

Program of the 12th International Workshop on Fiber Lasers (07.07.2026)

02.09.2026	03.09.2026	04.09.2026	05.09.2026	06.09.26
Registration 1 - New media, schemes, regimes and applications of fiber lasers (jointly with the NLP School) 1.1 - 6 talks	2 - Pulsed fiber and hybrid lasers 7 talks 3 - Nonlinear conversion of radiation 7 talks	5 - Laser optics and components, diffractive and integrated optics 8 talks 6 - Applications: sensors, communications, material processing 8 talks	Round table (Institute of Automation and Electrometry, Siberian Branch of the Russian Academy of Sciences (IA&E SB RAS)) Excursion to SKIF	Individual program
Lunch				
1.2 - 4 talks (online) 1.3 - 4 talks	4 - Joint session with NLP 8 talks	7 - Photonic integrated circuits. Nanophotonics and metamaterials 11 talks	Informal networking on the shore of the Ob Sea <i>(weather permitting)</i>	
<i>Poster session 1</i> 28 talks	<i>Poster session 2</i> 28 talks (+NLP)	Reception		

September 2, 2026. Technopark, Large Conference Hall

9⁰⁰-9⁵⁰ Participant registration

9⁵⁰ Official opening of the Workshop (A.M.Shalagin, S.A. Babin, M.P. Fedoruk)

1 - New media, schemes, regimes and applications of fiber lasers (*jointly with NLP*) Chair: S.A. Babin

10⁰⁰ I.A. Bufetov, A.V. Gladyshev (*Fiber Optics Research Center of the Russian Academy of Sciences (FORC), Prokhorov General Physics Institute of the Russian Academy of Sciences (GPI RAS), Moscow*)

Gas-discharge fiber lasers: achievements and prospects (**inv.**)

10³⁰ I.A. Lobach (*Institute of Automation and Electrometry, Siberian Branch of the Russian Academy of Sciences (IA&E SB RAS), Novosibirsk*)

Self-sweeping fiber lasers: yesterday, today, tomorrow (**inv.**)

11⁰⁰ I.V. Obronov (*VPG Laserone LLC, Fryazino*)

Advances in the development of modern industrial lasers and technologies for emerging segments of the economy (**inv.**)

11³⁰ D.A. Letov, A.A. Kolegov (*Lassard LLC, Moscow*)

Suppression of stimulated Raman scattering by dual-wavelength generation in a 4-kW single-mode fiber laser (**inv.**)

12⁰⁰ V.V. Koltashev¹, M.V. Sukhanov², B.I. Galagan³, B.I. Denker³, S.E. Sverchkov³, E.N. Lashmanov², A.P. Velmuzhov², V.G. Plotnichenko¹ (*¹Fiber Optics Research Center named after E.M. Dianov of the Russian Academy of Sciences (FORC), ³Prokhorov General Physics Institute of the Russian Academy of Sciences (GPI RAS), Moscow;* ²G.G.

Devyatykh Institute of Chemistry of High-Purity Substances of the Russian Academy of Sciences, Nizhny Novgorod)

5-6 μm lasers based on rare-earth-ion-doped chalcogenide optical fibers. **(inv.)**

12³⁰ S.P. Nikitin¹, M.T. Semkiv^{1,2}, A.A. Kondakov¹, G.Yu. Ivanov, A.Yu. Danilov^{1,2}, O.E. Naniy^{1,3}, V.N. Treshchikov¹ (¹*T8 LLC*, ²*National Research Nuclear University MEPhI*, ³*Lomonosov Moscow State University, Moscow*)

On the effect of thermorefractive noise on fiber lasers and comparison with the noise of SIL diode lasers **(inv.)**

13⁰⁰-14⁰⁰ Lunch break

14⁰⁰ U. Teğin (*Koç University, Istanbul, Turkey*)

Scalable photonic neural networks with waveguides **(inv.)**

14³⁰ Tianfu Yao (*College of Advanced Interdisciplinary Studies, NUDT, Changsha, China*)

Power scaling on laser diode pumped Raman fiber lasers **(inv.)**

15⁰⁰ V. Cecconi (*Sapienza University of Rome, Italy*)

Observation of spatiotemporal mode-locking transitions in a multimode fiber laser **(inv.)**

15³⁰ J. A. Alvarez-Chavez (*University of Twente, Enschede, The Netherlands*)

Optical fiber tapers and sensing applications **(inv.)**

16⁰⁰-16¹⁵ Coffee break

16¹⁵ M. Nurlankyzy, A. Omirzakova, L. Mukhangaliyeva, B. Yendibay, R. Ashirkhan, A. Bissen, S. Seipetdenova, T.O. Oladejo, A. Suleimenova, Zh. Katrenova, Sh. Alisherov, W. Blanc, A. Bekmurzayeva, C. Molardi, D. Tosi, Zh. Ashikbayeva (*Nazarbayev University, Astana, Kazakhstan*)

Optical fiber sensing for biomedical and biosensing applications **(inv.)**

16⁴⁵ A. Kumar (*IIT Deli, India*) Fiber Bragg grating sensor in etched few-mode fibers **(inv.)**

17¹⁵ A.A. Fotiadi (*Ulyanovsk State University, Ulyanovsk; Mons University, Belgium*)
Frequency-locked fiber-laser configurations for microwave photonics applications **(inv.)**

17⁴⁵ E.K. Mikhaylov¹, M.Yu. Koptev², A.E. Levchenko¹, V.V. Velmiskin¹, T.S. Zaushitsyna¹, D.S. Lipatov³, A.K. Senatorov¹, A.E. Zapryalov², M.M. Bubnov¹, M.E. Likhachev¹ (¹*Fiber Optics Research Center of the Russian Academy of Sciences (FORC), Prokhorov General Physics Institute of the Russian Academy of Sciences (GPI RAS), Moscow*; ²*Institute of Applied Physics of the Russian Academy of Sciences* ³*Institute of Chemistry of High-Purity Substances of the Russian Academy of Sciences, Nizhny Novgorod*)

