The 17th International Conference
AMPL-2025
PULSED LASERS AND LASER APPLICATIONS

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SESSIONS

P. Plenary Session
Y. Young Scientists Session
A. Promising Media for Lasers and Optoelectronic Devices Development
B. Discharges for Lasers and Non-Coherent Radiation Sources
C. Ultrashort Laser Pulses
D. Laser Applications, Laser Systems, Laser-Optical Technologies
E. Non-Coherent Radiation Sources
F. Photonics in Remote Studies of Environment
G. Biophotonics
H. Photophysical Processes, Conversation of Laser Radiation, Nonlinear Optics and Laser Synthesis of Nanostructures
HRT. Round table dedicated to the 90th anniversary of the creation of the first spectroscopy laboratory in Siberia by N.A. Prilezhaeva.
I. Carbon Materials in Quantum Electronics, Photonics and Optoelectronics

LOCATION

Institute of Atmospheric Optics SB RAS (1, Zuev Sq., Tomsk)

ORGANIZING COMMITTEE ADRESS

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Conference Schedule*

Sunday September 14	Monday September 15	Tuesday September 16	Wednesday September 17	Thursday September 18	Friday September 19
11:00 Registration	**09:30** Registration	**09:30** Poster Sessions AI, BE, C, D	**09:30** Poster Sessions F, G, H, Y	**09:30** Oral Sessions BE, D	**09:30** Oral Sessions AI, C
	12:30 Opening Ceremony **Group Photo**	***12:30*** *Break*	***12:30*** *Break*	**11:10** *Coffee Break*	**11:40** *Coffee Break*
	13:30 Plenary Session	**13:30** Oral Session Y	**13:30** Oral Sessions G, H	**11:30** Oral Sessions BE, D	
16:00 Introductory buffet	**15:30** *Coffee Break*	**15:00** *Coffee Break*	**15:40** *Coffee Break*	*Break*	**16:30** *Closing ceremony*
	15:50 Plenary Session	**15:20** Oral Session Y	**16:00** Oral Session F	**14:30** HRT	Cocktail buffet

* The program was compiled for the Tomsk time. Tomsk time is UTC+7
This conference program has been published in advance and is preliminary. The program is subject to change.

SEPTEMBER 14, 2025, SUNDAY

11:00	**REGISTRATION OF PARTICIPANTS** *Location:* IOA SB RAS vestibule
16:00	**INTRODUCTORY BUFFET**[1]

SEPTEMBER 15, 2025, MONDAY

Oral Session	**P – PLENARY SESSION** Chairs: Igor PTASHNIK & Valerii LOSEV *Location:* Conference Hall
P-1 **13:30** **Invited**	**Distinctive features of the IR spectra of crude oil of the Absheron Peninsula** A.M. Pashayev[1], N.A. Valiev[2], K.A. Askerov[1], A.A. Musaev[1], I.H. Mammadov[1], K.R. Allahverdiyev[1] *[1]Azerbaijan National Aviation Academy, 30 Mardakan Ave., AZ1045, Baku, Azerbaijan* *[2]State Oil Company of the Azerbaijan Republic, 121 Heydar Aliyev Ave., AZ1029, Baku, Azerbaijan*
P-2 **14:00** **Invited**	**Research progress of green disinfection technology of surface based on gas discharge principle** S. Zhang[1], Z.S. Zhang[1], T. Shao[1,2] *[1]Institute of Electrical Engineering CAS, 6 Beiertiao, Zhongguancun, 100190, Beijing, China* *[2]University of Chinese Academy of Sciences, 9/A Yuquan Road, Shijingshan District, 100049, Beijing, China*
P-3 **14:30** **Invited**	**The study of kinetics of N_2 and N_2^+ electronically excited states in sprites and pulse discharges** A.S. Kirillov[1], V.F. Tarasenko[1,2] *[1]Polar Geophysical Institute, 26A Akademgorodok St., 184209, Apatity, Russia* *[2]Institute of High Current Electronics SB RAS, 2/3 Akademichesky Ave., 634055, Tomsk, Russia*

1 Specify the venue of the event in the Organizing Committee.

P-4 **15:00** **Invited**	**Advances in remote sensing techniques for atmospheric trace gases** W. Liu *Anhui Institute of Optics and Fine Mechanics, Hefei Institutes of Physical Science CAS, 350 Shushanhu Road, 230031, Hefei, China*
15:30	*COFFEE BREAK*
P-5 **15:50** **Invited**	**From Light Beam Self-Focusing to Single-Cycle Light Bullet: A Historical Retrospective** S.V. Chekalin, V.O. Kompanets *Institute of Spectroscopy RAS, 5 Fizicheskaya St., 108840, Troitsk, Moscow, Russia*
P-6 **16:20** **Invited**	**Strategies for Addressing Energy Constraints in Post-Compression Methods** V.V. Chvykov *Colorado State University, 1062 Campus Delivery, 80523, Fort Collins, USA*
P-7 **16:50** **Invited**	**Fusion reactor materials significance – impact of high thermal and electromagnetic flux** M.S. Trtica[1], J. Stasic[1], M. Kuzmanovic[2], J. Savovic[1], D. Bozic[1] *[1]VINCA Institute of Nuclear Sciences, 522 P.O. BOX, 11001, Belgrade, Serbia;* *[2]University of Belgrade, 12-16 Studentski Sq., 11158, Belgrade, Serbia*

SEPTEMBER 16, 2025, TUESDEY

Joint Poster Session **09:30**	**A – PROMISING MEDIA FOR LASERS AND OPTOELECTRONIC DEVICES DEVELOPMENT** **I – CARBON MATERIALS IN QUANTUM ELECTRONICS, PHOTONICS AND OPTOELECTRONICS** *Location:* Sports hall
AI-8	**Calculating energy spectrum of NeII in a terahertz laser field** E.V. Koryukina *Tomsk State University, 36 Lenin Ave., 634050,* *Tomsk, Russia*
AI-9	**Modeling of spatio-temporal characteristics of active media of recombination metal vapor lasers** G.D. Chebotarev *Southern Federal University, 5 Zorge St., 344090, Rostov-on-Don, Russia*
AI-10	**Numerical optimization of the characteristics of a laser on self-terminating transitions of SrII** G.D. Chebotarev *Southern Federal University, 5 Zorge St., 344090, Rostov-on-Don, Russia*
AI-11	**Optical properties of alexandrite crystal near the generation threshold** Yu. N. Panchenko[1,3], S.V. Alekseev[1], A.V. Puchikin[1,3], M.V. Andreev[3], S.M. Bobrovnikov[2,3] [1] Institute of High Current Electronics SB RAS, 2/3 Akademichesky Ave, 634055, Tomsk, Russia; [2] Institute of Atmospheric Optics SB RAS, 1 Zuev Sq., 634055, Tomsk, Russia; [3] Tomsk State University, 36 Lenin Ave., 634050, Tomsk, Russia

AI-12	**Pulsed inductive laser on krypton neutral atoms transitions in the IR spectral range** D.S. Churkin, R.A. Tkachenko, E.S. Kargapol'tsev Institute of Laser Physics SB RAS, 15B Lavrentyev Ave., 630090, Novosibirsk, Russia
AI-13	**The nature of electron beam induced color centers in transparent Yb:Y_2O_3 ceramics** V.I. Solomonov, V.V. Osipov, V.A. Shitov, R.N. Maksimov, A.S. Makarova, A.V. Spirina, A.N. Orlov *Institute of Electrophysics UB RAS, 106 Amundsen St., Yekaterinburg, 620110, Russia*
AI-14	**Measurement of the dynamics of the emission of Yb^{3+} upper laser level in optical ceramics of different thicknesses based on Y_2O_3** V.V. Osipov, V.V. Lisenkov, A.N. Orlov, V.I. Solomonov *Institute of High Current Electronics SB RAS, Tomsk, Russia*
AI-15	**Study of the emission kinetics of Yb^{3+} ion in optical ceramics from yttrium oxide** V.V. Osipov, V.V. Lisenkov, A.N. Orlov, V.I. Solomonov, V.A. Shitov *Institute of Electrophysics UB RAS, 106 Amundsena St., 620016, Yekaterinburg, Russia*
AI-16	**Study of radiation characteristics of UV inductive N_2 laser in mixtures of nitrogen with hydrocarbons** D.S. Churkin, I.A. Trunov, R.A. Tkachenko, E.S. Kargapol'tsev *Institute of Laser Physics SB RAS, 15B Lavrentyev Ave., 630090, Novosibirsk, Russia*

