

**Program of the International Symposium "TOPICAL PROBLEMS OF NONLINEAR WAVE PHYSICS"  
NWP-2008**

Sunday, July 20

	NWP-1: NDES'2008 "Nonlinear Dynamics of Electronic Systems"	NWP-2: "Physics of Extreme Light"	NWP-3: "Global and Synoptic Nonlinear Processes in the Atmosphere"
<b>Chairs:</b>	Vladimir Nekorkin ( <i>Russia</i> )	Andre Bandrauk ( <i>Canada</i> ), Gerard Mourou ( <i>France</i> ), Alexander Sergeev ( <i>Russia</i> )	Michael Ghil ( <i>France, USA</i> ), Georgy Golitsyn ( <i>Russia</i> ) Vice-Chair: Alexander Feigin ( <i>Russia</i> )
7:00-9:00	Registration		
8:00-9:30	Breakfast		
9:00	Departure from Nizhny Novgorod		
10:00-10:20	Opening session		
10:20-11:10	G. Mourou ( <i>France</i> ) Extreme Light Infrastructure (ELI) [Plenary-1]		
11:10-12:00	R. Stoop ( <i>Switzerland</i> ) From hearing to listening: design and properties of an actively tunable electronic hearing sensor [Plenary-2]		
12:00-12:20	Coffee break		
	NWP-1: NDES'2008	NWP-2	NWP-3
Session	Chaos, control and synchronization	Generation of laser radiation with extreme characteristics – 1	Mechanisms and feedbacks in the climate system
12:20-13:30	12:20 Y. Nishio ( <i>Japan</i> ) Chaos synchronization by crosstalk of transmission lines [Invited 1-32]	12:20 Z.Z. Xu, R.X. Li, and Y. Cheng ( <i>China</i> ) Progress in petawatt laser development and high field physics research at SIOM [Invited 2-62]	12:20 M. Kimoto ( <i>Japan</i> ) Climate-change projections with state-of-the-art climate models [Invited 3-26]
	12:50 J. Kurths ( <i>Germany</i> ), G. Osipov, and C. Zhou Complex Networks – a fashionable topic or a useful one? [Invited 1-21]	12:50 V.V. Lozhkarev, G.I. Freidman, V.N. Ginzburg, E.V. Katin, E.A. Khazanov, A.V. Kirsanov, G.A. Luchinin, A.N. Mal'shakov, M.A. Martyanov, O.V. Palashov, A.K. Poteomkin, A.M. Sergeev ( <i>Russia</i> ), A.A. Shaykin, and I.V. Yakovlev Status and prospects of petawatt OPCPA lasers [2-49]	12:50 V. Lykosov, V. Krupchatnikoff ( <i>Russia</i> ), V. Kuzin, E. Golubeva, G. Platov, A. Krylova, and Yu. Martynova Estimation of feedbacks in Northern Eurasia and Arctic climate system on the base of coupled model ocean-atmosphere-vegetation-soil under global climate changes [3-29]
		13:10 D.C. Dumitras ( <i>Romania</i> ) Contribution of Romania to ELI project [2-9]	13:10 D.A. Smirnov ( <i>Russia</i> ) and I.I. Mokhov Estimating the influence of different factors on the global surface temperature from data [3-48]
13:30-15:00	Lunch		
15:00-15:50	M. Ghil ( <i>France, USA</i> ) Climate projections, uncertainties and their reduction: a random dynamical systems approach [Plenary-3]		
	NWP-1: NDES'2008	NWP-2	NWP-3
Session 16:00-17:00	Cellular neural networks	Generation of laser radiation with extreme characteristics – 2	Global atmospheric electric circuit