Amplification of chirped pulses in tapered ytterbium-doped optical fibers **(inv.)**

18¹⁵ Poster session 1

1. Gafurov E.M., Filatova S.A., Kamynin V.A., Gurev D.A., Gladush Yu.G., Krasnikov D.V., Nasibulin A.G., Tsvetkov V.B. (¹*Prokhorov General Physics Institute of the Russian Academy of Sciences (GPI RAS)*, ²*Skolkovo Institute of Science and Technology (Skoltech), Moscow*) Influence of temperature and pump power on the polarization of radiation from a mode-locked holmium fiber laser based on single-walled carbon nanotubes

2. D.A. Korobko, V.A. Ribenek, P.A. Itrin, G.V. Tertyshnikova, M.Yu. Salganskiy, A.A. Sysolyatin, A.A. Fotiadi (¹*Ulyanovsk State University, Ulyanovsk*; ²*Institute of Chemistry of High-Purity Substances of the Russian Academy of Sciences, Nizhny Novgorod*; ³*Prokhorov General Physics Institute of the Russian Academy of Sciences (GPI RAS), Moscow*; ⁴*Ioffe Institute, Russian Academy of Sciences, St. Petersburg*)
An all-fiber femtosecond laser at 1600 nm with a tunable pulse repetition rate in the multi-GHz range

3. A.S. Abramov, V.A. Lapin, P.P. Mironov (¹*Ulyanovsk State University, Ulyanovsk*) Propagation of optical pulses in waveguides with oscillating group-velocity dispersion
4. D.A. Khudozhitkova, A.V. Ivanenko, S.V. Smirnov, A.A. Rybak, N. Idyrysov, A.E. Bednyakova (¹*Novosibirsk State University*, ²*Institute of Automation and Electrometry, Siberian Branch of the Russian Academy of Sciences (IA&E SB RAS), Novosibirsk*) Analysis of operating regimes of a semiconductor-amplifier-based fiber laser using machine-learning algorithms
5. A.A. Krivonosov, N.R. Poddubrovskiy, E.V. Podivilov, I.A. Lobach, S.I. Kablukov (*Institute of Automation and Electrometry, Siberian Branch of the Russian Academy of Sciences (IA&E SB RAS), Novosibirsk*) Harmonic mode locking with Q-switching in a self-sweeping fiber laser
6. N. Bochkarev, M.D. Gervaziev, D.S. Kharenko, A.Yu. Kolesnikova, E.V. Podivilov, S.A. Babin (*Institute of Automation and Electrometry, Siberian Branch of the Russian Academy of Sciences (IA&E SB RAS), Novosibirsk State University, Novosibirsk*) Spatial dynamics during propagation of femtosecond pulses in a weakly coupled seven-core fiber
7. A.Yu. Tkachenko, I.A. Lobach, S.I. Kablukov (*Institute of Automation and Electrometry, Siberian Branch of the Russian Academy of Sciences (IA&E SB RAS), Novosibirsk*) Ytterbium fiber laser with vibrational frequency sweeping
8. D.P. Sudas, P.I. Kuznetsov (*Kotelnikov Institute of Radioengineering and Electronics of the Russian Academy of Sciences, Moscow*) Fabrication of nanocoatings for passive Q-switches in ring fiber lasers with real-time parameter control
9. M.M. Yakovlenko^{1,2}, I.V. Obronov¹, I.A. Larionov¹, N.N. Evtikhiev^{1,2} (¹*VPG Laserone LLC, Fryazino*; ²*National Research Nuclear University MEPhI, Moscow*) Investigation of 1064-nm pulsed-radiation amplification in a variable-diameter active Yb fiber pumped by a 1007-nm continuous-wave fiber laser
10. I.A. Volkov^{1,2}, A.V. Sudin¹, N.A. Yudin¹, S.N. Ushakov^{1,3}, K.N. Nishchev¹ (¹*National Research Mordovia State University named after N.P. Ogarev, Saransk*; ²*Ulyanovsk State University, Ulyanovsk*; ³*Prokhorov General Physics Institute of the Russian Academy of Sciences (GPI RAS), Moscow*) Broad-spectrum pulse generation in a passively mode-locked fiber laser with a two-ring resonator configuration
11. N.A. Yudin¹, I.A. Volkov^{1,3}, A.V. Dmitriev¹, K.N. Nishchev¹, A.A. Pynenkov¹, M.A. Uslamina¹, S.N. Ushakov^{1,2} (¹*National Research Mordovia State University named after N.P. Ogarev, Saransk*; ²*Prokhorov General Physics Institute of the Russian Academy of Sciences (GPI RAS), Moscow*; ³*Ulyanovsk State University, Ulyanovsk*) Study of the spectral-luminescent and optical characteristics of Yb³⁺-doped borosilicate glasses
12. V.A. Razukov¹, L.A. Melnikov¹, P.V. Kuptsov^{1,2} (¹*Yuri Gagarin State Technical University of Saratov*, ²*Saratov Branch of the Institute of Radioengineering and Electronics of the Russian Academy of Sciences, Saratov*) Construction of Lyapunov diagrams for ring fiber resonators
13. S.V. Larin, A.A. Gagarin, M.M. Yakovlenko (*VPG Laserone LLC, Fryazino*) Control of linewidth broadening during amplification in polarization-maintaining fiber amplifiers for highly efficient second-harmonic generation
14. V.M. Lokonov^{1,2}, A.I. Baranov¹ (¹*VPG Laserone LLC, Fryazino*; *Moscow Institute of Physics and Technology (MIPT), Moscow*) Investigation of bend losses for lower-order modes in PANDA-type birefringent fibers
15. Yu.A. Shchelkunov, I.V. Obronov (*VPG Laserone LLC, Fryazino*) Method for determining the optical parameters of polymers used in fiber-laser manufacturing
16. A.A. Konovalov¹, S.M. Dubrovskikh¹, O.V. Tkachev¹, Yu.O. Sharonova², I.S. Azanova², D.V. Khisamov² (*Russian Federal Nuclear Center - All-Russian Scientific Research Institute of Technical Physics, Snezhinsk*; ²*Perm Scientific and Production Instrument-Making Company, Perm*) Effect of temperature on the radiation sensitivity of optical fibers
17. E.V. Nifontova^{1,2}, A.S. Vakhrushev^{1,2}, A.V. Perminov², I.S. Azanova^{1,2} (¹*Perm Scientific and Production Instrument-Making Company*, ²*Perm State National Research University, Perm*) Study of the effect of ionizing radiation on the characteristics of a polarization-maintaining erbium fiber laser

