



**20-th International Workshop Complex Systems of Charged Particles
and Their Interactions with Electromagnetic Radiation - 2024
(CSCPIER-2024)**

Time (UTC+3)	Monday, April 8, 2024	Time (UTC+3)	Tuesday, April 9, 2024	Time (UTC+3)	Wednesday, April 10, 2024	Time (UTC+3)	Thursday, April 11, 2024	Time (UTC+3)	Friday, April 12, 2024
9:00 – 9:30	Gathering of the Workshop participants	10:00 – 11:30	Section 2. Complex Plasmas	10:00 – 11:45	Section 3. Laser Plasmas	10:00 – 11:30	Section 3. Laser Plasmas	10:00 – 11:45	Section 4. General Plasmas
9:30 – 10:00	Opening ceremony								
10:00 – 11:45	Section 1. Basic Aspects of Plasma Science								
11:45 – 12:00	Coffee break	11:30 – 11:45	Coffee break	11:45 – 12:00	Coffee break	11:30 – 11:45	Coffee break	11:45 – 12:00	Coffee break
12:00 – 14:00	Section 1. Basic Aspects of Plasma Science	11:45 – 14:00	Section 2. Complex Plasmas	12:00 – 14:00	Section 3. Laser Plasmas	12:00 – 14:00	Section 5. Solid State Plasmas	12:00 – 14:15	Section 4. General Plasmas
14:00 – 15:00	Lunch	14:00 – 15:00	Lunch	14:00 – 15:00	Lunch	14:15 – 15:00	Lunch	14:15 – 15:00	Lunch
15:00 – 16:45	Section 1. Basic Aspects of Plasma Science	15:00 – 16:30	Section 2. Complex Plasmas	15:00 – 16:30	Section 3. Laser Plasmas	15:00 – 16:30	Section 4. General Plasmas	15:00 – 16:30	Section 4. General Plasmas
16:30 – 16:45	Coffee break	16:30 – 16:45	Coffee break	16:30 – 16:45	Coffee break	16:30 – 16:45	Coffee break	16:30 – 16:45	Coffee break
16:45 – 18:00	Section 1. Basic Aspects of Plasma Science	16:45 – 18:00	Section 2. Complex Plasmas	16:45 – 18:00	Section 3. Laser Plasmas	16:45 – 18:00	Section 4. General Plasmas	16:45 – 18:00	Section 4. General Plasmas
								18:00 – 18:15	

The program of the 20th International Workshop Complex Systems of Charged Particles and Their Interactions with Electromagnetic Radiation (CSCPIER-2024), April 8-12, 2024, GPI RAS, Moscow, Vavilova street 38, building 1, floor 3, conference hall

April 8 (Monday), 2024						
9:30 — 10:00		Gathering of the CSCPIER-2024 participants				
10:00 — 10:30		Opening Ceremony of the CSCPIER-2024				
Section 1. Basic Aspects of Plasma Science						
	Time (UTC +3)	Report type	Report title	Report authors	Report form	Affiliation
1	10:30 — 11:00	Invited	Plasmodynamic Processes in Quasi-Stationary High-Current Plasma Accelerators of a New Generation	<u>Astashynski V.M.</u> , Penayzkov O.G.	Offline	A.V. Luikov Heat and Mass Transfer Institute, NAS Belarus, Minsk, Republic of Belarus
2	11:00 — 11:15	Oral	Collision of Streamers, Plasma Diffuse Jets and Spark Leaders During a Nanosecond Discharge in Air	<u>Tarasenko V.F.</u> , Baksht E.Kh., Panchenko A.N., Vinogradov N.P.	Online	Institute of High Current Electronics SB RAS, Tomsk, Russia
3	11:15 — 11:30	Oral	Ionization-dissociation phase transitions of the first order (On a new class of first-order phase transitions)	<u>Norman G.E.</u> (1), Saitov I.M. (2)	Offline	(1) National Research University Higher School of Economics, Moscow, Russia (2) Joint Institute for High Temperature of the Russian Academy of Sciences, Moscow, Russia
4	11:30 — 11:45	Oral	On collisionless damping of electromagnetic waves in a cloud of plasma electrons	Somsikov V.M.	Online	IETP Al-Farabi Kazakh National University, Almaty, Kazakhstan
	11:45 — 12:00	Coffee Break				
5	12:00 — 12:30	Invited	Pumping of plasma waves by a REB in a magnetized plasma column for plasma heating and radiation flux generation	Arzhannikov A.V.	Offline	Budker Institute of Nuclear Physics of Siberian Branch Russian Academy of Sciences, Novosibirsk, Russia
6	12:30 — 12:45	Oral	On the correspondence of the frequency spectrum of the electromagnetic radiation from the beam-plasma system to the	Arzhannikov A.V., <u>Sinitsky S.L.</u> , <u>Samtsov D.A.</u> , Sandalov E.S., Kalinin P.V. , Popov S.S.,	Offline	Budker Institute of Nuclear Physics of Siberian Branch Russian Academy of Sciences, Novosibirsk, Russian Federation