Sunday, July 20 / afternoon

	NWP-1: NDES'2008	NWP-2	NWP-3
Session	Cellular neural networks	Generation of laser radiation with extreme characteristics – 2	Global atmospheric electric circuit
16:00-17:00	16:00 <i>V.I. Nekorkin (Russia) and L.V. Vdovin</i> Map-based model of the neural activity [Invited 1-31]	16:00 <i>A. Aristov, N. Ivanov, V. Losev, S. Mamaev, L.D. Mikheev (Russia), E. Polyakov, M. Sentis, A. Shirokikh, V. Tcheremiskine, V. Trofimov, O. Uteza, and V. Yalovoy</i> Photochemically driven active media for ultrahigh power fs systems [2-30]	16:00 <i>E.A. Mareev (Russia)</i> Global atmospheric electric circuit in the Earth's climate system [Invited 3-34]
	16:30 <i>H. Kitajima (Japan)</i> Bifurcation in neuronal networks with hub structure [Invited 1-17]	16:20 <i>V.Yu. Venediktov (Russia) and A.A. Chirtsov</i> Multifunctional femtosecond laser facility in St.-Petersburg [2-59]	16:30 <i>D.I. Iudin (Russia), E.A. Mareev, V.Yu. Trakhtengerts, and M. Hayakawa</i> Cellular automaton modeling of mesospheric optical emissions [3-24]
		16:40 <i>E.A. Khazanov (Russia) and A.M.Sergeev</i> Routes to 100 PW pulses: laser ceramics versus Ti:Sa and DKDP crystals [2-22]	
17:00-17:20	Coffee break		
	NWP-1: NDES'2008	NWP-2	NWP-3
Session	Chaotic-based communication and electronic circuits	Application of superstrong laser fields – 1. Electron acceleration	Nonlinear effect in rotating atmosphere and ocean
17:20-19:00	17:20 <i>A.N. Pisarchik (Mexico), F.R. Ruiz-Oliveras, R. Jaimes-Reátegui, and J.H. García-López</i> Two-channel secure communication: application to electronic circuits and lasers [Invited 1-37]	17:10 <i>N.E. Andreev (Russia), S.V. Kuznetsov, and A.A. Frolov</i> Superstrong plasma fields, fast electrons and radiation under the action of short intense laser pulses [Invited 2-2]	17:20 <i>G.S. Golitsyn (Russia)</i> Tropical cyclones and polar lows: velocity, size and energy scales, 26°C, criteria for origin [Invited 3-21]
	17:50 <i>V. Shalfeev (Russia) and K.G. Mishagin</i> Nonlinear autophasing [Invited 1-43]	17:40 <i>U. Saalmann (Germany)</i> Intense laser-cluster interaction: efficient ion and electron acceleration [Invited 2-47]	17:50 <i>G.M. Reznik (Russia) and Z. Kizner</i> Two-dimensional solitons in rotating shallow water [3-42]
	18:20 <i>Y. Uwate (Switzerland), Y. Nishio, and R. Stoop</i> Investigation of phase pattern in a ring of chaos circuits coupled by time varying resistors [1-50]	18:10 <i>A.S. Pirozhkov (Japan), M. Kando, T.Zh. Esirkepov, J. Ma, Y. Fukuda, L.-M. Chen, I. Daito, K. Ogura, T. Homma, Y. Hayashi, H. Kotaki, A. Sagisaka, M. Mori, J.K. Koga, T. Kawachi, H. Kiriya, H. Okada, K.Kawase, T. Kameshima, N. Nishimori, E.N. Ragozin, A.Ya. Faenov, T.A. Pikuz, H. Daido, S.V. Bulanov, T. Kimura, Y. Kato, and T. Tajima</i> Laser wake wave as a relativistic flying mirror [2-39]	18:20 <i>S.V. Shagalov (Russia)</i> Nonlinear dynamics of Rossby wave packets in barotropic zonal flows near marginal stability (asymptotic models) [3-44]
	18:40 <i>A.S. Dmitriev, E.V. Efremova (Russia), L.V. Kuzmin, A.N. Anagnostopoulos, and A.N. Miliou</i> Chaotic oscillator based on field-effect transistor [1-9]	18:30 <i>K. Schmid (Germany), L.Veisz, S. Benavides, F. Tavella, R. Tautz, D. Herrmann, A.Buck, B. Hidding, A. Marcinkevicius, M. Geissler, U. Schramm, J. Meyer-ter-Vehn, D. Habs, and F. Krausz</i> Background-free monoenergetic electron acceleration driven by sub-10-fs light pulses [2-48]	18:40 <i>V.P. Reutov (Russia), A.S. Pavlychev, and G.V. Rybushkina</i> Investigation of the hexagon-to-roll transition in evaporating liquid in the presence of an airflow [3-41]
		18:50 <i>I.Yu. Kostyukov (Russia), and A. Pukhov</i> Electron beam conditioning by laser plasma density profiling [2-25]	
19:00-20:00	Dinner		
21:00-23:00	Welcome party		

Monday, July 21

09:00-19:00	Yaroslavl		
8:00-9:00	Breakfast		
9:00	Arrival in Yaroslavl		
9:00-13:30	Excursion		
13:30-15:00	Lunch		
15:00-15:50	<i>A.S. Dmitriev (Russia)</i> Chaos based sensor networks and information transmission [Plenary-4]		
15:50-16:40	<i>J. Ullrich (Germany)</i> Free electron lasers: ultra-brilliant light for science [Plenary-5]		
16:40-17:00	Coffee break		
	<b>NWP-1: NDES'2008</b>	<b>NWP-2</b>	<b>NWP-3</b>
Session	<b>Chaos, control and synchronization</b>	<b>Application of superstrong laser fields – 2. Ion acceleration</b>	<b>Nonlinear effects of wind-wave interaction</b>
17:00-19:00	17:00 <i>M. Hasler (Sweden), V. Belykh, and I. Belykh</i> Averaging in blinking (stochastically switched dynamical systems) [Invited 1-12]	17:00 <i>B.M. Hegelich (USA), L. Yin, B. Albright, K.A. Flippo, C. Gautier, A. Henig, R. Johnson, D. Kiefer, S. Letzring, V. Liechtenstein, K. Markey, J. Meyer-ter-Vehn, S. Rykovanov, R. Shah, J. Schreiber, T. Shimada, H.-C. Wu, M. Zepf, J.C. Fernandez, and D. Habs</i> GeV-class ion acceleration driven by ultrahigh intensity lasers [Invited 2-19]	17:00 <i>I. Repina (Russia) and A. Smirnov</i> Non-linear effects in sea surface drag coefficient in different conditions [3-40]
	17:30 <i>T. Ueta (Japan), Q. Brandon, A. Tamura, and T. Kousaka</i> Bifurcation and chaos in switched autonomous systems [Invited 1-49]	17:30 <i>D. Neely (UK)</i> Laser ion acceleration scaling in the relativistic region [Invited 2-34]	17:30 <i>Yu.I. Troitskaya (Russia), G.V. Rybushkina, and Øyvind Sætra</i> A quasi-linear model of the sea surface drag and wave growth rate at hurricane wind speeds [Invited 3-51]
	18:00 <i>M.J. Ogorzalek (Poland)</i> Space-filling curves in electronic applications [Invited 1-33]	18:00 <i>A.A. Andreev (Russia)</i> Laser ion acceleration from MLT [Invited 2-1]	18:00 <i>D. Chalikov (Russia)</i> Numerical simulation of coupled wind and wave dynamics [3-9]
	18:30 <i>S.P. Kuznetsov (Russia)</i> Parametric generator of chaos [Invited 1-22]	18:30 <i>V.Yu. Bychenkov (Russia)</i> High-quality laser-triggered particle beams [Invited 2-5]	18:30 <i>V.G. Polnikov (Russia)</i> Numerical modelling of wind waves. Problems and results [3-37]
19:00	Departure from Yaroslavl		
19:00-20:00	Dinner		
20:00-22:00	Poster session 1	Session	Poster session 1

