuk, V. Christophorov, A. Grabovschiner (Moscow, Russia) *Molecular and cell mechanisms of laser therapy*
14.30-15.00	D. Chorvat, Jr., J.A. Mateashik, J. Urban, P. Mach, I. Lajdova, A. Chorvatova, M. Dushinska (Bratislava, Slovak Republic) *Interaction of Merocyanine 540 with biological membranes*
15.00-15.25	B. Eppich, J. Beuthan, C. Dressler, G. Müller (Berlin, Germany) *Optical phase measurements on biological cells*
15.25-15.50	J. Lademann, H.-J. Weigmann (Berlin, Germany), H. Schaefer (Paris, France), G. Müller, W. Sterry (Berlin, Germany) *Laser spectroscopic investigation of the stability of coated titanium microparticles used in sunscreens*
15.50-16.15	I. Ferincz (Szeged, Hungary), I. Ratkay (Budapest, Hungary), Zs. Bor (Szeged, Hungary) *Age and intended correction dependence of effective ablation rate during photorefractive keratectomy*
16.15-16.45	**Coffee Break**

SEMINAR 5 --- LASER METHODS IN MEDICINE

Chairs: J. Lademann (Germany) and L. Gáspár (Hungary)

16.45-17.20 E. Stranadko, G. Ponomarev, A. Ivanov, P. Tolstykh, U. Koraboyev, V. Mechkov, L. Glikin, V. Ashmarov, R. Baum, M. Riabov, A. Reshetnikov (Moscow, Russia)
Research and recent achievements in laser photodynamic therapy

17.20-17.55 M. Frenz, K. Kostli (Bern, Switzerland), G. Paltauf, H. Schmidt-Kloiber (Graz, Austria), H. Weber (Switzerland)
Tissue characterization by optoacoustic wave detection

17.55-18.30 V. Loschenov, G. Kisilev, A. Stratonnikov, A. Prokhorov (Moscow, Russia)
The methods of laser induced fluorescence spectroscopy of tissue in vivo for diagnostics and therapy control

Tuesday, July 6

Chairs: H. Weber (Switzerland) and J. Lademann (Germany)

11.00-11.35 A. Priezzhev (Moscow, Russia)
Laser diagnostics of pathologies by measuring structural and dynamics parameters of biological fluid

11.35-12.10 E. Sobol, A. Sviridov, M. Kitai, (Troitsk, Russia), J. Gilligan, N.H. Tolk, G. Edwards (Nashville, USA)
Time-resolved light scattering measurements of cartilage and cornea denaturation due to FEL irradiation

12.10-12.45 T. Juhasz, R. Kurtz, Z. Sacks, D. Cabrera, L. Turi, G. Spooner (Ann Arbor, USA), G. Djotyan (Budapest, Hungary)
Applications of femtosecond lasers in corneal surgery

12.45-14.00 Lunch

Chairs: S. Gonchukov (Russia) and A. Priezzhev (Russia)

14.00-14.25 V. Volnukhin, M. Kochetkov, V. Koslov, T. Fedorova, V. Grebenyuk, O. Vybornova (Moscow, Russia)
Low-intensive laser therapy of patients with granuloma annulare and its effect on microcirculation in the skin and blood lipid peroxidation

14.25-14.50 V. Orlov, S. Bagayev, S. Panov (Novosibirsk, Russia)
The study of motility of individual microparticles by phase sensitive laser spectroscopy

14.50-15.15 R. Steiner, A. Pohl, A. Bentele, T. Meier (Ulm, Germany)
Laser Doppler sensor for laser assisted injection

14.00-16.15 Poster Session of Seminar 5

Chairs: S. Gonchukov (Russia) and A. Priezzhev (Russia)

1. A. Soundoukov, N. Yuschuk, S. Gonchukov (Moscow, Russia)
   The new approach to the treatment of adults from toxic diphtheria
2. E. Bálint, A. Veres, I. Ocsovszki, I. Béládi, Z. Várkonyi (Szeged, Hungary)
   Flow Cytometric Analysis of Cell Membrane Events Induced by Interferon-Alpha
3. T. Kraposhina, G. Minkina (Moscow, Russia)
   Laser Therapy of Squamous Cell Hyperplasia of Vulva
4. I. Manuchin, T. Kraposhina, G. Minkina, T. Zacharova, L. Studenaya (Moscow, Russia)
   Laser Therapy of Condyloma Acuminata of Vulva
5. G. Minkina, I. Manuchin, L. Studenaya, T. Kraposhina (Moscow, Russia)
   CO_2 laser in the Treatment of the Wide-Spread Condylomatosis of Cervix Uteri
6. T. Chichuk, G. Lubchenko, E. Podgornaya, E. Pozdnyakova, G. Klebanov, E. Stranadko (Moscow, Russia)
   Biophysic Bases of Low-Intensive Laser Irradiation Action on Leucocytes
7. T. Chichuk, G. Lubchenko, E. Stranadko (Moscow, Russia)
   Action of Russian photosensitizers: Photohem and Photosense upon blood
8. E. Mironova (Moscow, Russia)
   Laser and Nonlaser Effects on Bioelectrical Plant Activity
9. S. Skipetrov (Moscow, Russia)
   Diffusing-wave imaging of flow in turbid media
10. S. Skipetrov (Moscow, Russia)
    Refractive index of random media
11. P. Pleshanov, Yu. Bykovsky, A. Chuchalin, E. Pleshanova (Moscow, Russia), D. Sayers (Raleigh, USA)
    Chemical speciation of heavy metals from radiactive contaminated soils in Russia and lung tissues of Chernobyl clean-up workers
12. N. Larionova, I. Maksimova (Saratov, Russia)
    Scattering of laser light wave on spherical particles of lens biotissue

Symposium on Status and Future Directions of High-Power Laser installations

Tuesday, July 6, 1999

Chair: W. Sandner (Germany)

14.00-14.45	Henry Hutchinson, (Rutherford-Appleton Laboratories, UK) *EU activities in High-Power, High-Energy Lasers*
14.45-15.30	Jean-Paul Chambaret (Palaiseau, France) *Towards 100 Terawatt/ 10 Hz User Facilities: the TMR- FIRE project*
15.30-16.15	M.D. Perry, H.T. Powell, Jim Murray and E.M. Campbell (Livermore, USA) *Status and future directions of high power, high intensity laser facilities*
16.15-16.45	**Coffee Break**

Chair: W. Sandner (Germany)

16.45-17.30	Katsumi Midorikawa et al. (RIKEN, Japan) *Guided Femdosecond Ti:Sapphire Laser Pulses*
17.30-18.15	Thomas Moeller, HASYLAB / DESY (Germany) *The VUV- High Power Free Electron Laser at DESY: Layout and Applications*
18.15-18.25	Closing Remarks

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