			spectrum of the plasma electronic oscillations	Atlukhanov M.G., Stepanov V.D., Kuklin K.N., Makarov M.A., Rovenskih A.F.		
7	12:45 — 13:00	Oral	Dipole effects in the Vlasov kinetic equation	Andreev P.A.	Offline	Department of General Physics, Faculty of physics, Lomonosov Moscow State University, Moscow, Russian Federation
8	13:00 — 13:15	Oral	On the physics of dense plasmas	Rakhel A.D.	Offline	Joint Institute for High Temperatures of Russian Academy of Sciences, Moscow, Russia
9	13:15 — 13:30	Oral	Kinetic Theory of Plasma Expansion in Vacuum Diode	Kozhevnikov V. Yu., Kozyrev A.V., <u>Kokovin A.O.</u> , Semeniuk N.S.	Offline	Institute of High Current Electronics SB RAS, Tomsk, Russia
10	13:30 — 13:45	Oral	On the proton-boron fusion in oscillating plasmas of nanosecond vacuum discharge	<u>Kurilenkov Yu.K.</u> (1,2), Oginov A.V. (1), Gus'kov S.Yu. (1), Andreev S.N. (3), Samoylov I.S. (2)	Offline	(1) Joint Institute for High Temperatures of the Russian Academy of Sciences, Moscow, Russia (2) Lebedev Physical Institute of the Russian Academy of Sciences, Moscow, Russia (3) Moscow Institute of Physics and Technology, Dolgoprudny, Moscow Region, Russia
11	13:45 — 14:00	Oral	Ion-acoustic soliton in a collisionless nonisothermal plasma	Kuznetsov S. V.	Offline	Joint Institute for High Temperature of the Russian Academy of Sciences, Moscow, Russia
	14:00 — 15:00	Lunch				
12	15:00 — 15:30	Invited	Measurement of Electric Field in Atmospheric Pressure Discharges Using Stark Polarization Spectroscopy	<u>Obradović B.M.</u> , Cvetanović N., Ivković S.S., Sretenović G. B., Kovačević V. V., Krstić I.B., and Kuraica M.M.	Online	University of Belgrade, Faculty of Physics, Belgrade, Serbia
13	15:30 — 15:45	Oral	Features of the dynamics of microwave discharges in atomic and molecular gases	<u>Saifutdinov A.I.</u> (1), Saifutdinova A.A. (1), Kustova E.V. (2)	Offline	(1) Kazan National Research Technical University named after A.N.Tupolev, Kazan, Russia

						(2) Saint Petersburg State University, Saint Petersburg, Russia
14	15:45 — 16:00	Oral	Features of the kinetics of fast electrons in a plasma of negative glow of a short glow discharge and its applications	A.I. Saifutdinov	Offline	Kazan National Research Technical University named after A.N.Tupolev, Kazan, Russia
15	16:00 — 16:15	Oral	On modeling electron runaway in gases by the particle method	<u>Maivorov S. A.</u> (1,2), Golyatina R.I. (2), Omiraliyeva G.K. (3)	Online	(1) Joint Institute for High Temperatures of the Russian Academy of Sciences, Moscow, Russia (2) Prokhorov General Physics Institute of the Russian Academy of Sciences, Moscow, Russia (3) Institute for Experimental and Theoretical Physics, Al-Farabi Kazakh National University, Almaty, Kazakhstan
16	16:15 — 16:30	Oral	Patterns of the Ionization Potentials of Multicharged Ions	Shpatakovskaya G.V.	Online	KIAM RAS, Moscow, Russia
	16:30 — 16:45	Coffee Break				
17	16:45 — 17:15	Invited	64 years of plasma crystallization studies in white dwarfs	Baiko D. A.	Online	Ioffe institute, Saint Petersburg, Russia
18	17:15 — 17:30		Jeans instability in The system with different gravitational MASSES and the ALPHA-g experiment	Trigger S.A.	Online	Joint Institute for High Temperatures of the Russian Academy of Sciences, Moscow, Russia
19	17:30 — 17:45	Oral	Treatment of quantum nuclear effects via path integral molecular dynamics	Kondratyuk N.D.	Offline	Moscow Institute of Physics and Technology, Dolgoprudny, Moscow Region, Russia
20	17:45 — 18:00	Oral	On the most probable energy release in structured media	Romanovsky M.Yu. (1,2,3)	Offline	(1) PI "Science and Innovation", Moscow, Russia (2) National Center for Physics and Mathematics, Moscow, Russia (3) Pirogov Russian National Research Medical University, Moscow, Russia

April 9 (Tuesday), 2024

Section 2. Complex Plasmas

	Time (UTC+3)	Report type	Report title	Report authors	Report form	Affiliation
1	10:00 — 10:30	Invited	Comet Dusty Plasmas	<u>Popel S.I.</u> , Golub' A.P., Zelenyi L.M.	Offline	Space Research Institute of the Russian Academy of Sciences (IKI), Moscow, Russia
2	10:30 — 10:45	Oral	Lunar Dusty Plasmas: Basic Physics Processes and Experimental Data of Luna-25	<u>Popel S.I.</u> , Zelenyi L.M., A.V. Zakharov, I.A. Kuznetsov, G.G. Dol'nikov, A.N. Lyash, I.A. Shashkova, A.A. Kartasheva, M.E. Abdelaal, Yu.S. Reznichenko	Offline	Space Research Institute of the Russian Academy of Sciences (IKI), Moscow, Russia
3	10:45 — 11:00	Oral	Waves and Instabilities in Plasma of Meteoroid Tails	<u>Morozova T.I.</u> , Popel S.I.	Online	Space Research Institute of the Russian Academy of Sciences (IKI), Moscow, Russia
4	11:00 — 11:15	Oral	Nonlinear Periodic Wave Structures in the Earth's Dusty Ionosphere	<u>Izvekova Yu.N.</u> , Popel S.I., Morosova T.I., Kopnin S.I.	Online	Space Research Institute of the Russian Academy of Sciences (IKI), Moscow, Russia
5	11:15 — 11:30	Oral	Electrostatically formed dusty plasmas above the surface of Enceladus	<u>Shokhrin D.V.</u> (1), Kopnin S.I. (2), Popel S.I. (2)	Online	(1) HSE University, Moscow, Russia (2) Space Research Institute of the Russian Academy of Sciences (IKI), Moscow, Russia
	11:30 — 11:45	Coffee Break				
6	11:45 — 12:15	Invited	Dust plasma in an inductive RF discharge in a magnetic field	<u>Karasev V.Yu.</u> , Dzlieva E.S., Golubev M.S., Gasilov M.A., Novikov L.A., Pavlov S.I.	Offline	Saint-Petersburg State University, Saint-Peterburg, Russia
7	12:15 — 12:30	Oral	The velocity of spin-motion of dust particles depending on the type of inert gas	<u>Novikov L.A.</u> , Dzlieva E.S., Pavlov S.I., Karasev V.Yu.	Offline	Saint-Petersburg State University, Saint-Peterburg, Russia