AI-17	**Metal Atomic Transition-Based Media for Signal Generation in the Visible and Near-Infrared Spectral Ranges** M.V. Trigub, D.V. Shiyanov, P.I. Gembukh *Institute of Atmospheric Optics SB RAS, 1 Zuev Sq., 634055, Tomsk, Russia*
AI-18	**Investigation of the process of SERS radiation with λ = 355 nm in barium vapor** V.G. Sokovikov, P.I. Gembukh, M.V. Trigub *Institute of Atmospheric Optics SB RAS, 1 Zuev Sq., 634055, Tomsk, Russia*
AI-19	**Investigation of the spectrum of transformed radiation observed during optical pumping of a mixture of samarium and helium vapors by UV radiation with λ = 355 nm** V.G. Sokovikov, P.I. Gembukh, M.V. Trigub *Institute of Atmospheric Optics SB RAS, 1 Zuev Sq., 634055, Tomsk, Russia*
AI-20	**Photodissociation lasers on the first resonance transitions of Na($3p^2P^0_{1/2,3/2} \rightarrow 3s^2S_{1/2}$) and K($4p^2P^0_{1/2,3/2} \rightarrow 4s^2S_{1/2}$) atoms** V.G. Sokovikov, A.N. Kuryak, D.V. Shiyanov *Institute of Atmospheric Optics SB RAS, 1 Zuev Sq., 634055, Tomsk, Russia*
AI-21	**Energy characteristics of $MnBr_2$ and $MnCl_2$ lasers** M.V. Trigub, D.V. Shiyanov *Institute of Atmospheric Optics SB RAS, 1 Zuev Sq., 634055, Tomsk, Russia*
A-22	**Spectral and temporal characteristics of the pulse metal vapor lasers pumped in binary buffer gas** I.G. Ivanov *Southern Federal University, 5 Zorge St., 344090, Rostov-on-Don, Russia*

Joint Poster Session **09:30**	**B – DISCHARGES FOR LASERS AND NON-COHERENT RADIATION SOURCES** **E – NON-COHERENT RADIATION SOURCES** *Location:* Sports hall
BE-13	**VUV radiation of hydrogen, deuterium and nitrogen in pulsed self-sustained discharges** A.N. Panchenko, D.V. Beloplotov, V.A. Panarin, V.S. Skakun, D.A. Sorokin, V.F. Tarasenko *Institute of High Current Electronics SB RAS, 2/3 Academichesky Ave., 634055, Tomsk, Russia*
BE-14	**Atmospheric Pressure Glow Discharge in Pulsed Bipolar Mode: Optical and Electrical Characteristics** K.P. Savkin, D.A. Sorokin, D.V. Beloplotov, A.G. Nikolaev, M.V. Shandrikov, A.A. Cherkasov, V.I. Gushenets, A.S. Bugaev, U.V. Khomutova, D.Yu. Ignatov *Institute of High Current Electronics SB RAS, 2/3 Academichesky Ave., 634055, Tomsk, Russia*
BE-15	**Experimental and theoretical modeling of the emission spectra of columnar red sprites at air pressure of 0.02-2 Torr** V.F. Tarasenko[1,2], N.P. Vinogradov[1,2], A.S. Kirillov[2], V.A. Kirillov[2] *[1] Institute of High Current Electronics SB RAS, 2/3 Akademichesky Ave., 634055, Tomsk, Russia;* *[2] Polar Geophysical Institute, 26A Akademgorodok St., 184209, Apatity, Russia*
BE-16	**Analysis of plasma parameters and other properties of red columnar sprites and plasma diffuse jets** V.F. Tarasenko, N.P. Vinogradov, E.Kh. Baksht, D.A. Sorokin *Institute of High Current Electronics SB RAS, 2/3 Akademichesky Ave., 634055, Tomsk, Russia*

BE-17	**UV-, VIS- and NIR-emisson of 10keV electron beam excited air at various pressures** J. Wieser *Excitech GmbH, 33 Branterei, 26419, Schortens, Germany*
BE-18	**Combustion of carbon initiated by a high-voltage nanosecond discharge in atmospheric pressure air** M.I. Lomaev[1,2], D.V. Beloplotov[1], D.A. Sorokin[1,2] *[1] Institute of High Current Electronics SB RAS 2/3 Akademichesky Ave., 634055, Tomsk, Russia;* *[2] Tomsk State University, 36 Lenin Ave., 634050, Tomsk, Russia*
BE-19	**Electric-discharge xenon chloride laser with a modular excitation system** K.F. Znosko, S.S. Anufrick, A.P. Volodenkov *State University of Grodno, 22 Ozheshko St., 230023, Grodno, Belarus*
BE-20	**VUV and UV radiation of halogen-rare gas mixtures in diffuse discharges formed by run-away electrons** A.N. Panchenko *Institute of High Current Electronics SB RAS 2/3 Akademichesky Ave., 634055, Tomsk, Russia;*
BE-21	**Experimental study of a CuBr laser with a subnanosecond excitation edge pulses up to a repetition frequency of 100 kHz** P.A. Bokhan, P.P. Gugin, V.A. Kim, M.A. Lavrukhin, Dm.E. Zakrevsky *Institute of Semiconductor Physics SB RAS, 630090, Novosibirsk, Russia*

BE-22	**Subnanosecond Switching of Eptron: Investigation of Current Development and Optimization for Laser Pumping** P.A. Bokhan, P.P. Gugin, V.A. Kim, M.A. Lavrukhin, I.V. Schweigert, Dm.E. Zakrevsky *State University of Grodno, 22 Ozheshko St., 230023, Grodno, Belarus*
BE-23	**Computer modeling of XeCl-lasers on the basis of LC-circuit** S.S. Anufrick, A.P. Volodenkov, K.F. Znosko *State University of Grodno, 22 Ozheshko St., 230023, Grodno, Belarus*
BE-24	**Probe diagnostics of stationary abnormal glow discharge in helium** P.A. Bokhan[1], P.P. Gugin[1], M.A. Lavrukhin[1], Dm.E. Zakrevsky[1], G.V. Shevchenko[1,2] *[1] Institute of Semiconductor Physics SB RAS, 13 Lavrentyev Ave., 630090, Novosibirsk, Russia;* *[2] Novosibirsk State University, 1 Pirogov St., 630090, Novosibirsk, Russia*
BE-25	**Formation dynamics and structure of a streamer of the apokamp discharge** D.V. Beloplotov[1], V.S. Skakun[1], E.A. Sosnin[1,2], V.A. Panarin[1], D.A. Sorokin[1,2] *[1] Institute of High Current Electronics SB RAS, 2/3 Akademichesky Ave., 634055, Tomsk, Russia;* *[2] Tomsk State University, 36 Lenin Ave., 634050, Tomsk, Russia*
BE-26	**Filament formation during nanosecond discharge in air in a sharply inhomogeneous electric field** D.V. Beloplotov[1], M.I. Lomaev[1,2], D.A. Sorokin[1,2] *[1] Institute of High Current Electronics SB RAS, 2/3 Akademichesky Ave., 634055, Tomsk, Russia;* *[2] Tomsk State University, 36 Lenin Ave., 634050, Tomsk, Russia*

BE-27	**Laser on rarefied atmospheric air with longitudinal discharge pumping** M.V. Andreev, I.N. Konovalov, Yu.N. Panchenko, A.V. Puchikin *Institute of High Current Electronics SB RAS, 2/3 Akademichesky Ave., 634055, Tomsk, Russia*
BE-28	**Injection of low-current atmospheric pressure discharge plasma in an argon flow into the forevacuum pressure region** K.P. Savkin, E.M. Oks, D.A. Sorokin *Institute of High Current Electronics SB RAS, 2/3 Akademichesky Ave.,634055, Tomsk, Russia*
BE-29	**Optical characteristics and mass-charge composition of vacuum arc discharge plasma: simultaneous diagnostics and comparison of results** K.P. Savkin, E.M. Oks, G.Yu. Yushkov, A.G. Nikolaev, D.A. Sorokin *Institute of High Current Electronics SB RAS, 2/3 Akademichesky Ave.,634055, Tomsk, Russia*
BE-30	**Conversion of CO_2 to CO in a pulse discharge with limited energy storage** E.A. Sosnin[1,2], V.A. Panarin[1], V.S. Skakun[1], D.A. Sorokin[1,2] *[1]Institute of High Current Electronics SB RAS, 2/3 Akademichesky Ave., 634055, Tomsk, Russia; [2]Tomsk State University, 36 Lenin Ave., 634050, Tomsk, Russia*
BE-31	**Effect of the excitation pulse duration on energy characteristics of barrier discharge XeCl-excilamps** S.M. Avdeev[1], D.S. Pechenitsin[1], E.A. Sosnin[1,2] *[1] Institute of High Current Electronics SB RAS, 2/3 Akademichesky Ave., 634055, Tomsk, Russia; [2] Tomsk State University, 36 Lenin Ave., 634050, Tomsk, Russia*

BE-32	**Characteristic evolution of surface dielectric barrier discharge under different pulse repetition frequencies** X. Xu[1,2], C. Zhang[1,2], J. Zhang[1,2], B. Huang[1,2], T. Shao[1,2] *[1] Beijing International S&T Cooperation Base for Plasma Science and Energy Conversion, Institute of Electrical Engineering CAS, Beijing, 100190, China;* *[2] University of Chinese Academy of Sciences, Beijing, 100084, China*
BE-33	**Behavior of a negative corona discharge near the Trichel pulse generation threshold** E.Kh. Baksht, V.F. Tarasenko *Institute of High Current Electronics SB RAS, 2/3 Akademichesky Ave.,634055, Tomsk, Russia*
BE-34	**Appearance of runaway electrons in physical modeling of red sprites using capacitive discharge** E.Kh. Baksht, V.F. Tarasenko, N.P. Vinogradov *Institute of High Current Electronics SB RAS, 2/3 Akademichesky Ave.,634055, Tomsk, Russia*
BE-35	**Numerical analysis of the formation of an active medium on 3p→3s transitions of the Ne atom during excitation of a Ne/H_2 mixture by an inductive discharge** A.G. Yastremskii [1], S.A. Yampolskaya [1], D.S. Churkin [2], R.A. Tkachenko [2], E.S. Kargapol'tsev [2] *[1] Institute of High Current Electronics SB RAS, 2/3 Akademichesky Ave., 634055, Tomsk, Russia;* *[2] Institute of Laser Physics SB RAS, 15B Lavrentyev Ave., 630090, Novosibirsk, Russia*