18. A.Yu. Ostapiv, K.V. Zotov, N.V. Tereshchenko, A.V. Konyashkin (*VPG Laserone LLC, Fryazino*) Evolution of phase-matching curves during optical poling
19. Pozdnyak Ya.L.^{1,2}, Dorofeenko A.V.^{1,2,3}, Shikin A.S.¹, Bazakutsa A.P.¹, Butov O.V.¹ (¹*Kotelnikov Institute of Radioengineering and Electronics of the Russian Academy of Sciences*, ²*Moscow Institute of Physics and Technology (MIPT)*, ³*Institute of Theoretical and Applied Electrodynamics of the Russian Academy of Sciences, Moscow*) Polarization properties of fiber DFB-laser resonators fabricated by point-by-point inscription
20. D.K. Vysokikh^{1,2}, Ya.L. Pozdnyak^{2,3}, A.C. Shikin³, A.V. Dorofeenko^{1,2,3}, O.V. Butov³ (¹*Institute of Theoretical and Applied Electrodynamics of the Russian Academy of Sciences*, ²*Moscow Institute of Physics and Technology (MIPT)*, ³*Kotelnikov Institute of Radioengineering and Electronics of the Russian Academy of Sciences, Moscow*) Features of generation in fiber DFB lasers with two π phase shifts in the resonator structure.
21. O.A. Gorbunov (*Novosibirsk State University, Novosibirsk*) Narrowing of the intensity probability-distribution function of fiber-laser radiation by four-wave mixing
22. O.A. Gorbunov (*Novosibirsk State University, Novosibirsk*) Ultrahigh-resolution spectroscopy using a random Raman fiber laser
23. I.S. Panyaev¹, P.A. Itrin¹, D.P. Kachalkin¹, M.V. Pribylov¹, A.I. Abanin¹, D.A. Korobko¹, A.A. Fotiadi^{1,2} (¹*Ulyanovsk State University, Ulyanovsk*; ²*Ioffe Institute, Russian Academy of Sciences, St. Petersburg*) Study of double resonance and stimulated Brillouin scattering generation in a polarization-maintaining ring fiber resonator
24. I.S. Chekhovskoy^{1,2}, O.S. Sidelnikov¹, D.S. Kharenko^{1,3}, A.A. Redyuk¹ (¹*Novosibirsk State University*, ²*Federal Research Center for Information and Computational Technologies*, ³*Institute of Automation and Electrometry, Siberian Branch of the Russian Academy of Sciences (IA&E SB RAS), Novosibirsk*) High-order method of lines for modeling nonstationary dynamics of counterpropagating waves in fiber-laser systems
25. G.A. Patrin, I.S. Chekhovskoy (*Novosibirsk State University, Federal Research Center for Information and Computational Technologies, Novosibirsk*) Numerical algorithm for calculating multicore waveguides with refractive-index fluctuations taking gain saturation into account
26. O.S. Sidelnikov¹, E.V. Podivilov², S.A. Babin², M.P. Fedoruk¹ (¹*Novosibirsk State University*, ²*Institute of Automation and Electrometry, Siberian Branch of the Russian Academy of Sciences (IA&E SB RAS), Novosibirsk*) Numerical modeling of signal amplification in a multimode graded-index fiber with longitudinal core-diameter increase
27. A.G. Kuznetsov, S.A. Babin (*Institute of Automation and Electrometry, Siberian Branch of the Russian Academy of Sciences (IA&E SB RAS), Novosibirsk*) Amplification of radiation from a seven-core fiber laser using a multimode tapered graded-index fiber
28. A.A. Surin, V.P. Surovtseva, Ya.D. Raykov (*VPG Laserone LLC, Fryazino*) High-power (>1 kW) continuous-wave linearly polarized fiber laser with narrowband emission at 1072 nm

September 3, 2026. Technopark, Large Conference Hall

2 - Pulsed fiber and hybrid lasers

Chairs: D.S. Kharenko

- 9⁰⁰** D.A. Korobko¹, V.A. Ribenek¹, P.A. Itrin¹, G.V. Tertyshnikova¹, A.A. Fotiadi^{1,2} (*Ulyanovsk State University, Ulyanovsk*; *Ioffe Institute, Russian Academy of Sciences, St. Petersburg*)
Stabilization mechanisms of soliton fiber lasers with harmonic mode locking **(inv.)**
- 9³⁰** A.D. Zverev, V.A. Kamynin, D.A. Gurev, T.V. Dolmatov, V.B. Tsvetkov (*Prokhorov General Physics Institute of the Russian Academy of Sciences (GPI RAS), Moscow*)
Fiber sources of picosecond pulse bursts with GHz repetition rates