	NWP-1: NDES'2008	NWP-2	NWP-3
	Poster session 1	Session. Application of superstrong laser fields – 3. Ion acceleration	Poster session 1
20:00-22:00	<p><b>V. Chernov</b> (Russia) Some features of auto-oscillations on ground surface [1-5]</p> <p><b>B. Nofiele, S. Morfu</b> (France), <b>P. Marquié, and O.J.J. Michel</b> Image encryption/decryption system based on an oscillatory cellular nonlinear network [1-29]</p> <p><b>B. Bodo</b> (France), <b>S. Morfu, and P. Marquié</b> Nonlinear supratransmission induced by noise [1-4]</p> <p><b>A.E. Hramov, A.A. Koronovskii, and A.E. Filatova</b> (Russia) Complete chaotic synchronization in the network of spatially extended beam-plasma systems [1-10]</p> <p><b>M. A. Komarov</b> (Russia), <b>G.V. Osipov, and J.A.K. Suykens</b> Synchronous sequence generation in neural ensembles [1-19]</p> <p><b>J. Marcuz</b> (France), <b>S. Binczak, J.M. Bilbault, and F. Girard</b> A dynamical system approach of surge protection [1-26]</p> <p><b>K. Kawabata</b> (Japan), <b>T. Asai, and Y. Amemiya</b> Circuit implementation of historic analog cellular automata based on Wolfram's rules 90 and 150 [1-14]</p> <p><b>Y. Makihara</b> (Japan), <b>M. Ikebe, J. Motohisa, and E. Sano</b> Phase lock operation by clock-period comparison for all-digital PLL [1-25]</p> <p><b>A.E. Hramov, A.A. Koronovskii, and O.I. Moskalenko</b> (Russia) Method for secure information transmission possessing remarkable stability to noise [1-30]</p> <p><b>A. Ovchinnikov</b> (Russia), <b>A. Koronovskii, and A. Hramov</b> Experimental study of time scale synchronization in coupled electronic chaotic generators in the presence of noise [1-36]</p> <p><b>Yu. Ueoka</b> (Japan), <b>T. Suzuki, T. Ikeguchi, and Yo. Horio</b> Estimating network structure of chaos coupled systems [1-48]</p>	<p><b>20:00 A.V. Kim</b> (Russia) Fast particle acceleration at ultraintense laser interactions with structured targets [Invited 2-23]</p> <p><b>20:30 A.S. Pirozhkov</b> (Japan), <b>M. Mori, A. Yogo, H. Kiriyaama, K. Ogura, A. Sagisaka, J.-L. Ma, S. Orimo, M. Nishiuchi, H. Sugiyama, T.Zh. Esirkepov, S.V. Bulanov, H. Okada, S. Kondo, S. Kanazawa, Y. Nakai, A. Akutsu, T. Motomura, M. Tanoue, T. Shimomura, M. Ikegami, T. Shirai, Y. Iwashita, A. Noda, I.W. Choi, S.K. Lee, J. Lee, Y. Oishi, H. Daido, T. Kimura, and T. Tajima</b> Proton acceleration and laser-plasma interaction diagnostics with J-KAREN laser [2-40]</p> <p><b>20:50 E.Y. Echkina</b> (Russia), <b>I.N. Inovenkov, T.Zh. Esirkepov, K. Nishihara, F. Pegoraro, and S.V. Bulanov</b> The instability of ion acceleration in the radiation pressure dominated regime [2-10]</p> <p><b>21:10 A.V. Korzhimanov</b> (Russia), <b>A.A. Gonoskov, A.V. Kim, and A.M. Sergeev</b> Light ions acceleration in rarefied targets irradiated by superstrong laser pulses [2-24]</p>	<p><b>Yu.V. Barkin</b> (Russia), <b>J.M. Ferrandiz, and D. Garcia</b> Contrast secular variations of the mean atmospheric pressure and mean sea level in northern and southern hemispheres of the Earth [3-6]</p> <p><b>A.M. Amelushkin, L.S. Bratolyubova-Tsulukidze, A.V. Grigoriev, O.R. Grigoryan, Yu. Drozdov</b> (Russia), <b>O.Yu. Nechaev, V.L. Petrov, and I.V. Churilo</b> Experiment based on spacesuite «ORLAN-M». Neutron fluxes from thunderstorms [3-13]</p> <p><b>F. Dumouchel</b> (France), <b>G. Godard, P. Paranthoën, P.L. Soustov, V.V. Chernov, and A.B. Ezersky</b> Dynamics of heat transporting vortices [3-14]</p> <p><b>O.S. Ermakova</b> (Russia), <b>Yu.A. Malkov, D.A. Sergeev, and Yu.I. Troitskaya</b> On the generation of vertical mixing due to surface waves [3-15]</p> <p><b>A.A. Evtushenko</b> (Russia) Modeling the fast growth of electric field structure in thunderstorm clouds [3-17]</p> <p><b>H. Lammer</b> (Austria) Electrical discharges in the lower atmosphere of Titan and related nonlinear phenomena</p>
22:00-23:00	Evening program		

Tuesday, July 22

9:00-14:00	Uglich		
8:00-9:00	Breakfast		
9:00	Arrival in Uglich		
9:00-12:30	Excursion		
	<b>NWP-1: NDES'2008</b>	<b>NWP-2</b>	<b>NWP-3</b>
Session	<b>Bio-engineering</b>	<b>Application of superstrong laser fields – 4. Ion acceleration</b>	<b>Global atmospheric electric circuit</b>
12:30-13:30	12:30 <u>T. Yazawa</u> (Japan), <u>K. Tanaka</u> , <u>T. Katsuyama</u> , and <u>Yu. Shimoda</u> Alternans lowers the scaling exponent of heartbeat fluctuation dynamics in animal models and humans: a detrended fluctuation analysis [Invited 1-53]	12:30 <u>V.T. Tikhonchuk</u> (France), <u>N. Naumova</u> , <u>C. Labaune</u> , <u>T. Schlegel</u> , <u>G. Mourou</u> , and <u>I.V. Sokolov</u> Ion acceleration and hole boring in dense plasma with ultraintense laser pulses [Invited 2-56]	12:30 <u>S.V. Anisimov</u> (Russia) and <u>N. M. Shikhova</u> Space charge transfer in the lower atmosphere [3-2]
	13:00 <u>A.A. Polezhaev</u> (Russia) Autowaves in aggregating dictyostelium discoideum: rearrangement of spirals into target patterns [Invited 1-38]	13:00 <u>O. Rosmej</u> (Germany), <u>A. Blazevic</u> , <u>M. Roth</u> , <u>K. Witte</u> , <u>Th. Stöhlker</u> , and <u>D.H.H. Hoffmann</u> Overview of high energy laser – heavy ion beam crossing experiments at GSI-Darmstadt [2-45]	12:50 <u>N.M. Shikhova</u> (Russia) and <u>S.V. Anisimov</u> Dynamic scales and fractals of turbulent electroelectric pulsations [3-47]
		13:20 <u>A.A. Gonoskov</u> (Russia), <u>A.V. Korzhimanov</u> , <u>V.I. Eremin</u> , <u>A.V. Kim</u> , and <u>A.M. Sergeev</u> Monoenergetic proton beam generation in superintense laser interaction with thin foils [2-18]	13:10 <u>S.I. Popel</u> (Russia) Dusty plasma manifestations in Earth's atmosphere [3-38]
13:30-15:00	Lunch		
14:00	Departure from Uglich		
	<b>NWP-1: NDES'2008</b>	<b>NWP-2</b>	<b>NWP-3</b>
Session 15:00-17:00	<b>Electronic circuits</b>	<b>Extreme states of matter</b>	<b>Nonlinear wind surface waves</b>