Poster Session **09:30**	**C – ULTRASHORT LASER PULSES** *Location:* Sports hall
C-9	**Plasma-mirror-based laser pulse contrast enhancement system for multiterawatt laser facility** S.F. Kovaleva, N.A. Fedorov, D.O. Zamuraev, A.S. Tischenko, A.L. Shamraev, K.V. Safronov, V.A. Flegentov, A.V. Potapov *Russian Federal Nuclear Center - All-Russian Institute of Technical Physics, 13 Vasilieva St., 456770, Snezhinsk, Russia*
C-10	**Amplification of Soliton Molecules in an all-fiber erbium-doped two-cascade Amplifier** S.G. Sazonkin[1], A. Ismaeel[1,2], I.O. Orekhov[1], A.A. Krylov[3], D.A. Dvoretskiy[1], V.E. Karasik[1] *[1] Moscow State Technical University, 5/1 Baumanskaya 2-nd St., 105005, Moscow, Russia;* *[2] Moscow Institute of Physics and Technology, 9 Institutskiy Lane, 141701, Dolgoprudny, Russia;* *[3] General Physics Institute RAS, 38 Vavilov St., 119991, Moscow, Russia*
C-11	**Measuring the parameters of relativistic electron beams accelerated from thin solid targets by femtosecond laser pulses of 100 TW power** S.A. Gorokhov, V.A. Flegentov, K.V. Safronov, S.V. Kovaleva, N.A. Fedorov, D.O. Zamuraev, A.L. Shamraev, A.S. Tischenko, A.V. Potapov *Russian Federal Nuclear Center – All-Russian Institute of Technical Physics, 13 Vasilieva St., 456770, Snezhinsk, Russia*

C-12	**Transformation of the characteristics of the laser radiation filamenting in a gas at the increased pressure** D.V. Apeksimov, P.A. Babushkin, Yu.E. Geinz, A.M. Kabanov, V.K. Oshlakov, A.V. Petrov, A.A. Udalov, E.E. Khoroshaeva *Institute of Atmospheric Optics SB RAS, 1 Zuev Sq., 634055, Tomsk, Russia*
C-13	**Dynamics of the spectrum change of second harmonic during conversion and amplification of chirped pulse** S.V. Alekseev, I.A. Zyatikov, V.F. Losev, D.M. Lubenko, A.G. Yastremskii *Institute of High Current Electronics SB RAS, 2/3 Akademichesky Ave., 634055, Tomsk, Russia*
C-14	**Numerical simulation of evolution space-time-frequency distribution of radiation energy in laser systems** A.G. Yastremskii, S.A. Yampolskaya, V.F. Losev, Yu.N. Panchenko *Institute of High Current Electronics SB RAS, 2/3 Akademichesky Ave., 634055, Tomsk, Russia*
C-15	**The reabsorption model for terahertz radiation generation from an array of the incoherent optical filaments** Yu.E. Geints, A.D. Bulygin *Institute of Atmospheric Optics SB RAS, 1 Zuev Sq., 634055, Tomsk, Russia*

Poster Session **09:30**	**D – LASER APPLICATIONS, LASER SYSTEMS, LASER-OPTICAL TECHNOLOGIES** *Location:* Sports hall
D-9	**Development of a sub-picosecond laser system with a tunable pulse repetition rate for the atraumatic skin remodeling** V.M. Bogomolov[1], M.S. Plitarak[1], A.O. Prudnikov[1], A. Ismaeel[1,2], I.A. Smirnov[1], I.O. Orekhov[1], S.G. Sazonkin[1], V.E. Karasik[1] *[1] Moscow State Technical University, 5/1 Baumanskaya 2-nd St., 105005, Moscow, Russia;* *[2] Moscow Institute of Physics and Technology, 9 Institutskiy Lane., 141701, Dolgoprudny, Russia*
D-10	**Density of the hybrid plasma maintained by microwave radiation and CO_2 laser** S.V. Avtaeva[1,2], V.B. Dolomanova[1,2], P.A. Pinaev[1], R.S. Saveliev [2], A.E. Medvedev[1] *[1] Institute of Laser Physics SB RAS, 15B Lavrentyev Ave., 630090, Novosibirsk, Russia;* *[2] Novosibirsk State Technical University, 20 Karl Marks Ave., 630073, Novosibirsk, Russia*
D-11	**Generation of THz radiation in $ZnGeP_2$ crystals at the difference frequency of the spectral components of the fs pump pulse in the region of maximum transmission of the crystal** G.V. Lansky[1], M.K. Tarabrin[2], N.N. Yudin[3] *[1] Institute for Monitoring of Climate and Ecological Systems SB RAS, 10/3 Akademichesky Ave., 634055, Tomsk, Russia;* *[2] Moscow State Technical University, 5/1 Baumanskaya 2-nd St., 105005, Moscow, Russia;* *[3] Tomsk State University, 36 Lenin Ave., 634050, Tomsk, Russia*

D-12	**Energy characteristics of a copper vapor laser with an active medium pumping by a Marx generator** A.V. Malikov[1], N.A. Yudin[1,2] *[1] Tomsk State University, 36 Lenin Ave., 634050, Tomsk, Russia;* *[2] Institute of Atmospheric Optics SB RAS, 1 Zuev Sq., 634055, Tomsk, Russia*
D-13	**Modeling of the IR-to-visible radiation conversion on competitive optical transitions in manganese vapors** A.E. Kulagin[1,2], M.V. Trigub[1,2] *[1] Institute of Atmospheric Optics SB RAS, 1 Zuev Sq., 634055, Tomsk, Russia;* *[2] Tomsk Polytechnic University, 30 Lenin Ave., 634050, Tomsk, Russia*
D-14	**Features of the small length GDT high-frequency excitation** P.I. Gembukh[1], A.E. Kulagin[1,2], M.V. Trigub[1,2] *[1] Institute of Atmospheric Optics SB RAS, 1 Zuev Sq., 634055, Tomsk, Russia;* *[2] Tomsk Polytechnic University, 30 Lenina Ave., 634050, Tomsk, Russia*
D-15	**Automatic Beam Stabilization System of Metastable Helium Lidar Based on CCD Camera** J.R. Cheng, R.C. Zhao *University of Science and Technology of China, 96 JinZhai Road Baohe District, 230026, Hefei, Anhui, China*
D-16	**Optical communication system based on vortex Bessel-Gaussian beams** I.P. Lukin *Institute of Atmospheric Optics SB RAS, 1 Zuev Sq., 634055, Tomsk, Russia*

D-17	**Measurement of thermopause atmospheric temperature using a metastable helium resonance fluorescence lidar** H. Zhou, R.C. Zhao *University of Science and Technology of China, 96 JinZhai Road Baohe District, 230026, Hefei, Anhui, China*
D-18	**CuBr + Ne + HBr laser with semiconductor excitation source** K.Yu. Semenov[1,2], M.V. Trigub[1] *[1] Institute of Atmospheric Optics SB RAS, 1 Zuev Sq., 634055, Tomsk, Russia;* *[2] Tomsk Polytechnic University, 30 Lenin Avenue, 634050, Tomsk, Russia*
D-19	**Phase transitions in two-dimensional $TlGaSe_2$ crystals: studies of high-resolution optical spectroscopy in a wide temperature range** A.M. Pashayev[1], A.D. Molchanova[2], K.R. Allahverdiyev[1] *[1] Azerbaijan National Aviation Academy, 30 Mardakan Ave., AZ1045, Baku, Azerbaijan;* *[2] Institute of Spectroscopy RAS, 5 Fizicheskaya St., 108840, Troitsk, Russia*

Oral Session	**Y – YOUNG SCIENTISTS SESSION (AMPL-School)** Chairs: Milan TRTICA & Yurii GEINTS *Location:* Conference Hall
Y-1 **13:30**	**Recognition of the polarization structure of synthesized vector beams in a turbulent atmosphere from intensity images by neural networks** E.A. Bogach, E.V. Adamov, V.V. Dudorov, V.V. Kolosov *Institute of Atmospheric Optics SB RAS, 1 Zuev Sq., 634055, Tomsk, Russia*
Y-2 **13:45**	**Structured illumination microscopy using synthesized beams** E.V. Adamov, E.A. Bogach, V.V. Dudorov *Institute of Atmospheric Optics SB RAS, 1 Zuev Sq., 634055, Tomsk, Russia*
Y-3 **14:00**	**The photolysis of sulfamethoxazole in water** N.P. Bezlepkina[1,2], E.N. Bocharnikova[1,2], O.N. Tchaikovskaya[1,2], G.V. Mayer[1], O.K. Bazyl[1] *[1] Tomsk State University, 36 Lenin Ave., 634050, Tomsk, Russia;* *[2] Institute of Electrophysics UB RAS, 106 Amundsen St., 620016, Ekaterinburg, Russia*
Y-4 **14:15**	**Laser synthesis and photocatalytic properties of $Bi_2SiO_5/Bi_{12}SiO_{20}$ composite nanoparticles** A.G. Golubovskaya, A.I. Kostenko, V.A. Svetlichnyi *Tomsk State University, 36 Lenin Ave., 634050, Tomsk, Russia*