9⁴⁵ V.A. Ribenek^{1,2}, D.A. Korobko¹, A.A. Fotiadi¹ (¹*Ulyanovsk State University*,
²*Technological Center R&D Company, Ulyanovsk*)

Control of soliton molecules in a PM fiber laser by external injection of narrowband continuous-wave radiation

10⁰⁰ N. Idyrysov¹, A.A. Rybak^{1,2}, A.V. Ivanenko^{1,2}, S.V. Smirnov¹, A.E. Bednyakova¹, D.A. Khudozhitkova¹ (¹*Novosibirsk State University*, ²*Institute of Automation and Electrometry, Siberian Branch of the Russian Academy of Sciences (IA&E SB RAS), Novosibirsk*)

Tuning of wavelength and pulse repetition rate in a semiconductor-optical-amplifier-based fiber laser with gain instability

10¹⁵ A.A. Krivonosov^{1,2}, N.R. Poddubrovskiy¹, E.V. Podivilov¹, I.A. Lobach¹, S.I. Kablukov¹ (¹*Institute of Automation and Electrometry, Siberian Branch of the Russian Academy of Sciences (IA&E SB RAS)*, ²*Novosibirsk State University, Novosibirsk*)

A new class of self-sweeping fiber lasers with synchronization of longitudinal modes

10³⁰ A.I. Lobanov¹, A.V. Shirmankin¹, V.A. Kamynin¹, S.A. Filatova¹, Yu.G. Gladush², D.V. Krasnikov², A.G. Nasibulin², V.B. Tsvetkov¹ (¹*Prokhorov General Physics Institute of the Russian Academy of Sciences (GPI RAS)*, ²*Skolkovo Institute of Science and Technology (Skoltech), Moscow*) Tunable thulium ultrashort-pulse laser with an intracavity tapered-fiber filter

10⁴⁵ E.D. Maslova, I.V. Obronov, N.N. Evtikhiev (*VPG Laserone LLC, Fryazino*)

Frequency synchronization of an array of passively Q-switched fiber lasers by external seed radiation

11⁰⁰-11¹⁵ **Coffee break**

3 - Nonlinear conversion of fiber-laser radiation: Raman and Brillouin scattering, parametric generation, harmonic and terahertz radiation generation

Chair: I.V. Obronov

11¹⁵ M.D. Gervaziev, A.A. Revyakin, N.Bochkarev, A.G. Kuznetsov, V.A. Simonov, V.S. Terentev, A.V. Dostovalov, D.S. Kharenko, S.A. Babin (*Institute of Automation and Electrometry, Siberian Branch of the Russian Academy of Sciences (IA&E SB RAS), Novosibirsk*)

Methods for controlling and analyzing modal composition in studies of effects in systems based on multimode optical fibers.

11³⁰ A.A. Surin, N.D. Magnitskiy, A.A. Bormintsev, T.A. Nasybullin (*VPG Laserone LLC, Fryazino*)

High-power (up to 30 W) Raman amplifier for a continuous-wave single-frequency linearly polarized 1310-nm signal from a semiconductor DFB seed laser, based on a fiber with suppressed stimulated Brillouin scattering

11⁴⁵ N.S. Korolev^{1,2}, A.Yu. Ostapiv^{1,2} (¹*Moscow Institute of Physics and Technology (MIPT), Moscow*, ²*VPG Laserone LLC, Fryazino*)

Influence of pump and seed radiation pulse shapes on parametric generation in two-stage periodically poled lithium niobate

12⁰⁰ E.A. Evmenova, K.V. Kolosova, E.K. Kashirina, A.V. Dostovalov, S.I. Kablukov (*Institute of Automation and Electrometry, Siberian Branch of the Russian Academy of Sciences (IA&E SB RAS)*, ²*Novosibirsk State University, Novosibirsk*)

Second-harmonic generation of fiber-laser radiation in a PPLN crystal at 489 nm in a partially coupled resonator

12¹⁵ V.M. Volosi, A.V. Ivanenko, L.V. Kulik, I.A. Molchanov, S.I. Trashkeev, D.S. Kharenko, M.N. Khomyakov (¹*Novosibirsk State University*, ²*Institute of Automation and Electrometry, Siberian Branch of the Russian Academy of Sciences (IA&E SB RAS)*, Novosibirsk)

Third-harmonic generation in F₈T₂ polymer pumped by dissipative Raman solitons

12³⁰ I.V. Panyukov^{1,2}, E.S. Andrianov^{1,2} (*Dukhov All-Russian Research Institute of Automatics (VNIIA)*, *Moscow Institute of Physics and Technology (MIPT)*, Moscow) Stokes-anti-Stokes correlations of Raman light during propagation in optical fiber

12⁴⁵ A.A. Zyablovskiy, A. R. Mukhamedyanov, E. S. Andrianov (*Dukhov All-Russian Research Institute of Automatics (VNIIA)*, Moscow)

Random-number generator based on a Brillouin laser with a hard-excitation generation regime

13⁰⁰-14⁰⁰ **Lunch break**

4 - Joint session with NLP 26

Chair: I.A. Lobach, A.V. Dostovalov

14⁰⁰ Yu. Gladush¹, T. Gorshkov¹, A. Netrusova¹, N. Dmitriev², D. Chermoshentsev², I. Bilenko², A. Nasibulin² (¹*Skolkovo Institute of Science and Technology (Skoltech)*,

²*Russian Quantum Center, Moscow*)

Optical frequency comb in a fiber laser with an embedded integrated microresonator of normal dispersion **(inv.)**

14³⁰ A.S. Smirnov, D.S. Zemtsov, A.K. Zemtsova, K.N. Garbuzov, S.S. Kosolobov, V.P. Drachev (*Skolkovo Institute of Science and Technology (Skoltech)*, Moscow)