Tuesday, July 22/ afternoon

	NWP-1: NDES'2008	NWP-2	NWP-3
Session	Electronic circuits	Extreme states of matter	Nonlinear wind surface waves
15:00-17:00	15:00 <i>W. Schwarz (German)</i> Continuous-discrete systems: modeling – analysis – applications [Invited 1-41]	15:00 <i>T. Ceccotti, S. Dobosz, H. Lagadec, P. Monot, F. Quéré, H. George, M. Bougeard, G. Bonnaud, F. Réau, M. Lelek, P. D'Oliveira, C. Thaury, A. Levy, H. George, H. Popescu, Ph. Martin, D. Normand (France), J-P. Geindre, P. Audebert, R. Marjoribanks, E. Lefebvre, and A. Andreev</i> Ultra-high contrast experiments at ultra-high intensity [Invited 2-36]	15:00 <i>D. Chalikov (Russia)</i> Freak waves: their occurrence, mechanics and probability [Invited 3-8]
	15:30 <i>P. Marquié (France), T.V. Koon, B. Bodo, S. Yamgoué, P. Tchofo-Dinda, and J. Leon</i> Deterministic and stochastic transmission in nonlinear systems with forbidden frequency bands [Invited 1-27]	15:30 <i>V.S. Belyaev, A.P. Matafonov (Russia), V.I. Vinogradov, V.P. Krainov, and V.S. Lisitsa</i> Generation of fast particles and nuclear reactions in high-intensity laser fields [2-29]	15:30 <i>A.V. Babanin (Australia)</i> Wave breaking: do we know why the waves break? [Invited 3-4]
	16:00 <i>J.M. Seoane (Spain), M.A.F. Sanjuán, and Y.C. Lai</i> Fractal structures in weakly perturbed chaotic scattering [Invited 1-42]	15:50 <i>G. Priebe (UK), D. Laundy, M.A. Macdonald, G.P. Diakun, S.L. Smith, B. Sheehy, N. Naumova, G.A. Krafft, U. Schramm, G.J. Hirst, J. Collier, S. Chattopadhyay, and E.A. Seddon</i> Inverse Compton backscattering source driven by the multi-10 TW laser installed at Daresbury [2-42]	16:00 <i>S.I. Badulin (Russia), A.V. Babanin, V.E. Zakharov, and D. Resio</i> On a reference case of growth of young wind-driven waves [3-5]
	16:30 <i>A.E. Hramov, A.A. Koronovskii (Russia), M.K. Kurovskaya, A.A. Ovchinnikov, and S. Boccaletti</i> The characteristics of type-I intermittency in the presence of noise [Invited 1-20]	16:10 <i>D.S. Uryupina (Russia), K.A. Ivanov, N. Morshedjan, R.V. Volkov, and A.B. Savel'ev</i> Peculiarities of plasma formation under the action of high power femtosecond laser pulse onto the surface of liquid metal [2-58]	16:20 <i>L. Shemer (Israel) and D. Liberzon</i> On problems related to verification of wind-wave generation models by experiment [3-46]
		16:30 <i>V.V. Bukin (Russia), S.V. Garnov, and V.V. Strelkov</i> Dynamics of high-pressure femtosecond laser microplasma in gases [2-4]	16:40 <i>A.A. Abrashkin (Russia)</i> On the mean current induced by the spatial surface wave in viscous fluid [3-1]
17:00-17:20	Coffee break		

Tuesday, July 22 / evening

	NWP-1: NDES'2008	NWP-2	NWP-3
Session	Chaos, control and synchronization	Nonlinear effects in solid-state lasers / Application of superstrong laser fields – 5	New approaches to modeling atmospheric and atmospheric-oceanic processes
17:20-19:00	17:20 <u>V.S. Anishchenko</u> (Russia), <i>S.M. Nikolaev, S.V. Astakhov, and J. Kurths</i> Phase and frequency synchronization of quasi-periodic oscillations [Invited 1-2]	17:20 <u>A. Okhrimchuk</u> (UK), <i>V. Mezentsev, H. Schmitz, and I. Bennion</i> Nonlinear absorption of femtosecond laser pulses in YAG crystals [2-37]	17:20 <u>A.M. Feigin</u> (Russia), <i>E.M. Loskutov, Ya.I. Molkov, and D.N. Mukhin</i> Stochastic models from time series [Invited 3-18]
	17:50 <i>V. Afraimovich</i> (Mexico) Sequential dynamics in networks of active elements [Invited 1-1]	17:40 <u>M.A. Martyanov</u> (Russia), <i>E.A. Khazanov, M.S. Kochetkova, and A.K. Poteomkin</i> The experimental investigation of small-scale self-focusing of the high-power laser beam in nondestructive conditions [2-28]	17:50 <u>I. Zaliapin</u> (USA) and <i>M. Ghil</i> A delay differential model of ENSO variability: extreme values and stability analysis [3-52]
	18:20 <u>A.R. Dzhanoev</u> (Russia) and <i>A. Loskutov</i> A new mechanism of the chaos suppression and the stabilized orbits in the restricted three body problem [1-8]	18:00 <u>S.Yu. Mironov</u> (Russia), <i>E.A. Khazanov, and V.V. Lozhkarev</i> High-efficiency second harmonic generation of laser pulses with petawatt level peak power [2-31]	18:20 <i>E.G. Klimova</i> (Russia) Algorithms of data assimilation based on the dynamical-stochastic approach [3-27]
	18:40 <u>V.V. Klinshov</u> (Russia) and <i>V.I. Nekorkin</i> Synchronization in system of two neurons with time-delayed coupling [1-18]	18:20 <u>A.A. Soloviev</u> (Russia), <i>V.N. Ginzburg, E.V. Katin, E.A. Khazanov, A.V. Kirsanov, V.V. Lozhkarev, G.A. Luchinin, A.N. Mal'shakov, M.A. Martyanov, O.V. Palashov, A.K. Poteomkin, A.M. Sergeev, A.A. Shaykin, M.V. Starodubtsev, and I.V. Yakovlev</i> Diagnostics of a gas jet at femtosecond laser pulse focusing [2-52]	
19:00-20:00	Dinner		
21:00-22:30	Evening program		