Y-5 **14:30**	**The investigation of AlN film thickness impact grown by magnetron sputtering on optical properties in the IR and THz ranges** O.N. Shevchenko[1,2], A.L. Bogoslovtseva[2], A.A. Rybak[1,2], N.A. Nikolaev[1,2], P.V. Geydt[2], S.Yu. Chepkasov[2], E.A. Maximovsky[3] *[1] Institute of Automation and Electrometry SB RAS, 1 Koptyug Ave., 630090, Novosibirsk, Russia;* *[2] Novosibirsk State University, 1 Pirogov St., 630090, Novosibirsk, Russia;* *[3] Institute of Inorganic Chemistry SB RAS, 3 Lavrentyev Ave., 630090, Novosibirsk, Russia*
Y-6 **14:45**	**Effect of the method of decorating ZnO nanoparticles with silver on their photocatalytic properties** A.V. Volokitina, V.A. Svetlichnyi *Tomsk State University, 36 Lenin Ave., 634050, Tomsk, Russia*
15:00	*COFFEE BREAK*
Y-7 **15:20**	**N_2^+ lasing under two-color pumping** I.A. Zyatikov, V.F. Losev, S.V. Alekseev, D.M. Lubenko *Institute of High Current Electronics SB RAS, 2/3 Akademichesky Ave., 634055, Tomsk, Russia*
Y-8 **15:35**	**CuBr-laser non-typical radiation mode** N.A. Vasnev, N.V. Karasev, V.O. Troitskii, M.V. Trigub *Institute of Atmospheric Optics SB RAS, 1 Zuev Sq., 634055, Tomsk, Russia*

Y-9 **15:50**	**Terahertz optical properties of Lithium Ternary Chalcogenide Crystals** A.A. Rybak[1], O.N. Shevchenko[1], A.F. Kurus[2,3], V.N. Vedenyapin[2], L.I. Isaenko[2,3], N.A. Nikolaev[1] *[1] Institute of Automation and Electrometry SB RAS, 1 Koptyug Ave., 630090, Novosibirsk, Russia;* *[2] Institute of Geology and Mineralogy SB RAS, 3 Koptyug Ave., 630090, Novosibirsk, Russia;* *[3] Novosibirsk State University, 1 Pirogov St., 630090, Novosibirsk, Russia*
Y-10 **16:05**	**Through-holes vias ceramic microstrip boards metal filling by electrochemical deposition** A.A. Udalov, D.V. Baboshko, E.V. Shesterikov *Institute of Atmospheric Optics SB RAS, 1 Zuev Sq., 634055, Tomsk, Russia*

SEPTEMBER 17, 2025, WEDNESDAY

Poster Session **09:30**	**F – PHOTONICS IN REMOTE STUDIES OF ENVIRONMENT** *Location:* Sports hall
F-6	**Light scattering by large non-spherical particles of dust aerosol for problems of experimental data interpretation** N.V. Kustova[1], A.V. Konoshonkin[1, 2], D.N. Timofeev[1], K.S. Salnikov[1] *[1] Institute of Atmospheric Optics SB RAS, 1 Zuev Sq., 634055, Tomsk, Russia;* *[2] Tomsk State University, 36 Lenin Ave., 634050, Tomsk, Russia*
F-7	**Investigation of saturation effects on metastable helium lidar performance** Z.F. Wang, R.C. Zhao *University of Science and Technology of China, 96 JinZhai Road Baohe District, 230026, Hefei, Anhui, China*
F-8	**Estimation of time parameters of laser radiation sources for two-pulse laser diagnostics** S.M. Bobrovnikov, E.V. Gorlov, V.I. Zharkov., S.N. Murashko *Institute of Atmospheric Optics SB RAS, 1 Zuev Sq., 634055, Tomsk, Russia*
F-9	**Installation for diagnostics of metabolic disorders of plant cover based on IR spectra of atmospheric radiation** A.A. Lugovskoi[1], N.M. Emelyanov[1], A.V. Lugovskoi[1], I.E. Rodionov[2] *[1] Institute of Atmospheric Optics SB RAS, 1 Zuev Sq., 634055, Tomsk, Russia;* *[2] Tomsk State University, 36 Lenin Ave., 634050, Tomsk, Russia*

F-10

Russian segment of Global Aerosol-Cloud-Precipitation Observation Network (GAONet) in Tomsk

A.V. Kryuchkov[1], V.V. Filatov[1], A.I. Elizarov[1], A.V. Shaleev[1], D.V. Kokarev[1], A.M. Morozov[1], V.A. Shishko[1], X. Zhu[3], N.V. Kustova[1], A.V. Konoshonkin[1, 2], Z. Wang[3], Y. Wang[3], D. Liu[3], M.V. Trigub[1]

[1] Institute of Atmospheric Optics SB RAS, 1 Zuev Sq., 634055, Tomsk, Russia;

[2] Tomsk State University, 36 Lenin Ave., 634050, Tomsk, Russia;

[3] Anhui Institute of Optics and Fine Mechanics, Hefei Institutes of Physical Science CAS, 350 Shushanhu Road, 230031, Hefei, China

Poster Session **09:30**	**G – BIOPHOTONICS** *Location:* Sports hall
G-9	**Spectral optical characteristics of chromophoric dissolved organic matter in meromictic water bodies of the White Sea coast** Yu.G. Sokolovskaya[1], E.D. Krasnova[1], D.A. Voronov[2], S.V. Patsaeva[1] *[1] Moscow State University, GSP-1, Leninskie Gory, 119991, Moscow, Russia;* *[2] Institute for Information Transmission Problems RAS, 1 Bol`shoj Karetnyj Lane, 127051, Moscow, Russia*
G-10	**Measurement of concentration of veterinary antibiotics in soil extracts and natural water using spectral methods** V.A. Terekhova[1,2], A.P. Kiryushina[2], K.P. Serikov[1], Yu.G. Sokolovskaya[1], S.V. Patsaeva[1] *[1] Moscow State University, GSP-1, Leninskie Gory, 119991, Moscow, Russia;* *[2] Institute of Ecology and Evolution RAS, 33 Leninsky Ave., 119071, Moscow, Russia*
G-11	**Photoacoustic spectrometer based on the Helmholtz resonators and quartz fork resonators for environmental and medical applications** V.V. Nikolaev, G.K. Raspopin, D.R. Makashev, A.V. Zherdeva, Yu.V. Kistenev *Tomsk State University, 36 Lenin Ave., 634050, Tomsk, Russia*

G-12	**The mobile terahertz sensor combined with the multi-pass cylindrical cell with variable optical path length for environmental and medical applications** V.V. Nikolaev, G.K. Raspopin, D.R. Makashev, Yu.V. Kistenev *Tomsk State University, 36 Lenin Ave., 634050, Tomsk, Russia*

Poster Session **09:30**	**H – PHOTOPHYSICAL PROCESSES, CONVERSATION OF LASER RADIATION, NONLINEAR OPTICS AND LASER SYNTHESIS OF NANOSTRUCTURES** *Location:* Sports hall
H-8	**THz imaging at different frequencies with single-color filamentation** G.E. Rizaev, L.V. Seleznev *Physical Institute RAS, 53 Leninskiy Ave., 119991, Moscow, Russia*
H-9	**Photodynamical deprotonation of phenol-substituted environmental pollutants** V.A. Pomogaev, E.N. Bocharnikova, O.N. Tchaikovskaya *Tomsk State University, 36 Lenin Ave., 634050, Tomsk, Russia*
H-10	**4,6-Bis(5-(9-ethyl-9H-carbazol-3-yl)thiophen-2-yl)pyrimidine as an indicator of photogenerated acids** L.G. Samsonova, N.V. Izmailova, R.M. Gadirov *Tomsk State University of Control Systems and Radioelectronics, 40 Lenin Ave., 634050, Tomsk, Russia*
H-11	**Detrilation of phosphoramidites by photogenerated acids** L.G. Samsonova, N.V. Izmailova, R.M. Gadirov *Tomsk State University of Control Systems and Radioelectronics, 40 Lenin Ave., 634050, Tomsk, Russia*
H-12	**UV radiated degradation of drugs in water** E.N. Bocharnikova[1,2], O.N. Tchaikovskaya[1,2], N.P. Bezlepkina[1,2] *[1] Tomsk State University, 36 Lenin Ave., 634050, Tomsk, Russia;* *[2] Institute of Electrophysics UB RAS, 106 Amundsen St., 620016, Ekaterinburg, Russia*