8	12:30 — 12:45	Oral	Ultrafast Rotation of Dust Structures in Glow Discharges Under the Magnetic Field Influence	<u>Dyachkov L.G.</u> (1), Dзлиeva E.S. (2), Novikov L.A. (2), Pavlov S.I. (2), Karasev V. Yu. (2)	Offline	(1) Joint Institute for High Temperatures of the Russian Academy of Sciences, Moscow, Russia (2) Saint-Petersburg State University, Saint-Peterburg, Russia
9	12:45 — 13:00	Oral	Influence of Wake Field Inhomogeneity on the Vibration Spectra of Two Dust Particles in a RF Discharge	<u>Sametov E.A.</u> , Lisin E.A., Syrovatka R.A., Vasiliev M.M., Petrov O.F.	Offline	Joint Institute for High Temperatures of the Russian Academy of Sciences, Moscow, Russia
10	13:00 — 13:15	Oral	Numerical study of the parameters of dust particles chains levitated in a gas discharge plasma	Fedoseev A.V. (1), Salnikov M.V. (2)	Offline	(1) Joint Institute for High Temperatures of the Russian Academy of Sciences, Moscow, Russia (2) Institute of Termophysics SB RAS, Novosibirsk, Russia
11	13:14 — 13:30	Oral	Dispersion of Lattice waves in a Two-Layer Crystal in a Complex Dusty Plasma	Zobnin A. V., Lipaev A.M., Naumkin V.N., Syrovatka R. A., Usachev A.D.	Offline	Joint Institute for High Temperatures of the Russian Academy of Sciences, Moscow, Russia
12	13:30 — 13:45	Oral	Obtaining a plasma-dust cloud from ilmenite concentrate using a microwave discharge	Borzosekov V.D. (1,2), Akhmadullina N.S. (3), Sokolov A.S. (1), Gayanova T.E. (1), <u>Rezaeva A.D.</u> (1,2), Stepakhin V.D. (1), Malakhov D.V. (1), Voronova E.V. (1), Logvinenko V.P. (1,2) Knyazev A.V.(1), Obraztsova E.A. (1,4), Skvortsova N.N.(1)	Offline	(1) Prokhorov General Physics Institute of the Russian Academy of Sciences, Moscow, Russia (2) RUDN University, Moscow, Russia (3) Baikov Institute of Metallurgy and Materials Science of the Russian Academy of Sciences, Moscow, Russia (4) Moscow Institute of Physics and Technology, Dolgoprudny, Russia
13	13:45 — 14:00	Oral	Microdispersed Ti/B/N and Pt/Al ₂ O ₃ Materials Synthesized in Chain Reactions in a Processes Initiated by Microwave of High Power Gyrotron: Structure and	<u>Skvortsova N. N.</u> (1), Obraztsova E. A. (1,2), Stepakhin V. D. (1), Konchekov E. M. (1), Lukianov D.A. (3), Gusein-	Offline	(1) Prokhorov General Physics Institute of the Russian Academy of Sciences, Moscow, Russia (2) Moscow Institute of Physics and Technology, Dolgoprudny,

			Cytotoxicity	zade N.G. (1), Shishilov O.N. (1,4)		Russia (3) Moscow State University, Faculty of Chemistry, Moscow, Russia (4) MIREA – Russian Technological University, Moscow, Russia
	14:00 — 15:00	Lunch				
14	15:00 — 15:30	Invited	Comparison of two-dimensional and three-dimensional diagnostic techniques for analysis MSD of microparticles	<u>Svetlov A.S.</u> (1,2), Vasiliev M.M. (1,2), Petrov O.F. (1,2)	Offline	(1) Joint Institute for High Temperatures of the Russian Academy of Sciences, Moscow, Russia (2) Moscow Institute of Physics and Technology, Dolgoprudny, Russia
15	15:30 — 15:45	Oral	Evolution of the trajectory of a colloidal particle in a chain in DC-discharge	Koss X.G. (1,2), Kononov E.A. (1,2), Erilin A.V. (2), Vasiliev M.M. (1,2), Petrov O.F. (1,2)	Offline	(1) Joint Institute for High Temperatures of the Russian Academy of Sciences, Moscow, Russia (2) Moscow Institute of Physics and Technology, Dolgoprudny, Russia
16	15:45 — 16:00	Oral	Dynamics of the volume structure of colloidal surface-charged active particles under external induction	Senoshenko R.V. (1,2), Kononov E.A.(1,2), Vasiliev M.M.(1), Petrov O.F.(1)	Offline	(1) Joint Institute for High Temperatures of the Russian Academy of Sciences, Moscow, Russia (2) Moscow Institute of Physics and Technology, Dolgoprudny, Russia
17	16:00 — 16:15	Oral	Structural transition in strongly coupled Coulomb clusters	Zhukhovitskii D.I., Perevoshchikov E.E.	Offline	Joint Institute for High Temperatures of the Russian Academy of Sciences, Moscow, Russia
18	16:15 — 16:30	Oral	Effect of an external electric field on the motion of Coulomb structures in a linear	Dobroklonskaya M.S.	Offline	Joint Institute for High Temperatures of the Russian Academy of Sciences, Moscow,

			electrodynamic trap			Russia
	16:30 — 16:45	Coffee Break				
19	16:45 — 17:15	Invited	Two-Dimensional Brownian Motion of Active Particle on the Free Surface of Superfluid Helium	<u>Boltnev R.E.</u> , Vasiliev M.M., Petrov O.F.	Offline	Joint Institute for High Temperatures of the Russian Academy of Sciences (JIHT RAS), Moscow, Russia
20	17:15 — 17:30	Oral	Multiscale self-consistent simulation of a system of charged dust particles system in plasma with ionic flow	Kolotinskiy D.A. (2,1), Nikolaev V.S. (1,2), Timofeev A.V. (1,2)	Offline	(1) Joint Institute for High Temperatures of the Russian Academy of Sciences, Moscow, Russia (2) Moscow Institute of Physics and Technology, Dolgoprudny, Russia
21	17:30 — 17:45	Oral	Generalised equipartition theorem as a natural measure of non-reciprocity in complex plasmas	Kolotinskii D. A. (1,2), Timofeev A.V. (1,2,3)	Offline	(1) Joint Institute for High Temperatures of the Russian Academy of Sciences, Moscow, Russia (2) Moscow Institute of Physics and Technology, Dolgoprudny, Russia (3) HSE University, Moscow, Russia
22	17:45 — 18:00	Oral	Vibrational model of transport properties in Yukawa fluids (complex plasmas)	Khrapak S.A.	Online	Joint Institute for High Temperatures of the Russian Academy of Sciences, Moscow, Russia

