

Plenary Session.

October 3th, Tuesday. Hall of Columns.

Time	Title of the talks
08.30 – 09.30	REGISTRATION
09.30 – 10.00	N.N. Kolachevsky «Femtosecond frequency combs for precision spectroscopy»
10.00 – 10.30	A. Maksimchuk «Laser Wakefield Acceleration of Electrons for Radiation Generation»
10.30 – 11.00	P. McKenna «Relativistic optics and particle acceleration via a self-generated plasma aperture in a laser-irradiated ultrathin foil»
11.00 – 11.30	Coffee break
11.30 – 12.00	S. Tzortzakis «Sculptured ultrashort intense laser and THz beams»
12.00 – 12.30	B.N. Chichkov «3D laser printing of microoptical components and nanoparticles»
12.30 – 13.00	N.A. Inogamov «Laser ablation: review of some results»
13.00 – 15.00	Lunch

Section 1. Ultrafast high-field science.

Chair V.Yu. Bychenkov

October 3th, Tuesday. Conference Hall of Quantum Radio Physics Division.

Time	Title of the talks
13.00 – 15.00	Lunch
15.00 – 15.30	N.E. Andreev «Laser-plasma sources of high energy electrons»
15.30 – 15.45	K.A. Ivanov «Nanoscale structured targets for enhanced relativistic laser-plasma gamma and hard x-ray source»
15.45 – 16.00	A.M. Fedotov «Impact of radiation reaction on plasma waves generation by ultra-intense laser pulses»
16.00 – 16.15	A.V. Korzhimanov «Detrimental effects of self-generated magnetic fields on target normal sheath ion acceleration»
16.15 – 16.30	N.G. Borisenko «Picoseconds and targets»
16.30 – 16.35	O.E. Vais «Direct electron acceleration for diagnostic of laser pulse characteristics»
16.35 – 16.40	P.A. Ksenofontov «Effects of field ionization and density scale length on ion acceleration from low-density target»
16.40 – 16.45	S.V. Kuznetsov «Generation of short electron bunches by laser pulse plasma crossing a sharp boundary of plasma»

October 4th, Wednesday. Conference Hall of Quantum Radio Physics Division.

Chair N.E. Andreev (9.30 – 11.00)

Chair S. Ter-Avetisyan (11.30 – 13.00)

Время	Title of the talks
9.30 – 10.00	A. Faenov «Ionization and Ultraintense X-Ray Radiation of High Z Foils by Relativistic Femtosecond Laser Pulses Interaction»
10.00 – 10.15	I.A. Tsimbalov «Electrons acceleration and optical harmonics generation in the relativistic laser-plasma of solid targets»
10.15 – 10.30	A.S. Kuratov «High power terahertz pulse generation by relativistic laser plasma»
10.30 – 10.45	N. Naumova «Relativistic lambda-cube regime: the current status»

10.45 – 11.00	V.V. Kulagin «Laser engineering of relativistic electron mirrors from gas jet targets»
11.00 – 11.30	Coffee break
11.30 – 12.00	A.B. Savel'ev «Relativistic plasma physics with table top TW femtosecond lasers: science & applications»
12.00 – 12.15	V.F. Kovalev «New analytical solutions for relativistic self-focusing of a laser beam»
12.15 – 12.30	S.G. Bochkarev «Self-generated magnetic vortices growth and propagation in interpenetrating electron-ion beams»
12.30 – 12.45	I.A. Pavlichenko «Fast ponderomotive modification of the electron density profile»
12.45 – 13.00	V.P. Milant'ev «Autoresonant acceleration of electrons by the powerful laser radiation»
13.00 – 15.00	Lunch

October 5th, Thursday. Conference Hall of Quantum Radio Physics Division.

Chair A.B. Savel'ev (9.30 – 11.00)

Chair A. Faenov (11.30 – 13.15)

Время	Title of the talks
9.30 – 10.00	M. Grech «From quantum to classical radiation reaction: a focus on stochasticity effects»
10.00 – 10.30	A.V. Brantov «Laser plasma sources of charge particles and electromagnetic field: from THz to gamma-rays»
10.30 – 10.45	O.F. Kostenko «Characterization of the hot electron energy distribution in laser interaction with metal targets»
10.45 – 11.00	T. Pikus «Soft X-ray relativistic harmonics and soft and hard X-ray FEL beams high-performance in situ imaging by LiF detectors with sub-micron resolution»
11.00 – 11.30	Coffee break
11.30 – 11.45	D.V. Pugacheva «Betatron radiation of charged particles in laser-plasma»
11.45 – 12.00	L. Pugachev «Hot electron generation in interaction of intense laser pulses with near-critical plasma»
12.00 – 12.15	A.A. Mironov «Initiation of self-sustained QED cascades in generic electromagnetic field of electric type»
12.15 – 12.30	M. Veysman «On emittance of electron bunches accelerated in guiding structures»