H-13	**Photolysis and Radiolysis of paracetamol** N.P. Bezlepkina[1,2], E.N. Bocharnikova[1,2], O.N. Tchaikovskaya[1,2], I.E. Filatov[2], V.I. Solomonov[2], A.S. Makarova[2], A.V. Spirina[2] *[1] Tomsk State University, 36 Lenin Ave., 634050, Tomsk, Russia;* *[2] Institute of Electrophysics UB RAS, 106 Amundsen St., 620016, Ekaterinburg, Russia*
H-14	**High-power pulsed fiber laser with second harmonic generation** A.A. Kolegov, D.A. Petrushevsky, D.A. Letov, A.A. Krulikovsky, A.V. Savkin, S.A. Groshenkova *LASSARD LLC, 26/11 Varshavskoye shosse, 117105, Moscow, Russia*
H-15	**Investigation of SHG in $TbAl_xGa_{3-x}(BO_3)_4$ crystals by the Kurtz-Perry method** A.Y. Jamous[1,2], A.B. Kuznetsov[2], V.A. Svetlichnyi[1], A.E. Kokh[2] *[1] Tomsk State University, 36 Lenin Ave., 634050, Tomsk, Russia;* *[2] Institute of Geology and Mineralogy SB RAS, 3 Koptyug Ave., 630090, Novosibirsk, Russia*
H-16	**Contribution of the absorption of radiation from the Stokes component of the SRS of pulsed solid-state lasers by atmospheric gases to the signal of an optical-acoustic detector** Yu.N. Ponomarev, T.E. Kuraeva *Institute of Atmospheric Optics SB RAS, 1 Zuev Sq., 634055, Tomsk, Russia*
H-17	**Photophysical processes in zinc porphyrin oligomers** L.I. Valiulina, R.R. Valiev, K. Khoroshkin *Tomsk State University, 36 Lenin Ave., 634050, Tomsk, Russia*

H-18	**Some variants of solving the problem of generating the second harmonic of laser radiation in nonlinear uniaxial crystals** V.O. Troitskii *Institute of Atmospheric Optics SB RAS, 1 Zuev Sq., 634055, Tomsk, Russia*
H-19	**Single- and two-phonon excited fluorescence of liquid aerosol. Dependence on fluorophore concentration at different laser intensities** A.A. Zemlyanov[1], V.A. Donchenko[2], Al.A. Zemlyanov[1,2], D.I. Kochetov[1,2], R.V. Ryambov[2] *[1] Institute of Atmospheric Optics SB RAS, 1 Zuev Sq., 634055, Tomsk, Russia;* *[2] Tomsk State University, 36 Lenin Ave., 634050, Tomsk, Russia*
H-20	**Stability of self-channeling of laser pulses in a Kerr-nonlinear turbulent medium** A.A. Zemlyanov, O.D. Zemlyanova *Institute of Atmospheric Optics SB RAS, 1 Zuev Sq., 634055, Tomsk, Russia*
H-21	**Evaluation of the effective nonlinear susceptibility of the $LiNa_5Mo_9O_{30}$:Li crystal obtained by spontaneous crystallization** D.M. Ezhov[1], V.D. Grigorieva[2], A.B. Kuznetsov[3] *[1] Tomsk State University, 36 Lenin Ave., 634050, Tomsk, Russia;* *[2] Institute of Inorganic Chemistry SB RAS, 3 Lavrentyev Ave., 630090, Novosibirsk, Russia;* *[3] Institute of Geology and Mineralogy SB RAS, 3 Koptyug Ave., 630090, Novosibirsk, Russia*
H-22	**Organic light-emitting diodes based on fluorene copolymers** A.E. Kurtsevich, E.N. Nikonova, K.M. Degtyarenko, V.P. Tuguldurova *Tomsk State University, 36 Lenin Ave., 634050, Tomsk, Russia*

Poster Session **09:30**	**Y – AMPL SCHOOL** *Location:* Sports hall
Y-11	**Elongation of propagation distance of high-intensity femtosecond post-filamentation channel** G.E. Rizaev[1,2], L.V. Seleznev[1,2], Yu.E. Geints[1] *[1] Institute of Atmospheric Optics SB RAS, 1 Zuev Sq., 634055, Tomsk, Russia;* *[2] Physical Institute RAS, 53 Leninskiy Ave., 119991, Moscow, Russia*
Y-12	**Increasing the sensitivity of the Fs-LIBS method by controlling the type of laser radiation polarization** P.A. Babushkin *Institute of Atmospheric Optics SB RAS, 1 Zuev Sq., 634055, Tomsk, Russia*
Y-13	**Application of KTP crystal to change plasma temperature in emission analysis problem** P.A. Babushkin *Institute of Atmospheric Optics SB RAS, 1 Zuev Sq., 634055, Tomsk, Russia*
Y-14	**Terahertz sensor for cortisol detection** D.S. Ustyantseva[1,2], M.R. Konnikova[3,4], A.R. Shevchenko[5], A.M. Mumlyakov[5], M.I. Krasilnikov[5], A.A. Anikanov[5], O.P. Cherkasova[1,3], N.A. Nikolaev[1,2] *[1] Institute of Automation and Electrometry SB RAS, 1 Koptyug Ave., 630090 Novosibirsk, Russia;* *[2] Novosibirsk State University, 2 Pirogov St., 630090 Novosibirsk, Russia;* *[3] National Research Centre «Kurchatov Institute», 1 Kurchatov Sq., 123182, Moscow, Russia;* *[4] Moscow State University, GSP-1, Leninskie Gory, 119991 Moscow, Russia;* *[5] Institute of Nanotechnology of Microelectronics RAS, 32A Leninsky Ave., 119334, Moscow, Russia*

Y-15	**Double pulse mode prospects in visual-optical diagnostics** N.A. Vasnev, N.V. Karasev, M.V. Trigub *Institute of Atmospheric Optics SB RAS, 1 Zuev Sq., 634055, Tomsk, Russia*
Y-16	**Multifocal structure of high-power femtosecond laser radiation during filamentation in pressured gases** Y.E. Geints, O.V. Minina *Institute of Atmospheric Optics SB RAS, 1 Zuev Sq., 634055, Tomsk, Russia*
Y-17	**Second-harmonic generation of laser infrared radiation in lithium-sodium molybdate crystal under ssf-phase-matching conditions** D.Yu. Demushkin[1], D.A. Denisov[1], A.V. Konyashkin[2], O.A. Ryabushkin[2] *[1] Moscow Institute of Physics and Technology, 9 Institutskiy Lane, 141701, Dolgoprudny, Russia; [2] Fryazino branch of Institute of Radioengineering and Electronics RAS, 1 Vvedensky Ave., 141190, Fryazino, Russia*
Y-18	**Technology of manufacturing passive elements of optoelectronic boards with air-bridges** D.V. Baboshko, A.A. Udalov, E.V. Shesterikov *Institute of Atmospheric Optics SB RAS, 1 Zuev Sq., 634055, Tomsk, Russia*
Y-19	**Lasing in an organic active waveguide** E.N. Tel'minov[1], T.A. Solodova[1], S.T. Berdybaeva[1], R.M. Gadirov [2], M.G. Fedotkin[1] *[1] Tomsk State University, 36 Lenin Ave., 634050, Tomsk, Russia; [2] Tomsk State University of Control Systems and Radioelectronics, 40 Lenin Ave., 634050, Tomsk, Russia*

Y-20	**Optical sensing capabilities of organic active waveguides** E.N. Tel'minov [1], T.A. Solodova[1], S.T. Berdybaeva[1], R.M. Gadirov [2], M.E. Fedotkin[1] *[1] Tomsk State University, 36 Lenin Ave., 634050, Tomsk, Russia;* *[2] Tomsk State University of Control Systems and Radioelectronics, 40 Lenin Ave., 634050, Tomsk, Russia*
Y-21	**Development of a controlled radiation source power supply system** M.E. Ermakov, A.D. Treskov, M.V. Trigub *Institute of Atmospheric Optics SB RAS, 1 Zuev Sq., 634055, Tomsk, Russia*
Y-22	**Development of a remote control system for a regulated radiation source** A.D. Treskov, M.E. Ermakov, M.V. Trigub *Institute of Atmospheric Optics SB RAS, 1 Zuev Sq., 634055, Tomsk, Russia*