Tunable microwave generator based on an optical microring resonator **(inv.)**

15⁰⁰ A.A. Gelash (*Skolkovo Institute of Science and Technology (Skoltech)*, Moscow) New coherent states in single and coupled microresonators **(inv.)**

15³⁰ I.I. Ryabtsev^{1,2}, I.I. Beterov^{1,2}, N.N. Bezuglov^{1,3}, E.A. Yakshina^{1,2}, G. Suliman^{1,2}, D.B. Tretyakov¹, V.M. Entin¹ (¹*Institute of Semiconductor Physics, Siberian Branch of the Russian Academy of Sciences*, ²*Novosibirsk State University, Novosibirsk*; ³*St. Petersburg State University, St. Petersburg*)

Three-photon laser excitation of single Rb atoms to Rydberg states for quantum information applications **(inv.)**

16⁰⁰-16¹⁵ **Coffee break**

16¹⁵ A.Yu. Kolesnikova^{1,2,3}, M.D. Gervaziev^{1,2}, A.G. Kuznetsov¹, A.V. Dostovalov¹, N.V. Bochkarev^{1,2}, D.S. Kharenko^{1,2}, E. V. Podivilov^{1,2}, S.A. Babin^{1,2} (¹*Institute of Automation and Electrometry, Siberian Branch of the Russian Academy of Sciences (IA&E SB RAS)*,

²*Novosibirsk State University, Novosibirsk*; ³*Skolkovo Institute of Science and Technology (Skoltech)*, Moscow)

New nonlinear effects in multicore fiber **(inv.)**

16⁴⁵ V.P. Aksenov¹, O.V. Bogdanov², V.V. Dudorov¹, V.A. Kagadey³, P.O. Kazinskiy², V.V. Kolosov¹, P.S. Korolev², G.Yu. Lazarenko², M.E. Levitskiy¹, V.A. Ryakin²

(¹*V.E. Zuev Institute of Atmospheric Optics, Siberian Branch of the Russian Academy of Sciences*, ²*Tomsk State University, Tomsk*; ³*Radar mms JSC, St. Petersburg*) Experimental scheme for transmitting an orbital-angular-momentum-multiplexed signal using a coherent beam-combining system **(inv.)**

17¹⁵ A.B. Kuznetsov¹, A.V. Dostovalov², V.S. Terentev², V.S. Simonov², D.I. Shcherbakov¹,

M.I.Kosachev¹ (¹*Siberian Aeronautical Research Institute named after S.A. Chaplygin,*
²*Institute of Automation and Electrometry, Siberian Branch of the Russian Academy of Sciences*
(IA&E SB RAS), Novosibirsk)

Monitoring systems for aircraft structures based on fiber-optic sensors (inv.)

17⁴⁵ V.S. Tsarev¹, A.D. Pryamikov¹, G.K. Alagashev¹, A.E. Levchenko¹, I.S. Glebov²,
A.G. Okhrimchuk¹ (¹*Fiber Optics Research Center named after E.M. Dianov of the Russian*
Academy of Sciences (FORC), Prokhorov General Physics Institute of the Russian Academy of
Sciences (GPI RAS); Mendeleev University of Chemical Technology of Russia, Moscow)

Single-pulse laser writing of a birefringent voxel in fused silica for five-dimensional
optical data storage (inv.)

18¹⁵ Poster session 2 (+ poster presentations by NLP26 participants)

1. I.A. Popov^{1,2}, D.E. Artemov², A.A. Kondakov^{1,2}, V.N. Treshchikov¹ (¹*T8 LLC,* ²*National Research Nuclear University MEPhI, Moscow*) Effect of local Joule heating on the parameters of microring resonators

2. M.T. Semkiv^{1,2}, D.E. Artemov¹, A.A. Kondakov¹, S.P. Nikitin¹, V.N. Treshchikov¹ (¹*T8 LLC,* ²*National Research Nuclear University MEPhI, Moscow*) Dependence of semiconductor-laser frequency noise on pump current in the microring-resonator locking regime

3. D.D. Salimgareev, A.E. Lvov, P.V. Pestereva, E.Yu. Kabykina, L.V. Zhukova (*Ural Federal University, Yekaterinburg*) Development of a technology for growing metal-halide single crystals for fabrication of infrared fibers

4. M.I. Skvortsov, V.S. Terentev, S.R. Abdullina, V.A. Simonov, Kh.A. Rizk, K.V. Kolosova, E.V. Golikov (*Institute of Automation and Electrometry, Siberian Branch of the Russian Academy of Sciences (IA&E SB RAS), Novosibirsk*) Spectral collapse in a hybrid scheme based on a spherical microresonator and a fiber random Bragg-oscillator laser with an extended resonator

5. V.S. Terentev, V.A. Simonov (*Institute of Automation and Electrometry, Siberian Branch of the Russian Academy of Sciences (IA&E SB RAS), Novosibirsk*) Calculation of parameters of an integrated-optical refractive-index sensor based on a tilted optical interface in the Kretschmann configuration

6. P.A. Itrin, I.S. Panyayev, D.A. Korobko, A.S. Gemuzov, A.E. Bednyakova, A.A. Fotiadi (*Novosibirsk State University, Novosibirsk; Ulyanovsk State University, Ulyanovsk*) Effect of driver noise on the stability of narrowband DFB-laser generation in the frequency self-locking regime using an external fiber resonator,

7. A.D. Novikov, I.D. Vatik (*Novosibirsk State University, Novosibirsk*) Optoacoustic frequency comb in a fiber-based whispering-gallery-mode microresonator