April 10 (Wednesday), 2024

Section 3. Laser Plasmas

	Time (UTC +3)	Report type	Report title	Report authors	Report form	Affiliation
1	10:00 — 10:30	Invited	Towards intense attosecond XUV pulses production: from high-harmonic generation to high-order frequency mixing	Strelkov V. V. (1), Bondarenko S. A. (2,1), Khokhlova M. A. (3)	Offline	(1) Prokhorov General Physics Institute of the Russian Academy of Sciences, Moscow, Russia (2) National Research Nuclear University MEPhI, Moscow, Russia (3) King's College London, London, UK
2	10:30 — 10:45	Oral	Guage Effects in High Harmonic Generation Characteristics of Ga ⁺ Ions in Laser Field	<u>Magunov A.I.</u> (1,2), Yudin S.N. (3)	Offline	(1) Prokhorov General Physics Institute of the Russian Academy of Sciences, Moscow, Russia (2) Institute of Applied Physics of the Russian Academy of Sciences, Nizhny Novgorod, Russia (3) Skobeltsyn Institute of Nuclear Physycs, Lomonosov Moscow State University, Moscow, Russia
3	10:45 — 11:00	Oral	Impact of high-power beam on Second Harmonic Generation in Collisionless Magnetized plasma	<u>Singh T.</u> , Walia K.	Online	Department of Physics, DAV University, Jalandhar, India
4	11:00 — 11:15	Oral	Emission of terahertz pulses from near-critical plasma slab under action of p-polarized laser radiation	Frolov A.A.	Offline	P.N. Lebedev Physical Institute of the Russian Academy of Sciences, Moscow, Russia
5	11:15 — 11:30	Oral	Modelling the electron wakefield for ultra-relativistic laser intensities taking ionisation into account	Sedov M.V, (1,2), Ryazantsev S.N. (1,2), Skobelev I.Yu.(1,2), Pikuz S.A.(1,2)	Offline	(1) Joint Institute of High Temperatures of the Russian Academy of Sciences, Moscow (2) National Research Nuclear University MEPhI, Moscow
	11:30 — 11:45	Oral				
	11:45 — 12:00	Coffee Break				
6	12:00 — 12:30	Invited	Experiments and modeling on laser acceleration of electrons and X-rays generation at various	Andreev N.E. (1,2)	Offline	(1) Joint Institute for High Temperatures of the Russian Academy of Sciences, Moscow,

			parameters of laser-plasma interaction			Russia (2) Moscow Institute of Physics and Technology, Dolgoprudny, Russia
7	12:30 — 12:45	Oral	On the roles of different freedom degrees in the water Coulomb explosion initiated by a intense X-ray pulse	<u>S.N. Yudin</u> (1), A.V. Bibikov (1), M.M. Popova (1,2), M.D. Kiselev (1,2,3), E.,V. Gryzlova (1), A.N. Grum-Grzhimailo (1)	Online	(1) Skobeltsyn Institute of Nuclear Physics, Moscow State University, Moscow, Russia (2) Faculty of Physics, Moscow State University, Moscow, Russia (3) Pacific National University, Khabarovsk, Russia
8	12:45 — 13:00	Oral	X-ray and optical laser-induced heating, motion, and phase transitions in condensed matter	Inogamov N.A. (1,2,3)	Offline	(1) Landau Institute for Theoretical Physics of the Russian Academy of Sciences, Chernogolovka, Moscow Region, Russia (2) Joint Institute for High Temperatures of the Russian Academy of Sciences, Moscow, Russia (3) Dukhov Research Institute of Automatics (VNIIA), Moscow, Russia
9	13:00 — 13:15	Oral	Vector parameters in atomic ionization by twisted Bessel radiation	<u>Kiselev M.D.</u> (1,2), Gryzlova E.V. (1), Grum-Grzhimailo A.N. (1)	Offline	(1) Skobeltsyn Institute of Nuclear Physics, Lomonosov Moscow State University, Moscow, Russia (2) Laboratory for Modeling of Quantum Processes, Pacific National University, Khabarovsk, Russia
10	13:15 — 13:30	Oral	Ionization of Helium Atoms by Metal Triply-Charged Ions in Laser Plasma	<u>Boltnev R.E.</u> (1, 2), Karabulin A.V. (1, 3), Krushinskaya I.N. (2), Pelmenev A.A. (2), and Matyushenko V.I. (2)	Online	(1) Joint Institute for High Temperatures of the Russian Academy of Sciences, Moscow, Russia (2) Branch of Semenov Federal Research Center for Chemical Physics of the Russian Academy of Sciences, Chernogolovka, Russia (3) Federal Research Center for Problems of Chemical Physics and Medicinal Chemistry of the Russian

						Academy of Sciences, Chernogolovka, Russia
11	13:30 — 13:45	Oral	Electron beam generation in laser-plasma interaction with liquid target	Shulyapov S.A. (1), Ivanov K.A. (1,3), Tsymbalov I.N. (1,2), Gorlova D.A. (1,2), Volkov R.V. (1), Tsygvintsev I.P. (4), Savel'ev A.B. (1,3)	Offline	(1) Faculty of Physics, M.V. Lomonosov Moscow State University, Moscow, Russia; (2) Institute for Nuclear Research, Russian Academy of Sciences, Moscow, Russia; (3) P.N. Lebedev Physical Institute, Russian Academy of Sciences, Moscow, Russia; (4) Keldysh Institute of Applied Mathematics, Russian Academy of Sciences, Moscow, Russia.
12	13:45 — 14:00	Oral	Generation of electron-positron plasma in self-sustained QED cascades with ultra-high intensity lasers	Mironov A.A.	Online	LULI, École polytechnique, Palaiseau, France
	14:00 — 15:00	Lunch				
13	15:00 — 15:30	Invited	Characterization of hot electrons generated by laser-plasma interaction at shock ignition intensities	E. D. Filippov (1), M. Khan (2), A. Tentori (3), P. Gajdos (4), A. S. Martynenko (1,5), R. Dudzak (4,6), P. Koester (7), G. Zeraouli (8), D. Mancelli (9,10), F. Baffigi (7), L. A. Gizzi (7) S. A. Pikuz (1,11) Ph.D. Nicolai (3), N. C. Woolsey (2), R. Fedosejevs (12), M. Krus (4), L. Juha (6), D. Batani (3), O. Renner (4,6,13) and G. Cristoforetti (7)	Offline	(1) Joint Institute for High Temperatures of the Russian Academy of Sciences, Moscow, Russia (2) York Plasma Institute, School of Physics, Engineering and Technology, University of York, York, United Kingdom (3) Université de Bordeaux, CNRS, CEA, CELIA, Talence, France (4) Institute of Plasma Physics of the CAS, Prague, Czech Republic (5) Plasma Physics Department, GSI Helmholtzzentrum für Schwerionenforschung, Darmstadt, Germany (6) Institute of Physics of the CAS, Prague, Czech Republic