12.30 – 12.45	S.G. Bochkarev «Radial ion acceleration during multispecies plasma expansion»
12.45 – 12.50	D.A. Gozhev «Optimization of laser pulse-low density plasma interaction»
12.50– 12.55	V.S. Popov «Effect of the laser pulse self-focusing on the injection and acceleration of electrons in the plasma wake fields»
12.55 – 13.00	I.I. Metelskii «Nonlinear plasma resonance in inhomogeneous relativistic plasma»
13.00 – 13.05	G.S. Mishura «Injection and capture of electrons in wakefields generated by a relativistic ion bunch»
13.05 – 13.15	V.Yu. Bychenkov Closing remarks
13.15 – 15.00	Lunch

Section 2. Ultrafast phenomena in condensed matter and ionized gases.

Chair S.A. Uryupin

October 4th, Wednesday. Hall of Columns.

Time	Title of the talks
9.30 – 10.00	A.A. Melnikov «Ultrafast structural dynamics in bismuth selenide»
10.00 – 10.30	N.M. Bulgakova «Correlation between optical response and thermodynamic properties of free electron gas in metals upon ultrafast laser irradiation: comparing modeling results with experiment»
10.30 – 11.00	T.J.-Y. Derrien «Surface plasmon polaritons: their properties for different metals and constitutive role in ultrafast laser processing»
11.00 – 11.30	Coffee break
11.30 – 12.00	E.G. Gamaly «Conversion of transparent dielectric by intense short laser into transient optically inhomogeneous state (Die-Met)»
12.00 – 12.30	A. Kanaev «Surface nanostructuring of semiconductors in the regime of high-density electronic excitation»
12.30 – 12.45	I.V. Oladyshkin «Thermal mechanism of THz generation from metal particles and surfaces»
12.45 – 13.00	S.G. Bezhanov «On the mechanisms of THz radiation generation on metal surfaces»
13.00 – 13.15	I.V. Oladyshkin «Anisotropic THz generation from bismuth surface induced by femtosecond laser pulses»
13.15 – 15.00	Lunch
15.00 – 15.30	D. Bauer «Density-functional simulations of strong-field physics in solid slabs»
15.30 – 16.00	T. Apostolova «Laser induced ultrafast switching processes in dielectrics for applications in nanophotonics»
16.00 – 16.30	A.N. Stepanov «Graphene in strong electromagnetic fields»
16.30 – 17.00	H. Merdji «High harmonic generation in solids assisted by field enhancement in nanostructures»
17.00 – 17.15	Y. Levy «Laser-induced periodic surface structure formation: numerical investigation of the temperature dynamics in metals and dielectrics and subsequent stress buildup»
17.15 – 17.30	B. Obreshkov «Multiphoton absorption coefficients of calcium fluoride for 515 wavelength»
17.30 – 17.45	M.E. Veysman «Optical properties of metals stipulated by electron-phonon interaction»
17.45 – 18.00	A.A. Frolov «Generation of surface waves by a drag current»

October 5th, Thursday. Hall of Columns

Time	Title of the talks
9.30 – 10.00	A.M. Popov «Spontaneous emission of atoms in strong light field»
10.00 – 10.15	A.V. Bogatskaya «Interference stabilization of atoms in strong laser field as a way to obtain amplification and lasing in different frequency ranges»
10.15 – 10.30	V.P. Krainov «Influence of deexcitation processes on the dynamics of laser-excited argon clusters»
10.30 – 10.45	A.A. Romanov «Quantum-mechanical effects in excitation of low-frequency currents during gas ionization by two-color laser pulses»
10.45 – 11.00	N.V. Vvedenskii «Ionization-induced parametric generation of few-cycle electromagnetic pulses»
11.00 – 11.30	Coffee break
11.30 – 11.45	K.Yu. Vagin. «Electron modes of cold plasma formed at atom photoionization by a short laser pulse of circularly polarized radiation»
11.45 – 12.00	I.V. Smetanin «Frequency Up-Shift in the Stimulated Thermal Scattering in Two-Photon Absorbing Colloids of Metal Nanoparticles»
12.00 – 12.15	I.A. Pavlichenko «Volume nanograting formation in laser-silica interaction as a result of the 1D plasma-resonance ionization instability»
12.15 – 12.30	S.A. Aseyev «Ultrafast electron microscopy and diffraction with sub-100-keV electron pulses»
12.30 – 12.45	N.V. Zverev «On Interaction of H-Wave with Metallic – Dielectric Photonic Crystal»
12.45 – 13.00	E.D. Kolykhalova «Ultrashort high-power optical pulses from semiconductor lasers by engineering pulsed electrical pumping»
13.00 – 13.15	V. Medvedev «Fragmentation of liquid micro-droplets excited by laser shock waves»
13.15 – 15.00	Lunch

Section 3. Ultrafast laser nanofabrication and nanophotonics.