8. V.E. Fedyay, A. Simanchuk, K. Okotrub, P. Lazarenko, A. Yakubov, A. Kuchmizhak, A.S. Babin, A.V. Dostovalov (*Institute of Automation and Electrometry, Siberian Branch of the Russian Academy of Sciences (IA&E SB RAS), Novosibirsk*) Study of LIPSS formation regimes on chalcogenide phase-change-material films using femtosecond laser radiation,

9. R.I. Kuts, D.A. Belousov, V.P. Korolkov (*Institute of Automation and Electrometry, Siberian Branch of the Russian Academy of Sciences (IA&E SB RAS), Novosibirsk*) New technological opportunities for direct laser writing on Si/Cr films for synthesis of diffractive optical elements

10. K.A. Tsurulnikova, D.N. Katasonov (*Institute of Automation and Electrometry, Siberian Branch of the Russian Academy of Sciences (IA&E SB RAS), Novosibirsk*) Automation of adjustment of laser-radiation switch-on and switch-off delays in laser micromachining systems.

11. V.S. Nosovets, I.D. Prikhodko (*Russian Federal Nuclear Center - All-Russian Scientific Research Institute of Technical Physics, Snezhinsk*) Radiation effects in GaAs-based quantum-well heterostructures

12. V.S. Vazyulya, K.A. Beklemysheva, A.N. Dorozhkin, O.E. Naniy , V.N. Treshchikov (*T8, Moscow Institute of Physics and Technology (MIPT), Moscow*) Reflectogram simulation for diagnostics of fiber-optic lines
13. R.V. Drobyshev, V.A. Lyoshin, R.M. Avetisyan, I.A. Lobach (*Institute of Automation and Electrometry, Siberian Branch of the Russian Academy of Sciences (IA&E SB RAS), Novosibirsk*) Characterization of fiber lines by incoherent frequency-domain reflectometry
14. D.Yu. Kuznetsova^{1,2}, V.A. Vagin², G.L. Danielyan^{3,4}, Saenko P.A.⁴ (¹*VPG Laserone LLC, Fryazino*, ²*Scientific and Technological Center of Unique Instrumentation, Russian Academy of Sciences*, ³*Prokhorov General Physics Institute of the Russian Academy of Sciences (GPI RAS)*, ⁴*Fiber-Optic Devices R&D Center LLC, Moscow*) Reflectance-type fiber-optic probes for diagnosis and treatment of skin diseases
15. A.S.Kuchyanov, P.A.Chubakov, V.A.Sorokin, A.A.Apolonskiy (*Institute of Automation and Electrometry, Siberian Branch of the Russian Academy of Sciences (IA&E SB RAS), Novosibirsk*) Fast low-humidity sensor with a wide dynamic range
16. M.E. Levitskiy, V.V. Kolosov, V.V. Dudorov (*Institute of Atmospheric Optics, Siberian Branch of the Russian Academy of Sciences, Tomsk*) Phase synchronization in a fiber-laser array for high-speed data transmission
17. I.A. Vaseva, S.B. Medvedev, O.V. Shtyrina, M.P. Fedoruk (*Novosibirsk State University, Novosibirsk, Federal Research Center for Information and Computational Technologies, Siberian Branch of the Russian Academy of Sciences*) Evolution of the nonlinear spectrum for stationary solutions of Ginzburg-Landau-type equations
18. I.S. Chekhovskoy, S.B. Medvedev, I.A. Vaseva, M.P. Fedoruk (*Novosibirsk State University, Novosibirsk, Federal Research Center for Information and Computational Technologies, Siberian Branch of the Russian Academy of Sciences*) Fast eighth-order accurate schemes for solving the Zakharov-Shabat direct problem
19. S.M. Gerasimov, I.S. Chekhovskoy (*Novosibirsk State University, Novosibirsk*) Adaptive step-size selection algorithm in the argument-discontinuity tracking method for finding the discrete spectrum of the Zakharov-Shabat problem,
20. V.A. Poroshkov, O.S. Sidelnikov, M.P. Fedoruk (*Novosibirsk State University, Novosibirsk*) Analysis of nonlinear signal-distortion compensation efficiency using advanced neural-network architectures in optical communication lines
21. E. G. Shapiro (*Institute of Automation and Electrometry, Siberian Branch of the Russian Academy of Sciences (IA&E SB RAS), Novosibirsk*) Estimation of nonlinear phase shift in coherent communication lines.
22. K. D. Vakhnyuk, R. Z. Ibragimov, A. F. Ivanov, A. R. Saleev, I. M. Simonov, K. A. Yakovlev, M. A. Yarygin (*Moscow Technical University of Communications and Informatics, Moscow*) Quantum key distribution in coherent networks with dense wavelength-division multiplexing
23. A.E. Chernyavskiy . (*Institute of Automation and Electrometry, Siberian Branch of the Russian Academy of Sciences (IA&E SB RAS), Novosibirsk State University, Novosibirsk*) Higher-order schemes for the direct scattering problem associated with the nonlinear Schrödinger equation
24. Mullyadzhanov I.I., Dremov S.V., Gelash A.A. (*Institute of Automation and Electrometry, Siberian Branch of the Russian Academy of Sciences (IA&E SB RAS), Novosibirsk*) Solution of the direct scattering problem for dark solitons
25. Kostina D.I., Baymuratov A.S. (*Skolkovo Institute of Science and Technology (Skoltech), Moscow*) Light absorption by a bilayer CrSBr semiconductor
26. Katkov V.I. (*Innopolis University*) Phase-sensitive signal detection using quantum receivers based on Rydberg atoms
27. S. Oryskhan^{1,2}, D. Tosi^{1,2} (¹*School of Engineering and Digital Sciences, Nazarbayev University*, ²*Biosensors and Bioinstrumentation Laboratory, National Laboratory Astana*,

Astana) Development and Characterization of a Smartphone-Based Fiber Optic Biosensor for Rapid Biological Detection