						<p>(7) Intense Laser Irradiation Laboratory, INO-CNR, Pisa, Italy</p> <p>(8) Centro de Laseres Pulsados (CLPU), Edificio M5, Parque Científico. C Adaja, 8, Salamanca, Spain</p> <p>(9) Institute of Plasma Physics and Lasers - IPPL, Centre of Research and Innovation, Hellenic Mediterranean University, Rethymnon, Greece</p> <p>(10) Department of Electronic Engineering, Hellenic Mediterranean University, Chania, Greece</p> <p>(11) National Research Nuclear University MEPhI, Moscow, Russia</p> <p>(12) University of Alberta, Edmonton T6G 2V4, Alberta, Canada</p> <p>(13) The Extreme Light Infrastructure ERIC, ELI Beamlines Facility, Dolní Brezany, Czech Republic</p>
14	15:30 — 15:45	Oral	Conceptual design and scientific program of the experimental station "Matter in Extreme Conditions" for the Russian XFEL (project "SyLa")	Makarov S. S. (1,2), Burdonov K. F. (1,3), Lobanov A. V. (1,4), Kravchenko V. V. (1,4), Lagodich G. S. (1,4), Targonsky A.V (1), Pikuz S. A. (2)	Online	<p>(1) National Research Center "Kurchatov Institute", KKSNI, pl. Academician Kurchatova, 1, Moscow</p> <p>(2) Joint Institute of High Temperatures, Russian Academy of Sciences, Moscow</p> <p>(3) Institute of Applied Physics, Russian Academy of Sciences, Nizhny Novgorod</p> <p>(4) Institute of Laser and Plasma Technologies, National Research Nuclear University MEPhI, Moscow</p>
15	15:45 — 16:00	Oral	Generation of extreme quasistatic magnetic fields in plasma targets irradiated by crossed petawatt laser beams	T. V. Liseykina (1), <u>E.E. Peganov</u> (2), S.V. Popruzhenko (3)	Offline	<p>(1) Institute of Computational Mathematics and Mathematical Geophysics of the Siberian Branch of the Russian Academy of Sciences,</p>

						Novosibirsk, Russia (2) National Research Nuclear University MEPhI, Moscow, Russia (3) Prokhorov General Physics Institute of the Russian Academy of Sciences, Moscow, Russia
16	16:00 — 16:15	Oral	Angular momentum transfer in the interaction of intense circularly polarized laser pulses with structured targets	<u>E. G. Gelfer</u> (1), <u>E.E. Peganov</u> (2), S.V. Popruzhenko (3)	Offline	(1) Extreme Light Infrastructure, Prague, Czech Republic (2) National Research Nuclear University MEPhI, Moscow, Russia (3) Prokhorov General Physics Institute of the Russian Academy of Sciences, Moscow, Russia
17	16:15 — 16:30	Oral	Analysis of L-spectra of multiply charged iron ions formed in experiments with intense fs laser pulses	Alkhimova M. A., Skobelev I.Yu., Makarov S.S., Ryazantsev S.N. and Filippov E. D.	Offline	Joint Institute for High Temperatures of the Russian Academy of Sciences, Moscow, Russia
	16:30 — 16:45	Coffee Break				
18	16:45 — 17:15	Invited	Table Top Laser Plasma Electron Acceleration	<u>Savel'ev A.</u> , Gorlova D., <u>Tsymbalov I.</u> , Ivanov K.	Offline	Lomonosov Moscow State University, Moscow, Russia
19	17:15 — 17:30	Oral	Acceleration of Neutral Atoms by Strong Short-Wavelength Short-Range Electromagnetic Pulses	<u>Melezhik V.S.</u> (1,2), Sara S.(1)	Offline	(1) Bogoliubov Laboratory of Theoretical Physics, Joint Institute for Nuclear Research, Dubna, Russia (2) Dubna State University, Dubna, Russia
20	17:30 — 17:45	Oral	Efficient laser acceleration of electrons and ions from targets with controlled preplasma	<u>Brantov A. V.</u> (1,2), <u>Rakitina M. A.</u> (1), <u>Glazyrin S. I.</u> (1,2)	Offline	(1) P. N. Lebedev Physical Institute of the Russian Academy of Sciences , Moscow, Russia (2) Dukhov Research Institute of Automatics (VNIIA), Moscow, Russia
21	17:45 — 18:00	Oral	Laser pulse polarization influence on emission by an electron from the focus	A.V. Borovskiy (1), <u>A.L. Galkin</u> (2)	Offline	(1)Baikal State University, Irkutsk, Russia (2) Prokhorov General Physics Institute of the Russian Academy of Sciences, Moscow, Russia