Wednesday, July 23

9:00-14:00	Kostroma		
17:00-20:00	Ples		
8:00-9:00	Breakfast		
9:00	Arrival in Kostroma		
09:00-12:30	Excursion		
	<b>NWP-1: NDES'2008</b>	<b>NWP-2</b>	<b>NWP-3</b>
Session	<b>Chaos, control and synchronization</b>	<b>Fundamental atomic and plasma processes in high-intensity optical fields – 1</b>	<b>New approaches to modeling atmospheric and atmospheric-oceanic processes</b>
12:30-13:30	12:30 <u>E. Lindberg</u> (Denmark), <u>K. Murali</u> , and <u>A. Tamasevicius</u> The Colpitts oscillator family [Invited 1-23]	12:30 <u>A. Di Piazza</u> (Germany), <u>K.Z. Hatsagortsyan</u> , <u>E. Lötstedt</u> , <u>U.D. Jentschura</u> , and <u>C.H. Keitel</u> QED effects in super strong laser beams [Invited 2-38]	12:30 <u>A.V. Frolov</u> and <u>V.I. Tsvetkov</u> (Russia) A new approach to the "Pole problem" in global spectral atmospheric models [Invited 3-19]
	13:00 <u>B.P. Bezruchko</u> (Russia), <u>V.I. Ponomarenko</u> , and <u>D.A. Smirnov</u> Estimation of coupling in ensembles of oscillators via phase dynamics modeling [Invited 1-3]	13:00 <u>A.M. Fedotov</u> (Russia) and <u>N.B. Narozhny</u> Elementary quantum processes in a focused intense laser field [Invited 2-13]	13:00 <u>H. Lammer</u> (Austria) On the consequences of nonlinear coefficients and physical parameters to atmospheric modeling [3-31]
13:30-15:00	Lunch		
14:00	Departure from Kostroma		
15:00-15:50	<u>M.A. Donelan</u> (USA) Air-waves-sea coupling of momentum and energy in hurricanes [Plenary-6]		
15:50-16:40	<u>A. Pukhov</u> (Germany) High harmonics and attosecond pulses in relativistic regime [Plenary-7]		
16:40-17:00	Coffee break		
17:00	Arrival at Ples		
17:00-19:30	Excursion		
19:30-20:30	Dinner		
20:00	Departure from Ples		
21:00-22:30	Evening program		