28. A. Almukhanova^{1,2}, D. Tosi^{1,2} (¹*School of Engineering and Digital Sciences, Nazarbayev University*, ²*Biosensors and Bioinstrumentation Laboratory, National Laboratory Astana, Astana*) Image Processing and Machine Learning Approaches for Biological Detection Under Non-Uniform Lighting Conditions

September 4, 2026. Technopark, Large Conference Hall

5 - Laser optics and components: waveguides, fiber and hybrid resonator elements, interferometers, diffractive and integrated optics

Chair: A.A. Fotiadi

9⁰⁰ B.N. Nyushkov, I.L. Novikov, N.N. Golovin, K.N. Savinov, A.K.Dmitriev, I.I. Korel, A.G. Vostretsov (*Novosibirsk State Technical University, Novosibirsk*) Study of fiber elements and lasers at cryogenic temperatures down to 4K

9¹⁵ E.K. Kashirina, I.A. Lobach, S.I. Kablukov (*Institute of Automation and Electrometry, Siberian Branch of the Russian Academy of Sciences (IA&E SB RAS), Novosibirsk*)

Narrowband selection in an active standing-wave fiber ring mirror in an erbium fiber laser

9³⁰ A.S. Gemuzov, P.A. Itrin, I.S. Panyaev, D.A. Korobko, A.A. Redyuk, A.A. Fotiadi, M.P. Fedoruk, A.E. Bednyakova (*Novosibirsk State University, Novosibirsk; Ulyanovsk State University, Ulyanovsk*) Application of reinforcement-learning methods to stabilize DFB-laser generation with an external fiber resonator in the frequency self-locking regime

9⁴⁵ N.A. Makarova, I.D. Vatnik (*Novosibirsk State University, Novosibirsk*)

Laser generation in a cylindrical microresonator with erbium ions introduced onto the surface

10⁰⁰ A.S. Abramov¹, D.A. Korobko¹, A.A. Fotiadi^{1,2} (¹*Ulyanovsk State University, Ulyanovsk*; ²*Ioffe Institute, Russian Academy of Sciences, St. Petersburg*)

Nonlinear compression of ultrashort pulses in photonic integrated SiN circuits with a phase-matching section

10¹⁵ D.V. Gorelov¹, S.S. Generalov¹, V.V. Amelichev¹, V.V. Svetukhin¹, A.S. Kadochkin^{1,2} (¹*Technological Center R&D Company, Moscow*; ²*Ulyanovsk State University, Ulyanovsk*)

Study of optical logic gates based on silicon-nitride waveguide structures

10³⁰ A.A. Yuzhakova, I.V. Yuzhakov, S.E. Barykina, E.Yu. Kabykina, L.V. Zhukova (*Ural Federal University, Yekaterinburg*) Radiation-resistant infrared waveguides based on silver-halide single crystals

10⁴⁵ Mytarev M.S., Konovalov A.A., Mokrushin S.S., Dubrovskikh S.M., Tkachyov O.V., Novikova S.N., Borshchevskiy M.A. (*Russian Federal Nuclear Center - All-Russian Scientific Research Institute of Technical Physics, Snezhinsk*)

Change in fiber refractive index under electron pulses with durations on the order of tens of nanoseconds

11⁰⁰-11¹⁵ Coffee break

6 – Applications: sensors, communications, material processing and photomodification

Chair: A.A. Redyuk

- 11¹⁵** A.P. Bazakutsa¹, A.B. Gomzin^{1,2}, O.V. Butov¹ (¹*Kotel'nikov Institute of Radioengineering and Electronics of the Russian Academy of Sciences*, ²*Moscow Institute of Physics and Technology (MIPT), Moscow*) Methods for controlling the polarization properties of femtosecond FBGs
- 11³⁰** Zh.E. Munkueva, P.A. Elizarova, D.A. Radnatarov, A.V. Dostovalov, S.A. Babin (*Institute of Automation and Electrometry, Siberian Branch of the Russian Academy of Sciences (IA&E SB RAS), Novosibirsk*)
Femtosecond laser writing using structured light
- 11⁴⁵** A.Yu. Kokhanovskiy (*ITMO University, St. Petersburg; Institute of Automation and Electrometry, Siberian Branch of the Russian Academy of Sciences (IA&E SB RAS), Novosibirsk*) Reconstruction of material properties from sparse FBG measurements using physics-informed neural networks
- 12⁰⁰** O.N. Egorova, S.G. Zhuravlev, V.V. Velmiskin, K.P. Karpov, M.V. Elisov, A.D. Pryamikov, V.M. Mashinskiy, S.L. Semenov (*Prokhorov General Physics Institute of the Russian Academy of Sciences (GPI RAS), Moscow*) Temperature sensor based on in-fiber interferometers and the Vernier effect
- 12¹⁵** A.A. Antropov, T.V. Zharnikov, D.I. Sabitov, M. Arsalan, A. Alaithan (*Aramco Innovations, Moscow*) Distributed Rayleigh Trace Simulation in PyOFSS for a Simplified OTDR Model
- 12³⁰** Zavalishina L.D., Markvart A.A., Liokumovich L.B., Ushakov N.A. (*Peter the Great St. Petersburg Polytechnic University* , *St. Petersburg*) Liquid-level measurement using an intermodal fiber-optic interferometer based on an SNS structure
- 12⁴⁵** Burdin A.V., Nizhegorodov A.O., Chizhin D.D., Evtushenko E.S., Belyaev A.A., Pashin S.S., Ter-Nersesyants E.V., Dukelskiy K.V., Polishchuk G.S. (*Vavilov State Optical Institute R&D Company, St. Petersburg*) Experimental transmission of IEEE 802.3z/ae traffic over quartz microstructured optical fiber over a distance of 110 m
- 13⁰⁰** E.I. Shevelev, A.A. Redyuk, O.S. Sidelnikov, V.R. Danilko, M.P. Fedoruk (*Novosibirsk State University, Novosibirsk*)
Compensation of nonlinear distortions in fiber-optic communication lines based on broadband-signal frequency decomposition and machine learning

13¹⁵-14¹⁵ **Lunch break**

7- Photonic integrated circuits. Nanophotonics and metamaterials.