April 11 (Thursday), 2024

Section 3. Laser Plasmas

	Time (UTC +3)	Report type	Report title	Report authors	Report form	Affiliation
22	10:00 — 10:30	Invited	Effects of quasi-phase matching in coherent radiation generation by atomic systems in two-color laser fields	Stremoukhov S.Yu. (1,2,3)	Offline	(1) Lomonosov Moscow State University, Moscow, Russia (2) National Research Centre “Kurchatov Institute”, Moscow, Russia (3) P.N. Lebedev Physical Institute of the Russian Academy of Sciences, Moscow, Russia
23	10:30 — 10:45	Oral	Conduction band dynamics in solids induced by near- and mid-IR femtosecond laser fields	Lvov K.V. (1), Stremoukhov S.Yu. (1,2)	Offline	(1) Lomonosov Moscow State University, Moscow, Russia (2) National Research Center "Kurchatov Institute", Moscow, Russia
24	10:45 — 11:00	Oral	Experimental investigation of optical anisotropy during femtosecond laser-induced air breakdown in narrow intensity range	Ushakov A.A. (1), Chizhov P.A. (1,2,3), Bukin V.V. (1), Dolmatov T.V. (1), Garnov S.V. (1)	Offline	(1) Prokhorov General Physics Institute of the Russian Academy of Sciences, Moscow, Russia (2) Moscow Institute of Physics and Technology (National Research University), Dolgoprudny, Russia (3) Russian Institute for Scientific and Technical Information of the Russian Academy of Sciences, Moscow, Russia
25	11:00 — 11:15	Oral	Notes on Inverse Compton Scattering	Popov Yu. V. (1,2), Volobuev I. P. (1), Bornikov K. A. (3)	Offline	(1) Skobeltsyn Institute of Nuclear Physics, Lomonosov Moscow State University, Moscow, Russia (2) Bogoliubov Laboratory of Theoretical Physics, Joint Institute for Nuclear Research, Dubna, Russia (3) Physics Department, Lomonosov Moscow State University, Moscow, Russia

26	11:15 — 11:30	Oral	Numerical modelling of plasma periodic subwavelength structures under the focused ultrashort laser pulse exposure in the volume of solid dielectrics	<u>Bogatskaya A.V.</u> (1,2), Volkova E.A. (3), Popov A. M. (1,2)	Offline	(1) Lebedev Physical Institute, Russian Academy of Sciences, Moscow Russia (2) Department of Physics, Lomonosov Moscow State University, Moscow, Russia (3) Skobeltsyn Institute of Nuclear Physics, Lomonosov Moscow State University, Moscow, Russia
	11:30 — 11:45	Coffee Break				
Section 5. Solid State Plasmas						
1	11:45 — 12:15	Invited	Demixing in 2D nanocomposites with polarizable inclusions	<u>Allahyarov E.</u> (1,2,3), Lowen H. (2)	Offline	(1) Theoretical Department, Joint Institute for High Temperatures, Russian Academy of Sciences, Moscow, Russia (2) Institut fuer Theoretische Physik II: Weiche Materie, Heinrich-Heine Universitaet Duesseldorf, Duesseldorf, Germany (3) Department of Physics, Case Western Reserve University, Cleveland OH, USA
2	12:15 — 12:30	Oral	Analytical Description of Cyclotron Plasma Resonances in Monolayer Graphene	Ishkhanyan A.M. (1) <u>Krainov V.P.</u> (2)	Offline	(1) Institute for Physical Research, National Academy of Sciences of Armenia, Ashtarak, 0204 Armenia (2) Moscow Institute of Physics and Technology, Dolgoprudny, Russian Federation
3	12:30 — 12:45	Oral	Edge plasmon mode excitation in graphene rectangles by incident terahertz wave	Mashinsky K.V. (1), Popov V.V. (1), Fateev D.V. (1,2)	Offline	(1) Kotelnikov Institute of ranch), Saratov, Russia (2) Saratov State University, Saratov, Russia
4	12:45 — 13:00	Oral	Electron-hole plasma, free excitons and electron-hole liquid in synthetic diamond under ultraviolet laser excitation	Lipatov E.I. (1,2), Genin D.E. (1,2), Voitenko D.S. (1), Popova A.S. (1)	Online	(1) Tomsk State University, Tomsk, Russia (2) Institute of High-Current Electronics, Tomsk, Russia

5	13:00 — 13:15	Oral	Mechanism of ultrafast decay causing periodic damage of metals by femtosecond laser pulses	<u>Oladyskin I.V.</u> , Fadeev D.A.	Offline	Institute of Applied Physics of the Russian, Nizhny Novgorod. Russia
6	13:15 — 13:30	Oral	Formation of solid-state plasma in ferroelectric semiconductors near the phase transition temperature	Kuzenko D.V.	Online	Federal State Budgetary Scientific Institution "Scientific Research Institute "Reaktivelectron", Donetsk, Russia
7	13:30 — 13:45	Oral	Elementary excitations in solid-state plasma within the polar model	Svirskaya L.M.	Online	(1) South Ural State Humanitarian and Pedagogical University, Chelyabinsk, Russia (2) South Ural State University (National Research University), Chelyabinsk, Russia
8	13:45 — 14:00	Oral	Solid-State Plasma Model of Electrical Breakdown of Polymer Dielectrics	Pakhotin V.A. (1), Sudar N.T. (2), Semenov S.E. (1)	Online	(1) Ioffe Institute, Saint-Petersburg, Russia (2) Peter the Great Saint-Petersburg Polytechnic University, Saint-Petersburg, Russia
9	14:00 — 14:15	Oral	Hydrogen diffusion along the boundaries of tungsten grains in contact with hydrogen	Urazaliev M.G.	Online	M.N. Mikheev Institute of Metal Physics of the Ural Branch of the Russian Academy of Sciences, Ekaterinburg, Russia
	14:15 — 15:00	Lunch				
Section 4. General Plasmas						
1	15:00 — 15:30	Invited	Experimental investigation of the ordinary wave anomalous absorption in the plasma filament of a pulsed discharge	Gusakov E.Z. (2), Popov A.Yu. (2), Simonchik L.V. (1), Usachonak M.S. (1)	Offline	(1) Stepanov Institute of Physics of NAS of Belarus, Minsk, Belarus (2) Ioffe Institute, Saint-Petersburg, Russia
2	15:30 — 15:45	Oral	Plasma and gas-dynamic processes in a nanosecond discharge in air at atmospheric pressure in the gap with the "edge-plane" geometry.	Maiorov S.A. (1), Ragimkhanov G.B. (2), Tren'kin A. A. (3)		(1) Joint Institute for High Temperatures of the Russian Academy of Sciences, Moscow, Russia (2) Dagestan State University, Makhachkala, Russia (3) Russian Federal Nuclear Center,