Oral Session	**G – BIOPHOTONICS** Chairs: Yury KISTENEV & Galina ZVEREVA *Location:* Gray hall
G-1 **13:30** **Invited**	**Vibrational spectroscopy of blood for glioma diagnosis** O.P. Cherkasova[1,2], D.A. Vrazhnov[3], Yu.V. Kistenev[3], N.A. Nikolaev[1] *[1] Institute of Automation and Electrometry SB RAS, 1 Koptyug Ave., 630090, Novosibirsk, Russia;* *[2] National Research Centre «Kurchatov Institute», 1 Kurchatov Sq., 123182, Moscow, Russia;* *[3] Institute of Atmospheric Optics SB RAS, 1 Zuev Sq., 634055, Tomsk, Russia*
G-2 **13:50** **Invited**	**Spectral characteristics of CDOM in natural water: features of measurement and interpretation based on the results of long-term studies** S.V. Patsaeva *Moscow State University, GSP-1, Leninskie Gory, 119991, Moscow, Russia*
G-3 **14:10**	**The capabilities of optical coherence tomography for evaluating the porosity of titanium nickelide (NiTi)** T.B. Lepekhina, G.V. Malkin, V.V. Nikolaev *Tomsk State University, 36 Lenin Ave., 634050, Tomsk, Russia*
G-4 **14:25**	**Factors Affecting Hormesis in Microorganisms Under the Influence of VUV Radiation** G.N. Zvereva[1], I.Yu. Kirtsideli[2] *[1] University of Civil Aviation, 38 Pilotov St., 196210, St. Petersburg, Russia;* *[2] Botanical Institute RAS, 2 Professor Popov St., 197376, St. Petersburg, Russia*

G-5 **14:40**	**Porous membranes for photoactivated oligonucleotide synthesis** R.M. Gadirov, K.A. Bolgaru, E.R. Ragimov, A.E. Kurtsevich *Tomsk State University of Control Systems and Radioelectronics, 40 Lenin Ave., 634050, Tomsk, Russia*
G-6 **14:55**	**Using an apokamp discharge to increase potato yields (Solanum tuberosum L.)** E.A. Sosnin[1,2], I.A. Victorova[3], V.A. Panarin[1], V.S. Skakun[1], E.N. Surnina[2], S.A. Nujnich[2] *[1] Institute of High Current Electronics SB RAS, 2/3 Akademichesky Ave., 634055, Tomsk, Russia;* *[2] Tomsk State University, 36 Lenin Ave., 634050, Tomsk, Russia;* *[3] Tomsk Agricultural Institute – branch of Novosibirsk State Agrarian University, 11 Solyanaua Sq., 634003, Tomsk, Russia*
G-7 **15:10**	**Application of time-resolved luminescence spectroscopy for temperature measurement using nanosensors based on $NaYF_4:Yb^{3+}/Tm^{3+}$ complexes** S.A. Burikov, K.A. Laptinskiy, T.A. Dolenko *Moscow State University, GSP-1, Leninskie Gory, 119991, Moscow, Russia*
G-8 **15:25**	**IR-THz spectroscopy and gas chromatography methods for analysis of eutrophication of water bodies** V.V. Nikolaev, A.K. Tretyakov, A.V. Zherdeva, Yu.V. Kistenev *Tomsk State University, 36 Lenin Ave., 634050, Tomsk, Russia*
15:40	*COFFEE-BREAK*

Oral Session	**H – PHOTOPHYSICAL PROCESSES, CONVERSATION OF LASER RADIATION, NONLINEAR OPTICS AND LASER SYNTHESIS OF NANOSTRUCTURES** Chair: Valery SVETLICHNYI *Location:* Conference Hall
H-1 **13:30** **Invited**	**New possibilities of parametric frequency converters of laser emission in oxide nonlinear crystals** Yu.M. Andreev, P.V. Vybornov *Institute of Monitoring of Climatic and Ecological Systems SB RAS, 10/3 Akademichesky Ave., 634055, Tomsk, Russia*
H-2 **13:50** **Invited**	**Nonlinear optical generation of terahertz radiation in the vicinity of phonon absorption of crystals** N.A. Nikolaev[1], G.V. Lanskii[2], Yu.M. Andreev[2] *[1] Institute of Automation and Electrometry SB RAS, 1 Koptyug Ave., 630090, Novosibirsk, Russia;* *[2] Institute of Monitoring of Climatic and Ecological Systems SB RAS, 10/3 Akademichesky Ave., 634055, Tomsk, Russia*
H-3 **14:10**	**Laser flash photolisis of the derivatives based on benzothiaphene – acid photogenerators** L.G. Samsonova, N.V. Izmailova, R.M. Gadirov *Tomsk State University of Control Systems and Radioelectronics, 40 Lenin Ave., 634050, Tomsk, Russia*
H-4 **14:25**	**Formation of bismuth oxohalide nanostructures by laser plasma treatment of bismuth NPs in aqueous solutions of potassium halides** V.E. Korepanov, O.A. Reutova, V.A. Svetlichnyi *Tomsk State University, 36 Lenin Ave., 634050, Tomsk, Russia*

H-5 **14:40**	**Quantum-chemical calculations of structural and electronic properties of Gd and Zn metallated porphyrin derivatives intended for photomedicine** V.A. Pomogaev, D.A. Lukyanov, E.V. Solovyeva *St. Petersburg State University, 26 Universitetsky Ave., 198504, Peterhof, Saint-Petersburg, Russia*
H-6 **14:55**	**Optical properties of the bulk β-BBO crystal grown from BaO-B_2O_3-Na_2O-WO_3 system** D.M. Ezhov[1], E.A. Simonova[2], A.A. Goreyavcheva[2], V.A. Svetlichnyi[1], A.E. Kokh[2] *[1] Tomsk State University, 36 Lenin Ave., 634050, Tomsk, Russia;* *[2] Institute of Geology and Mineralogy SB RAS, 3 Koptyug Ave., 630090, Novosibirsk, Russia*
H-7 **15:10**	**Synthesis of nanocarbon film structure on the polyimide film surface using pulsed diode laser** I.A. Zlobin, V.M. Styapshin, K.G. Mikheev, E.I. Ryabov, G.M. Mikheev *Udmurt Federal Research Center UB RAS, 34 Tatyana Baramzina St., Izhevsk, Russia*
15:40	*COFFEE BREAK*

Oral Session	**F – PHOTONICS IN REMOTE STUDIES OF ENVIRONMENT** Chair: Dong LIU *Location:* Conference Hall
F-1 **16:00** **Invited**	**Progress in Experimental and Theoretical Research on the Backscatter Characteristics of Cirrus Clouds** Z. Wang[1], D. Liu[1], X. Zhu[1], Y. Wang[1], A.V. Konoshonkin[2], N.V. Kustova[2], V.A. Shishko[2], D.N. Timofeev[2] *[1] Anhui Institute of Optics and Fine Mechanics, Hefei Institutes of Physical Science CAS, 350 Shushanhu Road, 230031, Hefei, China;* *[2] Institute of Atmospheric Optics SB RAS, 1 Zuev Sq., 634055, Tomsk, Russia*
F-2 **16:20**	**Progress in the development of Fe resonance fluorescence Doppler lidar** C. Li[1], D. Wu[1], D. Liu[1], F. Cui[2], Q. Deng[1], Z. Zhong[1], B. Wang[1], Z. Wang[1], Y. Wang[1] *[1] Anhui Institute of Optics and Fine Mechanics, Hefei Institutes of Physical Science CAS, 350 Shushanhu Road, 230031, Hefei, China;* *[2] HIWING Technology Academy of CASIC, 1 HaiYingRoad, 100074, Beijing, China*
F-3 **16:35**	**New Robust Light Scattering Database for Ice Crystals of Cirrus Clouds** A.V. Konoshonkin[1,2], N.V. Kustova[2], V.A. Shishko[2], Z. Wang[3,4], X. Zhu[3,4], D. Liu[3,4], D.N. Timofeev[2], I.V. Tkachev[2], Y. Wang[3,4] *[1] Tomsk State University, 36 Lenin Ave., 634050, Tomsk, Russia;* *[2] Institute of Atmospheric Optics SB RAS, 1 Zuev Sq., 634055, Tomsk, Russia;* *[3] Anhui Institute of Optics and Fine Mechanics, Hefei Institutes of Physical Science CAS, 350 Shushanhu Road, 230031, Hefei, China* *[4] University of Science and Technology of China, 96 JinZhai Road Baohe District, 230026, Hefei, Anhui, China*

F-4 **16:50**	**Application of machine learning methods to analyze the presence of harmful impurities in the atmosphere based on spectral data** Ph.A. Kozhevnikov[1], M.R. Konnikova[1], A.S. Sinko[1], A.A. Angeluts[1,2] *[1] Moscow State University, GSP-1, Leninskie Gory, 119991, Moscow, Russia;* *[2] Institute for System Dynamics and Control Theory SB RAS, 134 Lermonova St., 664033, Irkutsk, Russia*
F-5 **17:05**	**Backscattering Properties of Quasi-Horizontally Oriented Ice Crystals for Scanning Lidars with Small Tilt Angle** X. Zhu[1,2], D. Liu[1,2], A.V. Konoshonkin[3,4], Z. Wang[1,2], N.V. Kustova[4], V.A. Shishko[4], D.N. Timofeev[4], I.V. Tkachev[4], Y. Wang [1,2] *[1] Anhui Institute of Optics and Fine Mechanics, Hefei Institutes of Physical Science CAS, 350 Shushanhu Road, 230031, Hefei, China* *[2] University of Science and Technology of China, 96 JinZhai Road Baohe District, 230026, Hefei, Anhui, China;* *[3] Tomsk State University, 36 Lenin Ave., 634050, Tomsk, Russia;* *[4] Institute of Atmospheric Optics SB RAS, 1 Zuev Sq., 634055, Tomsk, Russia*