Chair S.I. Kudryashov

3 October, Tuesday. Hall of Columns.

Time	Title of the talks
13.00 – 15.00	Lunch
15.00 – 15.30	F. Courvoisier «Processing of transparent dielectrics with ultrafast Bessel beams: from high aspect ratio void formation to stealth nanomachining»
15.30 – 15.45	A.P. Porfirev «Structured light generated by diffractive optical elements for laser nanofabrication»
15.45 – 16.00	S.N. Khonina «Time behavior of focused structured laser beams: shaping of light on a femtosecond time scale»
16.00 – 16.30	O.B. Vitrik «Direct laser printing of plasmonic nanostructures and their application»
16.30 – 16.45	B. Gakovic «Effects of Fs laser beam on (Ti/Al) nano-layer thin film»
16.45 – 17.00	Danilov P.A. «Femtosecond laser fabrication of plasmon elements by a structured laser beam»
17.00 – 17.05	A.K. Ivanova «Giant double-resonance enhancement of stimulated low-frequency Raman scattering in hybrid metal-capped nanodiamonds»

4 October, Wednesday. Conference Hall of Quantum Radio Physics Division.

Time	Title of the talks
13.00 – 15.00	Lunch
15.00 – 15.30	V.V. Temnov «Electron-phonon-magnon interactions open the door to femtosecond laser nanostructuring»
15.30 – 16.00	W. Husinsky «Particle emission and Surface-Nano-Patterning during ultrafast laser-matter interaction»
16.00 – 16.30	G. Miyaji «Plasmonic near-fields ablation on Si induced with an intense femtosecond laser pulse»
16.30 – 16.45	A. Dostovalov «Formation of transparent thermochemical LIPSS on thin Cr films by femtosecond laser beam scanning»
16.45 – 17.00	O.B. Vitrik «Laser-assisted imprinting of surface gratings on a gold film»
17.00 – 17.15	V.Ya. Shur «Recent Achievements in Laser Induced Nanodomain Engineering in LiNbO ₃ and LiTaO ₃ Crystals»
17.15 – 17.20	Nguyen Van Luong «Large-scale fabrication of sulfur-hyperdoped Si nanosheet arrays via ultrafast laser surface nanotexturing»

5 October, Thursday. Theoretical Hall.

Time	Title of the talks
9.30 – 10.00	P.N. Melentiev «UV nonlinear optics with single plasmonic nanostructure»
10.00 – 10.15	S.I. Kudryashov «Laser fabrication of resonant metal-dielectric and dielectric elements and structures»
10.15 – 10.45	A.V. Kabashin «Ultrafast laser-ablative synthesis of ultrapure functional nanomaterials for biomedical applications»
10.45 – 11.00	I.N. Saraeva «Ultrashort laser ablation of selenium: effect of pulsewidth and multipulse incubation»
11.00 – 11.30	Coffee break
11.30 – 12.00	I.N. Zvestovskaya «Mechanisms of laser fabrication and fragmentation of nanoparticles»
12.00 – 12.15	A. Dostovalov «Femtosecond-pulse inscription of phase-shifted FBGs and its applications»
12.15 – 12.30	A.S. Gritchenko «Plasmon Interferometer for femtosecond pulse duration measurements»
12.30 – 12.45	T.T.H. Nguyen «Fabrication of IR-sensors by femtosecond laser pulses»
12.45 – 13.00	S. Romashevskiy «Surface microcavities at nanoscale depths produced by ultrafast laser pulses»
13.00 – 13.05	A.A. Nastulyavichus «The luminescence spectra of the up-convertors excited by laser radiation»
13.05 – 13.10	V. Koval «Single-shot interference structuring of CuO films by picosecond laser pulses»
13.10 – 13.15	S.F. Umanskaya « Fabrication and optical characterization of epsilon-near-zero vis-metasurfaces»
13.15 – 15.00	Lunch

Section 4. Femtosecond non-linear optics. Filamentation.