						All Russia Research Center of Experimental Physics, Sarov, Russia
3	15:45 — 16:00	Oral	Observation of striations in tube with hollow electrode in Argon	Dosbolaev M.K. (1), Golyatina R.I. (2), Maiorov S. A. (1,3), Ramazanov T.S. (1)	Online	(1) Al-Farabi Kazakh National University, Almaty, Kazakhstan (2) Prokhorov General Physics Institute of the Russian Academy of Sciences, Moscow, Russia (3) Joint Institute for High Temperatures of the Russian Academy of Sciences, Moscow, Russia
4	16:00 — 16:15	Oral	Numerical modeling of a capacitive radiofrequency discharge with large electrodes	Qodirzoda Z.A. (1), Dvinin S.A. (2), Solikhov D.K. (1)	Online	(1) Tajik National university, Faculty of Physics, Dushanbe, Tajikistan (2) Lomonosov Moscow State university, Moscow, Russia
5	16:15 — 16:30	Oral	Spontaneous sources in two-dimensional plasma	Hobilov D.U.	Online	Tajik National university, Faculty of Physics, Dushanbe, Tajikistan
	16:30 — 16:45	Coffee Break				
6	16:45 — 17:00	Oral	Explosive electron emission in high-current field cathodes based on diamond-graphite film structures	Yafarov R.K.	Online	Saratov Branch of the Kotelnikov Institute of Radioengineering and Electronics of Russian Academy of Sciences, Saratov, Russia
7	17:00 — 17:15	Oral	Unexpected Effect of Rare-Earth Organometallic Compounds on the Development of Plasma Chemical Processes in the Mixtures of Metal and Dielectric Powders	Sokolov A.S. (1), Akhmadullina N.S. (1,2), Borzosekov V.D. (1), Gayanova T.E. (1), Kozak A.K. (1), Petrov A.E. (1), Pozdnyakov D.O. (3), Stepakhin V.D. (1)	Offline	(1) Prokhorov General Physics Institute of the Russian Academy of Sciences, Moscow, Russia (2) A.A. Baikov Institute of Metallurgy and Material Science of Russian Academy of Sciences, Moscow, Russia (3) MIREA — Russian technological university, Moscow, Russia
8	17:15 — 17:30	Oral	Deposition of silver nanoparticles on dielectric surfaces in a plasma-chemical process initiated by gyrotron radiation	Obraztsova E.A. (1,2), Stepakhin V.D. (2), Borzosekov V.D. (2), Skvortsova N.N. (2)	Offline	(1) Moscow Institute of Physics and Technology (National Research University), Dolgoprudnyi, Russia (2) Prokhorov General Physics Institute of the Russian Academy of

						Sciences, Moscow, Russia
9	17:30 — 17:45	Oral	Plasma chemical synthesis of oxynitride ceramics doped with Tb ³⁺ ions using a microwave discharge	Akhmadullina N.S. (1), Gusein-zade S.N. (2), Skvortsova N.N. (3), Stepakhin V.D. (3), Borzosekov V.D. (3), Gusein-zade N.G. (3), Gayanova T.É. (3), Sokolov A.S. (3), Rezaeva A.D. (3), Kozak A.K. (3), Malakhov D.V. (3), Voronova E.V. (3), Knyazev A.V. (3), Shishilov O.N. (2)	Offline	(1) A.A. Baikov Institute of Metallurgy and Material Science of Russian Academy of Sciences, Moscow, Russia (2) MIREA – Russian Technological University, Institute of Fine Chemical Technologies, Moscow, Russia (3) Prokhorov General Physics Institute of the Russian Academy of Sciences, Moscow, Russia
10	17:45-18:0	Oral	Excitonic Nature of Plasma Phase Transition Kinetics in Dense Molecular Fluids	Fedorov I.D. (1,2,3), Stegailov V.V.(1,2,3)	Offline	(1) Joint Institute for High Temperatures of the Russian Academy of Sciences, Moscow, Russia (2) Moscow Institute of Physics and Technology National Research University, Dolgoprudny, Russia (3) National Research University Higher School of Economics, Moscow, Russia

April 12 (Friday), 2024

Section 4. General Plasmas

	Time (UTC +3)	Report type	Report title	Report authors	Report form	Affiliation
10	10:00 — 10:30	Invited	Oblique magnetosound solitons	Ignatov A.M.	Offline	Prokhorov General Physics Institute of the Russian Academy of Sciences, Moscow, Russia
11	10:30 — 10:45	Oral	The influence of edge localized modes on the spectrum of electromagnetic radiation scattered by plasma fluctuations on the Globus-M2 tokamak	Tokarev A.Yu. (1), Yashin A.Yu. (1,2), Zhiltsov N.S. (2), Kukushkin K.A. (1), Kurskiev G.S. (2), Minaev V.B. (2), Petrov Yu.V. (2), Ponomarenko A.M. (1), Sakharov N.V. (2)	Offline	(1) Peter the Great St. Petersburg Polytechnic University, St. Petersburg, Russia (2) Ioffe Institute, St. Petersburg, Russia
12	10:45 — 11:00	Oral	Generation of a high-energy spectrum of ions at the final stage of the Z-pinch compression	Chirkov A.Yu., Frolov A.Yu., Morkhova E.A., Vovkivsky E.G.	Offline	Bauman Moscow State Technical University, Moscow, Russia
13	11:00 — 11:15	Oral	Influence of nuclear quantum effects on the equation of state of fluid hydrogen at high pressures	Kondratyuk N.D. (1,2,3), Lukianchuk V. G.(1,2), Saitov I.M. (1,2)	Offline	(1) Joint Institute for High Temperatures RAS, Moscow, Russia (2) National Research University Higher School of Economics, Moscow, Russia (3) Moscow Institute of Physics and Technology (National Research University), Dolgoprudny, Russia
14	11:15 — 11:30	Oral	Electron-ion relaxation in nonideal plasmas: molecular dynamics simulations	Morozov I.V., Lavrinenko Ya.S., Valuev I.A.	Offline	Joint Institute for High Temperatures of Russian Academy of Sciences, Moscow, Russia
15	11:30 — 11:45	Oral	On the Physical Nature of Subharmonics of the Electron Emission from Ultracold Plasmas	Dumin Yu.V. (1, 2)	Offline	(1) Space Research Institute of the Russian Academy of Sciences, Moscow, Russia (2) Sternberg Astronomical Institute of Lomonosov Moscow State University, Moscow, Russia
	11:45 — 12:00	Coffee Break				