15:00-18:00	<b>Nizhny Novgorod</b>		
8:00-9:00	<b>Breakfast</b>		
9:00-9:50	<i>K. Yamanouchi (Japan)</i> Ultrafast hydrogen migration in hydrocarbon molecules in intense laser fields [Plenary-8]		
	<b>NWP-1: NDES'2008</b>	<b>NWP-2</b>	<b>NWP-3</b>
Session	<b>Cellular neural networks</b>	<b>Fundamental atomic and plasma processes in high-intensity optical fields – 2</b>	<b>Mechanisms and feedbacks in the climate system</b>
10:00-11:20	10:00 <i>E. Surovyatkina (Russia)</i> Regularities of complex dynamics of electrical activity of periodically stimulated cardiac ventricular cell [Invited 1-46]	10:00 <i>K.T. Taylor (UK), J.S. Parker, L.R. Moore, K.J. Meharg, and G.S.J. Armstrong</i> Strong-field double ionization and scaling laws [Invited 2-55]	10:00 <i>S.P. Smyshlyaev (Russia) and V.Ya. Galin</i> An impact of nonlinear chemistry-dynamics interaction on the long-term ozone and temperature variability in the atmosphere [Invited 3-49]
	10:30 <i>S. Jacquir (France), S. Binczak, G. Laurent, D. Vandroux, P. Athias, and J.-M. Bilbault</i> Spiral waves observation in a network of cardiac cells [1-11]	10:30 <i>C. Mueller (Germany), A. Shahbaz, K.Z. Hatsagortsyan, and C.H. Keitel</i> Particle and nuclear physics with exotic atoms in superintense laser fields [Invited 2-33]	10:30 <i>S. Brachet, Y. Feliks, E. Simonnet, Z.-X. Li, M. Ghil (France, USA), and H. Le Treut</i> Low-frequency oscillations in the atmosphere induced by a mid-latitude SST front [3-7]
	10:50 <i>K. Oshima (Switzerland), Yu. Shiogai, M. Dhamala, and M. Hasler</i> Cardio-respiratory-brain interdependencies during anesthesia [1-34]	11:00 <i>M.V. Frolov (Russia), N.L. Manakov, and E.M. Zanozina</i> Keldysh theory of laser detachment for an arbitrary laser ellipticity and angular momentum of an initial state [2-15]	10:50 <i>E.M. Loskutov (Russia), A.M. Feigin, Ya.I. Molkov, and D.N. Mukhin</i> Reconstruction and prognosis of qualitative behavior of high-dimensional dynamic systems by low-dimensional stochastic models [3-32]
11:20-11:40	<b>Coffee break</b>		
	<b>NWP-1: NDES'2008</b>	<b>NWP-2</b>	<b>NWP-3</b>
Session	<b>Nonlinear networks</b>	<b>Fundamental atomic processes and attosecond physics</b>	<b>Mechanisms and feedbacks in the climate system</b>
11:40-13:30	11:40 <i>R. Jaimes-Reátegui (Mexico), J.R.S. Escoboza, A.N. Pisarchik, J.H. García-López, and D.L. Mancilla</i> Experimental study of complex networks synchronization with a single electronic circuit [Invited 1-40]	11:40 <i>A.M. Popov (Russia), M.A. Tikhonov, O.V. Tikhonova, and E.A. Volkova</i> Strong-field ionization of the quantum system with Coulomb and short-range potentials [Invited 2-41]	11:40 <i>K. Fraedrich (Germany)</i> Scaling of weather and climate fluctuations: from minutes to millennia [Invited]
	12:10 <i>T. Suzuki (Japan)</i> Characterizing cluster coefficient in directed and weighted complex networks on the basis of information flow [Invited 1-47]	12:10 <i>I. Barth and J. Manz (Germany)</i> Quantum simulations for the effects of circularly polarized laser pulses in molecules, atoms, and ions: nuclear pseudorotations, electric ring currents, and ultrastrong induced magnetic fields [Invited 2-27]	12:10 <i>O.B. Popovicheva (Russia)</i> Transport systems emission effects on induced cloudness and climate changing [3-39]
	12:40 <i>S. Politis (Ireland) and P. Curran</i> Dynamical behaviour of elementary networks employing TCP/IP congestion control [1-39]	12:40 <i>H. Mashiko, S. Gilbertson, Ch. Li, S.D. Khan, M.M. Shakya, E. Moon, and Z. Chang (USA)</i> Generation of attosecond pulses with double optical gating [Invited 2-6]	12:30 <i>E.D. Astakhova (Russia)</i> Ensemble prediction with the hydrometcenter of Russia global spectral model [3-3]
	13:00 <i>D.V. Kasatkin (Russia)</i> Phase reset in systems of interacting FitzHugh-Nagumo neurons [1-13]	13:10 <i>V.V. Strelkov (Russia), E. Mével, and E. Constant</i> Isolated attosecond pulse production by spatial shaping of femtosecond laser beam [2-54]	
13:30-15:00	<b>Lunch</b>		

Thursday, July 24 / afternoon

15:00	Arrival in Nizhny Novgorod		
15:00-17:30	Visit to IAP RAS/ Excursion		
18:00	Departure from Nizhny Novgorod		
	<b>NWP-1: NDES'2008</b>	<b>NWP-2</b>	<b>NWP-3</b>
Session	<b>Cellular neural networks</b>	<b>18:00-21:00 Poster session 2</b>	<b>Nonlinear processes in Earth environment</b>
18:00-19:00	18:20 <u>D.G. Zakharov</u> (Russia) and <u>V.I. Nekorkin</u> Dynamics of two electrotonically coupled non-identical inferior olive cells with delayed coupling break [1-54]	<u>V.I. Eremin</u> (Russia) and <u>A.V. Kim</u> Thin foil acceleration by laser pulses of relativistic intensity [2-12] <u>M.V. Frolov</u> (Russia), <u>N.L. Manakov</u> , <u>T.S. Sarantseva</u> , and <u>A.F. Starace</u> High harmonic generation by an elliptically polarized field: effects of initial state symmetry [2-14] <u>V.I. Geyko</u> (Russia) and <u>G.M. Fraiman</u> Motion of charged particles in high-intensity electromagnetic fields in rare plasma [2-16]	18:20 <u>A.V. Grigoriev</u> (Russia), <u>O.R. Grigoryan</u> , <u>A. Drozdov</u> , <u>Yu.V. Popov</u> , <u>E.A. Mareev</u> , and <u>D. Iudin</u> Thunderstorm neutrons at altitudes up to 400 km: some theoretical estimations [3-22]
	18:40 <u>D.S. Shapin</u> (Russia) The dynamics of two coupled neuron-like electronic elements with inhibitory feedback [1-44]	<u>I.A. Gonoskov</u> (Russia), <u>M.Yu. Ryabikin</u> , and <u>A.M. Sergeev</u> Two-center quantum interference from fs-laser driven diatomic molecules: isotope mass effects [2-17] <u>E.N. Nerush</u> (Russia) and <u>I.Yu. Kostyukov</u> Electron acceleration by two co-propagating laser pulses in bubble regime [2-35] <u>E. Romanova</u> (UK), <u>T. Benson</u> , <u>A. Seddon</u> , <u>D. Furniss</u> , <u>A. Konyukhov</u> , <u>S Muraviov</u> , <u>A. Andrianov</u> , and <u>G. Gelikonov</u> Writing 3D chip-scale non-linear structures in optical glasses by high-intensity femtosecond laser pulses [2-44] <u>A.A. Shaykin</u> (Russia), <u>A.A. Kuzmin</u> , <u>A.A. Soloviev</u> , and <u>E.A. Khazanov</u> Thermal depolarization and gain cross-section distribution in Nd:glass laser amplifiers [2-50] <u>A.A. Silaev</u> (Russia), and <u>N.V. Vvedenskii</u> Quantum and semiclassical calculations of photoionization and quasi-dc current excitation by few-cycle laser pulses [2-51]	18:40 <u>V.M. Gubchenko</u> (Russia) On a new parameter of the space weather and topology of the Solar streamer and Earth magnetosphere based on the form factor of the incoming solar wind particle velocity distribution function [3-23]