SEPTEMBER 18, 2025, THURSDAY

Joint Oral Session	**B – DISCHARGES FOR LASERS AND NON-COHERENT RADIATION SOURCES** **E – NON-COHERENT RADIATION SOURCES** Chairs: Victor TARASENKO & Jochen WIESER *Location:* Gray Hall
BE-1 **09:30** **Invited**	**Nanosecond discharges in air and distilled water in a sharply inhomogeneous electric field** D.V. Beloplotov[1], B. Zaitsev[2], D.A. Sorokin[1,2], M.I. Lomaev[1,2] *[1] Institute of High Current Electronics SB RAS, 2/3 Akademichesky Ave., 634055, Tomsk, Russia;* *[2] Tomsk State University, 36 Lenin Ave., 634050, Tomsk, Russia*
BE-2 **9:50** **Invited**	**UV continuum- and hydrogen line-emission in hard ionized, high pressure neon** J. Wieser *Excitech GmbH, Branterei 33, 26419 Schortens, Germany*
BE-3 **10:10**	**Efficient lasing in high pressure nanosecond diffuse discharges formed by runaway electrons** A.N. Panchenko, V.F. Tarasenko *Institute of High Current Electronics SB RAS, 2/3 Academichesky Ave., 634055, Tomsk, Russia*
BE-4 **10:25**	**Experimental Study on the properties of plasma activated water prepared based on bubbling-DBD configuration and its performance in the decomposition of urea solution** H.G. Wang[1], Y.L. Liu[1], Y. Sun[1], C. Zhang[2] *[1] Shandong University, Shanda South Rd., 250100, Jinan, Shandong, China;* *[2] Institute of Electrical Engineering CAS, 6 Beiertiao, Zhongguancun, 100190, Beijing, China*

BE-5 **10:40**	**Experimental modeling of the "glow" and "beads" regions when forming analogs of red columnar sprites** V.F. Tarasenko, E.Kh. Baksht, N.P. Vinogradov *Institute of High Current Electronics SB RAS, 2/3 Akademichesky Ave., 634055, Tomsk, Russia*
BE-6 **10:55**	**High-frequency subnanosecond slit-discharge based switches for pumping RM-lasers** M.A. Lavrukhin, P.A. Bokhan, P.P. Gugin, G.V. Shevchenko, Dm.E. Zakrevsky *Institute of Semiconductor Physics SB RAS, 13 Lavrentyev Ave., 630090, Novosibirsk, Russia*
11:10	*COFFEE BREAK*
BE-7 **11:25**	**Transition from diffuse to microchannel form of high-voltage nanosecond discharge in dense gases** M.I. Lomaev[1,2], D.V. Beloplotov[1], D.A. Sorokin[1,2] *[1] Institute of High Current Electronics SB RAS, 2/3 Akademichesky Ave., 634055, Tomsk, Russia;* *[2] Tomsk State University, 36 Lenin Ave., 634050, Tomsk, Russia*
BE-8 **11:40**	**Apokamp discharge in the simulation of light phenomena in the middle atmosphere** E.A. Sosnin[1,2], V.A. Panarin[1], V.S. Skakun[1], E.V. Beloplotov[1], D.A. Sorokin[1,2] *[1] Institute of High Current Electronics SB RAS, 2/3 Akademichesky Ave., 634055, Tomsk, Russia;* *[2] Tomsk State University, 36 Lenin Ave., 634050, Tomsk, Russia*
BE-9 **11:55**	**The insight into the surface charge accumulation under negative discharge of different humidities and pressures** Y. Luo, C. Zhang, B. Huang, C. Ren, T. Shao *Institute of Electrical Engineering CAS, 6 Beiertiao, Zhongguancun, 100190, Beijing, China*

BE-10 **12:10**	**Spatial non-uniformity of a positive column optical emission in a glow discharge in an argon flow at atmospheric pressure** D.V. Beloplotov, K.P. Savkin, D.A. Sorokin *Institute of High Current Electronics SB RAS, 2/3 Akademichesky Ave., 634055, Tomsk, Russia*
BE-11 **12:25**	**Effective emission coefficient in glow discharge in noble gases** P.A. Bokhan[1], P.P. Gugin[1], M.A. Lavrukhin[1], Dm.E. Zakrevsky[1], G.V. Shevchenko[1,2] *[1] Institute of Semiconductor Physics SB RAS, 13 Lavrentyev Ave., 630090, Novosibirsk, Russia; [2] Novosibirsk State University, 1 Pirogov St., 630090, Novosibirsk, Russia*
BE-12 **12:40**	**High-frequency excitation of active media based on tunable transistor RF generators in the range of (1÷3) MHz in a pulse-periodic mode** A.M. Valshin, D.A. Abzalilov *Ufa University of Science and Technology, Zaki Validi 32, 450076, Ufa, Russia*

Oral Session	**D – LASER APPLICATIONS, LASER SYSTEMS, LASER-OPTICAL TECHNOLOGIES** Chairs: Kerim ALLAHVERDIYEV & Maxim TRIGUB *Location:* Conference Hall
D-1 **9:30**	**Quasi-two-dimensional semiconductors for use in high-power lasers (NLO)** A.M. Pashayev, K.A. Askerov, K.R. Allahverdiyev *Azerbaijan National Aviation Academy, 30 Mardakan Ave., AZ1045, Baku, Azerbaijan*
D-2 **9:45**	**Study of the influence of optical fiber dispersion on the system of incoherent laser beam combining** V.A. Alekseev[1,2], M.R. Zaripov[1], A.A. Bazar[2] *[1] Udmurt Federal Research Center of the UB RAS, 34 T. Baramzina St., 426067, Izhevsk, Russia;* *[2] Izhevsk State Technical University, 7 Studencheskaya St., 426069, Izhevsk, Russia*
D-3 **10:00**	**Cryogenic cooling system with flexible thermal bridge for active elements of laser amplifier** G.V. Kuptsov[1,2], A.O. Kuptsova[1,3], V.A. Petrov[1,2], V.V. Petrov[1,2,3] *[1] Institute of Laser Physics SB RAS, 15B Lavrentyev Ave., 630090, Novosibirsk, Russia;* *[2] Novosibirsk State Technical University, 20 Karl Marks Ave., 630073, Novosibirsk, Russia;* *[3] Novosibirsk State University, 1 Pirogov St., 630090, Novosibirsk, Russia*
D-4 **10:15**	**The change in phase profile of radiation in the active elements of a laser amplifier** A.O. Kuptsova[1,2], G.V. Kuptsov[1,3], V.A. Petrov[1,3], V.V. Petrov[1,2,3] *[1] Institute of Laser Physics SB RAS, 15B Lavrentyev Ave., 630090, Novosibirsk, Russia;* *[2] Novosibirsk State University, 1 Pirogov St., 630090, Novosibirsk, Russia;* *[3] Novosibirsk State Technical University, 20 Karl Marks Ave., 630073, Novosibirsk, Russia*

D-5 **10:30**	**Effective picosecond pulse amplification at saturation conditions** V.B. Morozov, A.N. Olenin, D.V. Yakovlev *Moscow State University, GSP-1, Leninskie Gory, 119991, Moscow, Russia*
D-6 **10:45**	**The development of photo-acoustic detectors for laser spectroscopy and gas analysis in IAO SB RAS** B.G. Ageev, V.A. Kapitanov, Yu.N. Ponomarev *Institute of Atmospheric Optics SB RAS, 1 Zuev Sq., 634055, Tomsk, Russia*
11:10	*COFFEE BREAK*
D-7 **11:30**	**High-Power 1083nm Pulsed Laser-Based Metastable Helium Detection Lidar System and Its Applications in Space Environment Monitoring** R.C. Zhao, Z.W. Liu, X.H. Xue, H. Zhou, Z.F. Wang, Y.Y. Liu, J.T. Li, D.S. Sun, J.X. Lan, T.D. Chen, D.F. Zhao, X.K. Dou *University of Science and Technology of China, 96 JinZhai Road Baohe District, 230026, Hefei, China*
D-8 **11:45**	**Domain separation networks for river water ionic composition diagnostics by Raman spectroscopy** L.S. Utegenova, K.A. Buzanov, A.A. Guskov, S.A. Dolenko, T.A. Dolenko *Moscow State University, GSP-1, Leninskie Gory, 119991, Moscow, Russia*

Round Table	**HRT – PHOTOPHYSICAL PROCESSES, CONVERSATION OF LASER RADIATION, NONLINEAR OPTICS AND LASER SYNTHESIS OF NANOSTRUCTURE (ROUND TABLE)** Chairs: Georgy MAYER & Valery SVETLICHNYI *Location:* Tomsk State University
HRT-1 **14:30**	**Н.А. Прилежаева – основатель первой в Сибири лаборатории спектроскопии и научной школы фотоники молекул** Г.В. Майер, О.Н. Чайковская, И.В. Соколова *Томский государственный университет, пр. Ленина 36, 634050, Томск, Россия*
HRT-2 **14:45**	**Водяной пар в радиационном балансе атмосферы. Континуальное поглощение водяного пара** И.В. Пташник *Институт оптики атмосферы СО РАН, пл. Академика Зуева, 1, 634055, Томск, Россия*
HRT-3 **15:00**	**Кафедра оптики и спектроскопии ТГУ: этапы развития** В.Н. Черепанов *Томский государственный университет, пр. Ленина 36, 634050, Томск, Россия*
HRT-4 **15:15**	**О сотрудничестве сотрудников лаборатории, созданной в СФТИ Натальей Александровной Прилежаевой, и лаборатории оптических излучений ИСЭ СО РАН** В.Ф. Тарасенко *Институт сильноточной электроники СО РАН, пр. Академический 2/3, 634055, Томск, Россия*