Chair: V.P. Drachev

- 14¹⁵** A.V. Varlamov, P.M. Agruzov, I.V. Ilichev, M.V. Parfenov, A.V. Tronev, A.V. Shamray (*Ioffe Institute, Russian Academy of Sciences, St. Petersburg*)
Integrated acousto-optic modulator and optoelectronic oscillators based on it (**inv.**)
- 14⁴⁰** Shimlovskaya D.A., Smirnov A.S., Garbuzov K.N., Serdobintsev A.A., Zemtsov D.S., Drachev V.P., Kosolobov S.S. (*Skolkovo Institute of Science and Technology (Skoltech), Moscow*) Integrated optical amplifier based on a silicon-aluminum-oxide hybrid structure diffusion-doped with erbium (**inv.**)
- 15⁰⁵** I.A. Pshenichnyuk (*Skolkovo Institute of Science and Technology (Skoltech), Moscow*) Low-power phase threshold converter for integrated photonic circuits and optical computing (**inv.**)
- 15³⁰** D.I. Yakubovskiy (*Moscow Institute of Physics and Technology (MIPT), Moscow*) Synthesis and transfer of ultrathin metal films for flexible and transparent optoelectronics: from graphene to two-dimensional metal

15⁴⁵ S.V. Dremov, R.I. Mullyadzhyanov, A.A. Gelash (*Skolkovo Institute of Science and Technology (Skoltech), Moscow*)

From nonlinear-signal control to advanced sensor systems: a method based on the spectral problem for solitons

16^{00-16¹⁵} Coffee break

16¹⁵ N.A. Gippius (*Skolkovo Institute of Science and Technology (Skoltech), Moscow*)
Resonant-state expansion method for composite photonic-crystal systems (**inv.**)

16⁴⁰ A.S. Baymurov (*Skolkovo Institute of Science and Technology (Skoltech), Moscow*)
Mesoscopic reconstruction of two-dimensional materials (**inv.**)

17⁰⁵ A. Mukhamedyanov, A. A. Zyablovskiy, E.S. Andrianov (*Dukhov All-Russian Research Institute of Automatics (VNIIA), Moscow Institute of Physics and Technology (MIPT), Moscow*)
Using Brillouin optomechanical systems for photonic neural networks (**inv.**)

17³⁰ A.K. Sarychev, A.I. Ivanov, D.S. Korzhov, M.S. Shestopalova, K.N. Afanasev, I.V. Bykov, A.F. Smyk, A.V. Shurygin, V.O. Shender, M.A. Lagarkova, K.E. Mochalov. (
¹*Institute of Theoretical and Applied Electrodynamics of the Russian Academy of Sciences*, ²*Shemyakin-Ovchinnikov Institute of Bioorganic Chemistry of the Russian Academy of Sciences*, ³*National Research Nuclear University MEPhI*, ⁴*James River Branch LLC, Moscow*,
⁵*Lopukhin Federal Research and Clinical Center of Physical-Chemical Medicine, FMBA*
)

Identification of individual exosomes on a plasmonic metasurface by SERS (**inv.**)

17⁵⁵ V.A. Tereshchenkov, E.S. Andrianov, A.A. Zyablovskiy (*Dukhov All-Russian Research Institute of Automatics (VNIIA), Moscow Institute of Physics and Technology (MIPT), Moscow*)
Formation of two- and three-particle quasiparticles in a controlled optomechanical system

18¹⁰ N.S. Salakhova¹, S.A. Dyakov¹, A. Demenev², O. Klimenko^{1,3}, D. Shimlovskaya¹, K.Garbuzov¹, S. Kosolobov¹, V.D. Kulakovskiy², V. Antonov¹, V. Drachev¹, N.A. Gippius¹
(¹*Skolkovo Institute of Science and Technology (Skoltech), Moscow*, ²*Osipyan Institute of Solid State Physics of the Russian Academy of Sciences, Chernogolovka*, ³*Lebedev Physical Institute of the Russian Academy of Sciences, Moscow*) Broadband dielectric mirror preserving light helicity for chiral Fabry-Perot resonators

18³⁰ Reception

Talks included in the program of the International School on Nonlinear and Biomedical Photonics NLP 2026 (01-04.09.2026):

A.A. Golovizin (*Lebedev Physical Institute of the Russian Academy of Sciences, Moscow*)
Application of highly stable and ultra-stable laser systems in quantum computing and metrology

Aleynikov M.S., Belotelov G.S., Denisenko O.V., Lugovoy A.A., Slyusarev S.N., Khromov M.N. (*All-Russian Research Institute for Physical, Technical and Radio Engineering Measurements (VNIIFTRI), Moscow*) Current status and prospects for the application of atomic interferometers in metrology

B.G. Vayner (*Institute of Semiconductor Physics, Siberian Branch of the Russian Academy of Sciences, Novosibirsk*) Modern infrared thermography in biomedicine

September 5, 2026

Session with industrial partners (round table)

Organizers: L.V.Grigoreva, A.A.Zakhorolnykh, I.A.Lobach (Institute of Automation and Electrometry, Siberian Branch of the Russian Academy of Sciences (IA&E SB RAS))

The list of participants will be announced later.

Excursion to SKIF

Informal networking on the shore of the Ob Sea (weather permitting)

September 6, 2026

Individual program