	NWP-1: NDES'2008	NWP-2	NWP-3
Session		18:00-21:00 Poster session 2	
18:00-19:00		<p><b>ISTC Session</b></p> <p><b><u>R.A. Akhmedzhanov</u></b> (Russia), <b>A.A. Bondartsev</b>, <b>L.A. Gushchin</b>, <b>K.L. Ovanesyan</b>, <b>A.G. Petrosyan</b>, <b>G.O. Shirinyan</b>, and <b>N.A. Zharova</b> Electromagnetically induced transparency based spectroscopy of ion-ion interactions in solids [2-65]</p> <p><b>A.M. Boichenko</b> (Russia) Spectral characteristics of high-current pulsed discharge in xenon</p> <p><b><u>A.V. Kopalkin</u></b> (Russia) <b>Yu.V. Dolgoplov</b>, <b>G.G. Kochemasov</b>, <b>S.M. Kulikov</b>, <b>F.A. Starikov</b>, and <b>S.A. Sukharev</b> Phase conjugation of optical vortices by stimulated Brillouin scattering [2-66]</p> <p><b>M.Yu. Kulikov</b>, <b>D.N. Mukhin</b> (Russia) and <b>A.M. Feigin</b> Retrieving parameters of the atmosphere by data using basic dynamic models [3-36]</p> <p><b>S.A. Gusev</b>, <b>N.N. Rukavishnikov</b>, and <b>A.N. Stepanov</b> (Russia) Study for possible design of optical and magnetic memory with super-high recording density with the use of femtosecond laser radiation and atomic-force microscopy [2-67]</p> <p><b><u>V.I. Shashkin</u></b> (Russia), <b>D.A. Pryakhin</b>, <b>P.G. Sennikov</b>, <b>S.V. Golubev</b>, and <b>H.-J. Pohl</b> Plasma deposition of nanocrystalline and amorphous silicon films from SiF<sub>4</sub> precursor [3-45]</p> <p><b>I.V. Ryzhov</b>, <b>N.N. Rukavishnikov</b>, <b><u>O.V. Trikanova</u></b> (Russia), <b>S.V. Sokolovsky</b>, and <b>V.V. Romanov</b> Regenerative amplifier of chirped laser pulses [2-68]</p>	
19:00-20:00	Dinner		
21:00-22:30	Evening program		

Friday, July 25

15:00-20:00	<b>Kazan</b>		
8:00-9:00	<b>Breakfast</b>		
9:00-9:50	<i>Th.C. Marshall (USA)</i> Atmospheric electricity: Thunderstorms and the global electric circuit [Plenary-9]		
9:50-10:40	<i>D. Charalambidis (Greece)</i> Intense, table-top, sub-fs radiation sources. Current status and future perspectives [Plenary-10]		
10:40-11:00	<b>Coffee break</b>		
	<b>NWP-1: NDES'2008</b>	<b>NWP-2</b>	<b>NWP-3</b>
Session	<b>Cellular neural networks</b>	<b>Attosecond physics – 1</b>	<b>Global atmospheric electric circuit</b>
<b>11:00-13:30</b>	<b>11:00</b> <i>V.B. Kazantsev (Russia)</i> Calcium signals and activity patterns in diffusively coupled astrocytes [Invited 1-15]	<b>11:00</b> <i>E. Goulielmakis, M. Schultze, M. Hofstetter, V.S. Yakovlev (Germany), J. Gagnon, M. Uiberacker, A.L. Aquila, E.M. Gullikson, D.T. Attwood, R. Kienberger, F. Krausz, and U. Kleineberg</i> The generation and characterisation of sub-100-attosecond pulses [Invited 2-63]	<b>11:00</b> <i>S.S. Davydenko (Russia), E.A. Mareev, A.S. Sergeev, T.C. Marshall, and M. Stolzenburg</i> Modeling electromagnetic and quasi-stationary electric fields in the vicinity of a thundercloud [3-11]
	<b>11:30</b> <i>I. Volkov (Russia), E. Ullner, J. Garcia-Ojalvo, A. Koseska, J. Kurths, and A. Zaikin</i> Dynamics of coupled synthetic genetic repressilators [Invited 1-52]	<b>11:30</b> <i>A. Verhoef (Austria), A. Mitrofanov, E.E. Serebryannikov, A.M. Zheltikov, and A. Baltuška</i> Optical mapping of attosecond ionization dynamics by few-cycle light pulses [Invited 2-60]	<b>11:30</b> <i>N.S. Erokhin (Russia), L.A. Mikhailovskaya, and N.N. Zolnikova</i> The structure functions calculation for vertical electric fields in thunderstorm clouds [3-16]
	<b>12:00</b> <i>G.V. Osipov (Russia), L.S. Averyanova, A.K. Kryukov, V.S. Petrov, and C.K. Chan</i> Synchronization in mixed media of passive, excitable and oscillatory systems [Invited 1-35]	<b>12:00</b> <i>L.-Y. Peng, E.A. Pronin, and A.F. Starace (USA)</i> Attosecond pulse carrier-envelope phase effects on ionized electron momentum and energy distributions [Invited 2-53]	<b>12:00</b> <i>K.A. Boyarchuk, A.V. Karelin (Russia), and R.V. Shirokov</i> Molecular-kinetic theory of condensation and atmospheric electricity [3-25]
	<b>12:30</b> <i>A.S. Dmitrichev (Russia) and V.I. Nekorkin</i> Localized patterns in a two-dimensional lattice of electrically coupled modified FitzHugh-Nagumo neurons [1-6]	<b>12:30</b> <i>L.E. Chipperfield (UK), C. Ruiz, D.J. Hoffmann, R. Murray, J.S. Robinson, P.L. Knight, J.W.G. Tisch, M. Ivanov, and J.P. Marangos</i> Coherent control of electron trajectories in strong fields [Invited 2-8]	<b>12:20</b> <i>A.V. Kalinin (Russia), S.S. Davydenko, A.A. Zhidkov</i> On the well-posed formulation of quasi-stationary global circuit modeling
		<b>13:00</b> <i>V.A. Kostin, A.A. Silaev, and N.V. Vvedenskii (Russia)</i> Ionization mechanism of THz waves generation by ultrashort laser pulses [2-61]	<b>12:40 Discussion</b>
13:30-15:00	<b>Lunch</b>		
15:00	<b>Arrival in Kazan</b>		
15:30-18:30	<b>Excursion</b>		
19:00-20:00	<b>Dinner</b>		
20:00	<b>Departure from Kazan</b>		
21:00	<b>Party</b>		