Chair L.V. Seleznev

3 October, Tuesday. Physical hall.

Time	Title of the talks
13.00 – 15.00	Lunch
15.00 – 15.30	O. Kosareva «Superfilamentation with mid-IR, near IR and UV laser pump wavelengths»
15.30 – 16.00	S.V. Chekalin «Dynamics and spectra of light bullets in transparent dielectrics»
16.00 – 16.30	V.F. Losev «Formation of a highly directional supercontinuum upon filamentation of radiation in air»
16.30 – 16.45	A.A. Zemlyanov «Diffraction-ray optics of “dressed” laser beam filamentation in air»
16.45 – 17.00	L.E. Arantchouk «Prolongation of meter scale guided discharge initiated by femtosecond laser filamentation in air up to ms scale »
17.00 – 17.15	D.V. Mokrousova «Environmental monitoring of oil products spills on water surface using UV filaments»
17.15 – 17.30	V.Yu. Fedorov «Extreme THz fields from two-color filamentation of mid-infrared laser pulses»

4 October, Wednesday. Physical hall.

Time	Title of the talks
9.30 – 10.00	N. Panov «Effect of initial pulse chirp on THz generation from femtosecond filaments»
10.00 – 10.30	D. Uryupina «Peculiarities of regularized filaments evolution and superfilamentation in air»
10.30 – 10.45	E.S. Sunchugasheva «Sub-terawatt ultrashort UV pulse parameters characterization»
10.45 – 11.00	E.V. Vasilyev «Spatiotemporal dynamics of optical vortex in femtosecond mid-IR filament»
11.00 – 11.30	Coffee break
11.30 – 12.00	E.I. Mareev «The effect of wavefront curvature on supercontinuum generation under near-IR femtosecond filamentation in water»
12.00 – 12.15	V.P. Kandidov «Mid-IR laser coloration recording of single-cycle light bullets in LiF»
12.15 – 12.30	V.O. Kompanets «Similarity criterion for light bullets and supercontinuum formation under femtosecond filamentation in AGVD conditions»
12.30 – 12.45	D. Shipilo «Terahertz radiation ellipticity due to second harmonic birefringence in two-color femtosecond filament»

12.45 – 13.00	E.D. Zaloznaya «The influence of wave packet's scales on femtosecond filamentation and formation of light bullets»
13.00 – 15.00	Lunch
15.00 – 15.30	S.B. Bodrov «Femtosecond laser filaments: plasma density, decay and discharge guiding»
15.30 – 15.45	V.D. Zvorykin «Multiple filamentation of subpicosecond terawatt UV laser beam and its possible application»
15.45 – 16.00	I.V. Smetanin «Electron-free filamentation of the ultrashort laser pulse driven by coherent stimulated raman self-scattering»
16.00 – 16.15	O.I. Kuchinskaya «Spatial and spectral characteristics of the post-filamentation zone femtosecond laser propagation pulses along the path»
16.15 – 16.30	O.I. Kuchinskaya «Characteristics of the zone of multiple filamentation in media with different cubic nonlinearity»
16.30 – 16.45	A.N. Tcypkin «Determination of the nonlinear refractive index of crystalline ZnSe by modified method of z-scan at THz frequencies»
16.45 – 17.00	M.V. Melnik «High-efficiency spectral supercontinuum generation in the transparent nonlinear liquid jets»
17.00 – 17.15	A.V. Shutov «Effective H ₂ O ionization in ambient air at 248 nm laser wavelength»
17.15 – 17.30	Ya.V. Grudtsin «Novel mechanism of femtosecond pulse self-shortening based on the transient regime of multiple filamentation in Kerr media»

Section 5. Femtosecond radiation in spectroscopy and optical frequency metrology.

Chair V.N. Sorokin

October 3th, Tuesday. Theoretical Hall

Time	Title of the talks
13.00 – 15.00	Lunch
15.00 – 15.30	A.N. Kireev «Femtosecond Reference Oscillator for Cs/Rb Fountains»
15.30– 15.45	V. Voropaev «TM-doped all-fiber passively mode-locked ring laser for optical frequency standards in mid-IR»
15.45 – 16.00	K.A. Zagorulko «Low-noise fiber-based fs frequency comb»
16.00 – 16.15	D.S. Chernykh «Erbium fiber laser based comb-generators with a frequency parameters stabilization»
16.15 – 16.30	L.L. Losev «Femtosecond Raman lasers»
16:30 - 17:15	M.L. Gorodetskiy «Femtosecond pulses and Kerr combs in microresonators»