HRT-5 **15:30**	**Диагностика заболеваний на основе спектрального анализа выдыхаемого воздуха** Ю.В. Кистенев *Томский государственный университет, пр. Ленина 36, 634050, Томск, Россия*
HRT-6 **15:45**	**Поляризационная спектроскопия: история становления научных исследований в Томске** В.П. Демкин *Томский государственный университет, пр. Ленина 36, 634050, Томск, Россия*
HRT-7 **16:00**	**Стиль руководства Н.А. Прилежаевой своими аспирантами. Осколки аристократии** Л.В. Горчаков *Томский государственный университет, пр. Ленина 36, 634050, Томск, Россия*
HRT-8 **16:15**	**Запуск первого лазера в Томске** А.Н. Солдатов *Томский государственный университет, пр. Ленина 36, 634050, Томск, Россия*
HRT-9 **16:30**	**Развитие исследований нелинейных оптических свойств органических молекул в мощных световых полях в отделе фотоники молекул** В.А. Светличный *Томский государственный университет, пр. Ленина 36, 634050, Томск, Россия*

SEPTEMBER 19, 2025, FRIDAY

Joint Oral Session	**A – PROMISING MEDIA FOR LASERS AND OPTOELECTRONIC DEVICES DEVELOPMENT** **I – CARBON MATERIALS IN QUANTUM ELECTRONICS, PHOTONICS AND OPTOELECTRONICS** Chairs: Dmitriy SOROKIN & Dmitriy GENIN *Location:* Gray hall
AI-1 **9:30**	**Effect of Yb:Y_2O_3+5 mol% ZrO_2 nanopowder decantation in ethyl alcohol on the optical quality of the ceramics synthesized from it** V.I. Solomonov, V.V. Osipov, V.A. Shitov, R.N. Maksimov, A.V. Spirina, A.S. Makarova, A.N. Orlov *Institute of Electrophysics UB RAS, 106 Amundsena St., 620110, Ekaterinburg, Russia*
AI-2 **9:45**	**Radiation characteristics investigation of a pulsed inductive neon laser with wavelengths of 594.4 and 614.3 nm** D.S. Churkin, R.A. Tkachenko, I.A. Trunov, E.S. Kargapol'tsev *Institute of Laser Physics SB RAS, 15B Lavrentyev Ave., 630090, Novosibirsk, Russia*
AI-3 **10:00**	**The limits of applicability of the Marx generator for pumping the active medium of metal vapor lasers** N.A. Yudin[1,2], A.V. Malikov[1] *[1] Tomsk State University, 36 Lenin Ave., 634050, Tomsk, Russia;* *[2] Institute of Atmospheric Optics SB RAS, 1 Zuev Sq., 634055, Tomsk, Russia*
AI-4 **10:15**	**Molecular-crystalline sources of narrowband terahertz radiation with spectral control** A.S. Sinko[1,2], Ph.A. Kozhevnikov[1], N.N. Kozlova[2], M.R. Konnikova[1,2], A.P. Shkurinov[1,2] *[1] Moscow State University, GSP-1, Leninskie Gory, 119991, Moscow, Russia;* *[2] National Research Center «Kurchatov Institute», 1 Kurchatov Sq., 123182, Moscow, Russia*

AI-5 **10:30**	**Influence of the laser-induced graphene synthesis conditions on the photocurrent under pulsed laser excitation** R.G. Zonov, G.M. Mikheev *Udmurt Federal Research Center UB RAS, 34 Baramzinoi St., 426067, Izhevsk, Russia*
AI-6 **10:45**	**Carbon dots as luminescent nanosensors in the tasks of determining the composition of multicomponent liquid media** K.A. Laptinskiy, G.N. Chugreeva, A.M. Vervald, T.A. Dolenko *Moscow State University, GSP-1, Leninskie Gory, 119991, Moscow, Russia*
AI-7 **11:00**	**Problems and Prospects of Obtaining Laser Generation at NV Centers in Diamond** D.E. Genin[1,2], E.I. Lipatov[1,2], A.V. Samolov[1,2], P.E. Komarova[1,2] *[1] Institute of High Current Electronics SB RAS, 2/3 Akademichesky Ave., 634055, Tomsk, Russia;* *[2] Tomsk State University, 36 Lenin Ave., 634050, Tomsk, Russia*
11:40	*COFFEE BREAK*

Oral Session C	**ULTRASHORT LASER PULSES** Chair: Vladimir CHVYKOV & Yury GEINTS *Location:* Conference Hall
C-1 **9:30** **Invited**	**Effect of femtosecond laser structuring on the optical and photoluminescent properties of thin chalcogenide glassy semiconductor films** D.V. Shuleiko[1], E.V. Kuzmin[1,2], P.P. Pakholchuk[1,2], V.A. Gushchina[3], S.A. Kozyukhin[3], P.K. Kashkarov[1,4] *[1] Moscow State University, GSP-1, Leninskie Gory, 119991, Moscow, Russia;* *[2] Physical Institute RAS, 53 Leninsky Ave., 119991, Moscow, Russia;* *[3] Institute of General and Inorganic Chemistry RAS, 31 Leninsky Ave., 119991, Moscow, Russia;* *[4] National Research Center «Kurchatov Institute», 1 Kurchatov Sq., 123182, Moscow, Russia*
C-2 **9:50** **Invited**	**Generation of high-order harmonics in laser plasma by picosecond radiation** S.V. Avtaeva[1,2], V.V. Petrov[1,2], V.I. Trunov[1,2], A.V. Kirpichnikov[1], V.A. Vasiliev[1], K.V. Gubin[1] *[1] Institute of Laser Physics SB RAS, 15B Lavrentyev Ave., 630090, Novosibirsk, Russia;* *[2] Novosibirsk State Technical University, 20 Karl Marks Ave., 630073, Novosibirsk, Russia*
C-3 **10:10**	**Saturation of supercontinuum radiation during laser filamentation in compressed gases** Yu.E. Geints[1], A.D. Bulygin[1], V.O. Kompanets[1,2], S.V. Chekalin[1,2] *[1] Institute of Atmospheric Optics SB RAS, 1 Zuev Sq., 634055, Tomsk, Russia;* *[2] Institute of spectroscopy RAS, 5 Fizicheskaya St.,108840, Troitsk, Russia*

C-4 **10:25**	**Generation of coherent white beams in nitrogen** V.F. Losev, I.A. Zyatikov, D.M. Lubenko, S.V. Alekseev *Institute of High Current Electronics SB RAS, 2/3 Akademichesky Ave., 634055, Tomsk, Russia*
C-5 **10:40**	**The effect of local heterogeneities of the medium along the propagation path of high power femtosecond laser pulses on the generation of electromagnetic radiation at shifted wavelengths** D.V. Apeksimov, P.A. Babushkin, Yu.E. Geinz, A.M. Kabanov, V.K. Oshlakov, A.V. Petrov, E.E. Khoroshaeva *Institute of Atmospheric Optics SB RAS, 1 Zuev Sq., 634055, Tomsk, Russia*
C-6 **10:55**	**Carrier-envelope phase stabilization of pulses of the femtosecond laser system** G.V. Kuptsov, A.V. Kirpichnikov, V.V. Petrov, V.A. Petrov, A.O. Kuptsova, V.I. Trunov *Institute of Laser Physics SB RAS, 15B Lavrentyev Ave., 630090, Novosibirsk, Russia*
C-7 **11:10**	**Terahertz emission from single-color laser filament plasma** G.E. Rizaev[1,2], L.V. Seleznev[1,2] *[1] Physical Institute RAS, 53 Leninskiy Ave., 119991, Moscow, Russia;* *[2] Moscow State University, GSP-1, Leninskie Gory, 119991, Moscow, Russia*

C-8 **11:25**	**Characteristics of the second harmonic generated during laser pulse filamentation in air** T.A. Dick[1,2], G.E. Rizaev[1], I.A. Nikolaeva[1,3], D.E. Shipilo[1,3], A.V. Koribut[1,2], D.V. Pushkarev[1], M.V. Levus[1,3], Ya.V. Grudtsyn[1], N.R. Vrublevskaya[1,3], N.A. Panov[1,3], O.G. Kosareva[1,3], L.V. Seleznev[1] *[1] Physical Institute RAS, 53 Leninskiy Ave., 119991, Moscow, Russia;* *[2] Moscow Institute of Physics and Technology, 9 Institutskiy Lane, 141701, Dolgoprudny, Russia;* *[3] Moscow State University, GSP-1, Leninskie Gory, 119991, Moscow, Russia*
11:40	*COFFEE BREAK*