	12:00 — 12:30	Invited	Formation of extended tubular plasma in argon at low pressure and in a weak longitudinal magnetic field	Yu.S. Akishev, V.P. Bakhtin, A.B. Buleyko, O.T. Loza, A.V. Petryakov, A.A. Ravaev, E.A. Fefelova	Offline	SRC «Troitsk Institute for Innovative and Thermonuclear Research», Moscow, Russia
16	12:30 — 12:45	Oral	Microwave method for measuring plasma concentration in a tubular plasma source.	Ponomarev A.V. (1), Ul'yanov D.K. (1)	Offline	Prokhorov General Physics Institute of the Russian Academy of Sciences, Moscow, Russia
17	12:45 — 13:00	Oral	Influence of the current value of the electron relativistic beam on the operating mode and radiation characteristics of a plasma relativistic microwave generator	Andreev S.E., <u>Bogdankevich I.L.</u> , Gusein-zade N.G.	Offline	Prokhorov General Physics Institute of the Russian Academy of Sciences, Moscow, Russia
18	13:00 — 13:15	Oral	Nonlinear dynamics of beam-plasma instability in a plasma microwave amplifier in the presence of an absorber	<u>Kartashov I.N.</u> , Kuzelev M.V., Tumanov A.V.	Online	Lomonosov Moscow State University, Moscow, Russia
19	13:15 — 13:30	Oral	Multi-wave amplification of electromagnetic waves in coaxial dielectric waveguides	<u>Ershov A.V.</u> , Kuzelev M.V.	Offline	1 Faculty of Physics, Lomonosov Moscow State University, Moscow, Russia
20	13:30 — 13:45	Oral	Simulation of a miniature vircator as a THz source	R.Zamani, B.Shokri	Online	Physics Department and Laser-Plasma Research Institute Shahid Beheshti university Evin, Tehran,Iran
21	13:45 — 14:00	Oral	Mutual influence of plasma antennas with different excitation frequencies	Minaev I.M., Sergeichev K.F., Tikhonevich O.V., Karfidov D.M., Zhukov V.I.	Offline	Prokhorov General Physics Institute of the Russian Academy of Sciences, Moscow, Russian Federation

22	14:00 — 14:15	Oral	Numerical PIC simulation of the effect of plasma on the characteristics of the plasma antenna	<u>Bogachev N. N.</u> , Bogdankevich I.L., Stepin V.P., Andreev S.E., Gusein-zade N.G.	Offline	Prokhorov General Physics Institute of the Russian Academy of Sciences
	14:15 — 15:00	Lunch				
23	15:00 — 15:30	Invited	Comparative Analysis of Electromagnetic Phenomena in the Atmospheres of Earth, Mars, and Venus	<u>Abdelaal M. E.</u> (1,2) Zakharov A. V. (2)	Offline	(1) Moscow Institute of Physics and Technology, Dolgoprudny, Russia (2) Space Research Institute of the Russian Academy of Sciences, Moscow, Russia
24	15:30 — 15:45	Oral	Effect on the ionospheric plasma to powerful high-frequency radio emission as a method for studying of the neutral atmosphere	<u>Bakhmetieva N.V.</u> , Grigoriev G.I., Zhemyakov I.N., Kalinina E.E.	Offline	Radiophysical Research Institute, Lobachevsky State University of Nizhny Novgorod, Nizhny Novgorod, Russia
25	15:45 — 16:00	Oral	Radio occultation studies in the Earth's ionosphere during strong magnetic storms in March and June 2015	<u>Gubenko V.N.</u> , Andreev V.E., Kirillovich I.A.	Online	Kotelnikov Institute of Radio Engineering and Electronics of the RAS (Fryazino branch), Fryazino, Russia
26	16:00 — 16:15	Oral	Production of artificial ball lightning using a capillary plasma generator	<u>Bychkov V.L.</u> , Sorokovykh D.E., Bychkov D.V.	Offline	M.V. Lomonosov Moscow State University, Moscow, Russia
27	16:15 — 16:30	Oral	A model of a ball lightning with a charged solid shell and a gaseous core	<u>Bychkov V.L.</u> , Sorokovykh D.E., Bychkov D.V.	Offline	M.V. Lomonosov Moscow State University, Moscow, Russia
	16:30 — 16:45	Coffee Break				

28	16:45 — 17:15	Invited	Dielectric barrier discharges in contact with liquids	<u>V.V. Kovačević</u> , G.B. Sretenović, B.M. Obradović, M.M. Kuraica	Online	University of Belgrade, Faculty of Physics, Belgrade, Serbia	
29	17:15 — 17:30	Oral	Experimental study of the transfer processes from the spherical water droplet surrounded by spark discharge plasma channel flow	<u>Shorstkii I.A.</u>	Online	Kuban State Technological University, Krasnodar, Russia	
30	17:30 — 17:45	Oral	Experimental characterization of a multispark high-voltage ring discharge with gas injection into interelectrode gaps with duralumin electrodes	<u>Zimina M.A. (1,2)</u> , Artemyev K.V. (1), Davydov A.M. (1), Moryakov I.V. (1), Borzosekov V.D. (1, 2), Gudkova V.V. (1,2)	Offline	(1) Prokhorov General Physics Institute of the Russian Academy of Sciences, Moscow, Russia (2) Peoples' Friendship University of Russia (RUDN University), Moscow, Russia	
31	17:45 — 18:00	Oral	Improving the Results of Analysis of Biological Fluids by Eliminating Matrix Effects in an Inductively Coupled Plasma Mass Spectrometer	<u>Nurubayli T.K. (1,2,3)</u> , Cafar N.Sh.(1)	Online	(1) Institute of Physics of the Ministry of Science and Education, Republic of Azerbaijan, Baku, Azerbaijan. (2) Azerbaijan State University of Oil and Industry, Baku, Azerbaijan. (3) Khazar University, Baku, Azerbaijan.	
	18:00 — 18:15	Closing ceremony					