Saturday, July 26

12:00-15:00	<b>Makariev Monastery</b>		
8:00-9:00	<b>Breakfast</b>		
9:00-9:50	<i>A. Bandrauk (Canada)</i> Molecules in intense laser fields – femto to attosecond dynamics [Plenary-11]		
	<b>NWP-1: NDES'2008</b>	<b>NWP-2</b>	<b>NWP-3</b>
Session	<b>Cellular neural networks</b>	<b>Attosecond physics – 2</b>	<b>New approaches to modeling atmospheric and atmospheric-oceanic processes</b>
<b>10:00-11:30</b>	<b>10:00</b> <i>N. Rulkov (USA)</i> Computational modeling of oscillations in large neural networks [Invited]	<b>10:00</b> <i>A.A. Gonoskov, I.A. Gonoskov, I.A. Kazachenko, and M.Yu. Ryabikin (Russia)</i> Two-center interference in high harmonic generation from diatomic molecule: detailed numerical study [2-46]	<b>10:00</b> <i>G. Rivin (Russia)</i> Modern systems of the operational weather forecast with nonhydrostatic models of the atmosphere [Invited 3-43]
	<b>10:30</b> <i>V.I. Nekorkin and L.V. Vdovin (Russia)</i> Driving of the chaotic bursting oscillations in the ensemble of map-based neurons [1-51]	<b>10:20</b> <i>N.L. Manakov (Russia), M.V. Frolov, and A.F. Starace</i> Wavelength scaling of energy-integrated high-harmonic yield: threshold phenomena and bound state symmetry dependence [Invited 2-26]	<b>10:30</b> <i>D. Kondrashov (USA), S. Kravtsov, and M. Ghil</i> Empirical mode reduction and its applications to nonlinear models in the geosciences [3-28]
	<b>10:50</b> Discussion	<b>10:50</b> <i>M.Yu. Emelin (Russia), M.Yu. Ryabikin, and A.M. Sergeev</i> Probing collapses and revivals of H <sub>2</sub> <sup>+</sup> vibrational wave packets using high harmonic generation [2-11]	<b>11:00</b> Discussion
11:30-11:50	<b>Coffee break</b>	<b>11:40-12:00</b> Coffee break	<b>Coffee break</b>
12:00	<b>Arrival in Makariev</b>		
12:00-15:00	<b>Excursion</b>		
15:00	<b>Departure from Makariev</b>		
15:00-16:30	<b>Lunch</b>		

	<b>NWP-1: NDES'2008</b>	<b>NWP-2</b>	<b>NWP-3</b>
16:30-18:30		16:30 Discussion	16:30 Discussion
18:30-19:00	<b>Closing Session</b>		
19:00-20:00	<b>Dinner</b>		
21:00	<b>Arrival in Nizhny Novgorod</b>		
21:00-22:30	<b>Departure</b>		

## Personal Schedule

Time	20 July.	21 July.	22 July.	23 July.	24 July.	25 July.	26 July.
8:00-9:00	<b>Breakfast</b>						
9:00-9:30							
9:30-10:00							
10:00-10:30							
10:30-11:00							
	<b>Coffee break</b>						
11:00-11:30							
11:30-12:00							
12:00-12:30							
12:30-13:00							
13:30-15:00	<b>Lunch</b>						
15:00-15:30							
15:30-16:00							
16:00-16:30							
16:30-17:00							
	<b>Coffee break</b>						
17:00-17:30							
17:30-18:00							
18:00-18:30							
18:30-19:00							
19:00-20:00	<b>Dinner</b>						
20:00-20:30							
20:30-21:00							
21:00-21:30							
21:30-22:00							
21:30-23:00	<b>Evening program</b>						

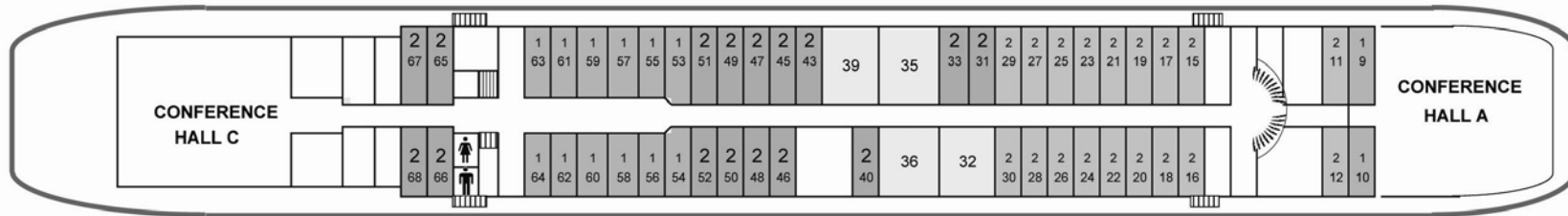
# "GEORGIY ZHNUKOV" "Георгий Жуков"

## DECK MAP

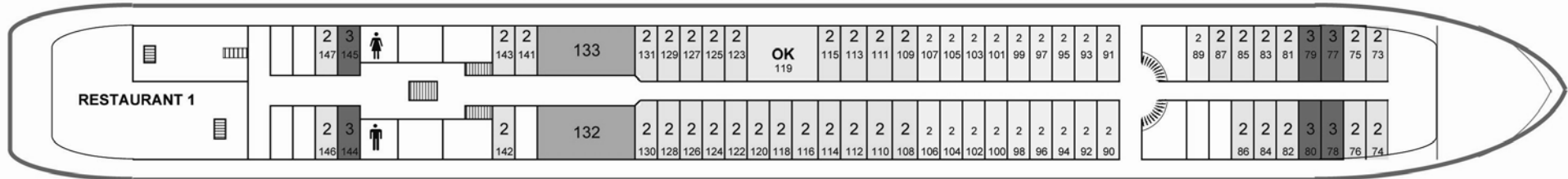
### SUN DECK



### BOAT DECK



### PROMENADE DECK



### MAIN DECK

