Kirill I Zaytsev

List of Publications by Citations

137 papers	1,767 citations	24 h-index	36 g-index
169 ext. papers	2,283 ext. citations	2 avg, IF	4.96 L-index

#	Paper	IF	Citations
137	Terahertz biophotonics as a tool for studies of dielectric and spectral properties of biological tissues and liquids. *Progress in Quantum Electronics*, **2018**, 62, 1-77	9.1	113
136	In vivo terahertz spectroscopy of pigmentary skin nevi: Pilot study of non-invasive early diagnosis of dysplasia. *Applied Physics Letters*, **2015**, 106, 053702	3.4	83
135	The progress and perspectives of terahertz technology for diagnosis of neoplasms: a review. *Journal of Optics (United Kingdom)*, **2020**, 22, 013001	1.7	79
134	Non-Destructive Evaluation of Polymer Composite Materials at the Manufacturing Stage Using Terahertz Pulsed Spectroscopy. *IEEE Transactions on Terahertz Science and Technology*, **2015**, 5, 810-816	3.4	78
133	Experimental observation of a photonic hook. *Applied Physics Letters*, **2019**, 114, 031105	3.4	59
132	Highly Accurate in Vivo Terahertz Spectroscopy of Healthy Skin: Variation of Refractive Index and Absorption Coefficient Along the Human Body. *IEEE Transactions on Terahertz Science and Technology*, **2015**, 5, 817-827	3.4	57
131	Reflection-mode continuous-wave 0.15Ŧresolution terahertz solid immersion microscopy of soft biological tissues. *Applied Physics Letters*, **2018**, 113, 111102	3.4	56
130	Terahertz spectroscopy of gelatin-embedded human brain gliomas of different grades: a road toward intraoperative THz diagnosis. *Journal of Biomedical Optics*, **2019**, 24, 1-5	3.5	53
129	Solid immersion terahertz imaging with sub-wavelength resolution. *Applied Physics Letters*, **2017**, 110, 221109	3.4	49
128	Wide-aperture aspherical lens for high-resolution terahertz imaging. *Review of Scientific Instruments*, **2017**, 88, 014703	1.7	47
127	Accuracy of sample material parameters reconstruction using terahertz pulsed spectroscopy. *Journal of Applied Physics*, **2014**, 115, 193105	2.5	41
126	Terahertz Photonic Crystal Waveguides Based on Sapphire Shaped Crystals. *IEEE Transactions on Terahertz Science and Technology*, **2016**, 6, 576-582	3.4	40
125	Sapphire shaped crystals for waveguiding, sensing and exposure applications. *Progress in Crystal Growth and Characterization of Materials*, **2018**, 64, 133-151	3.5	39
124	Invariant embedding technique for medium permittivity profile reconstruction using terahertz time-domain spectroscopy. *Optical Engineering*, **2013**, 52, 068203	1.1	37
123	Band-gap nonlinear optical generation: The structure of internal optical field and the structural light focusing. *Journal of Applied Physics*, **2014**, 115, 213505	2.5	35
122	Tunable two-dimensional assembly of colloidal particles in rotating electric fields. *Scientific Reports*, **2017**, 7, 13727	4.9	34
121	A hybrid continuous-wave terahertz imaging system. *Review of Scientific Instruments*, **2015**, 86, 113704	1.7	29

120	Sapphire Photonic Crystal Waveguides for Terahertz Sensing in Aggressive Environments. *Advanced Optical Materials*, **2018**, 6, 1800573	8.1	29
119	Enhancement of second harmonic generation in NaNO2-infiltrated opal photonic crystal using structural light focusing. *Applied Physics Letters*, **2014**, 105, 051902	3.4	28
118	Effects of Terahertz Radiation on Living Cells: a Review. *Optics and Spectroscopy (English Translation of Optika I Spektroskopiya)*, **2020**, 128, 855-866	0.7	28
117	Flame propagation in two-dimensional solids: Particle-resolved studies with complex plasmas. *Physical Review E*, **2017**, 96, 043201	2.4	27
116	Particle-Resolved Phase Identification in Two-Dimensional Condensable Systems. *Journal of Physical Chemistry C*, **2017**, 121, 26860-26868	3.8	27
115	Millijoule pulse energy 100-nanosecond Er-doped fiber laser. *Optics Letters*, **2015**, 40, 1189-92	3	27
114	Terahertz photoconductive emitter with dielectric-embedded high-aspect-ratio plasmonic grating for operation with low-power optical pumps. *AIP Advances*, **2019**, 9, 015112	1.5	27
113	Shaping the spectrum of terahertz photoconductive antenna by frequency-dependent impedance modulation. *Semiconductor Science and Technology*, **2019**, 34, 034005	1.8	24
112	Enhanced third-harmonic generation in photonic crystals at band-gap pumping. *Journal Physics D: Applied Physics*, **2017**, 50, 055105	3	23
111	Broadband spectroscopy of astrophysical ice analogues. *Astronomy and Astrophysics*, **2019**, 629, A112	5.1	21
110	Terahertz spectroscopy of pigmentary skin nevi in vivo. *Optics and Spectroscopy (English Translation of Optika I Spektroskopiya)*, **2015**, 119, 404-410	0.7	21
109	Enhanced terahertz emission from strain-induced InGaAs/InAlAs superlattices. *Journal of Applied Physics*, **2019**, 125, 151605	2.5	19
108	Spectroscopy of Nafion in terahertz frequency range. *Journal of Applied Physics*, **2014**, 116, 113508	2.5	19
107	Medical diagnostics using terahertz pulsed spectroscopy. *Journal of Physics: Conference Series*, **2014** , 486, 012014	0.3	18
106	Terahertz dielectric spectroscopy of human brain gliomas and intact tissues : double-Debye and double-overdamped-oscillator models of dielectric response. *Biomedical Optics Express*, **2021**, 12, 69-83	3.5	18
105	Cellular effects of terahertz waves. *Journal of Biomedical Optics*, **2021**, 26,	3.5	18
104	Numerical analysis and experimental study of terahertz solid immersion microscopy. *Optical Engineering*, **2019**, 59, 1	1.1	17
103	Nondestructive testing of polymer composite materials using THz radiation. *Journal of Physics: Conference Series*, **2014**, 486, 012008	0.3	16

102	A method of studying spectral optical characteristics of a homogeneous medium by means of terahertz time-domain spectroscopy. *Optics and Spectroscopy (English Translation of Optika I Spektroskopiya)*, **2015**, 118, 552-562	0.7	14
101	Optimal hyperosmotic agents for tissue immersion optical clearing in terahertz biophotonics. *Journal of Biophotonics*, **2020**, 13, e202000297	3.1	14
100	A potential of terahertz solid immersion microscopy for visualizing sub-wavelength-scale tissue spheroids **2018**,		13
99	Proof of concept for continuously-tunable terahertz bandpass filter based on a gradient metal-hole array. *Optics Express*, **2020**, 28, 26228-26238	3.3	13
98	Prospects of terahertz technology in diagnosis of human brain tumors A review. *Journal of Biomedical Photonics and Engineering*, **2020**, 6,	2.4	13
97	The Role of Scattering in Quasi-Ordered Structures for Terahertz Imaging: Local Order Can Increase an Image Quality. *IEEE Transactions on Terahertz Science and Technology*, **2018**, 8, 403-409	3.4	12
96	Overcoming the Abbe Diffraction Limit Using a Bundle of Metal-Coated High-Refractive-Index Sapphire Optical Fibers. *Advanced Optical Materials*, **2020**, 8, 2000307	8.1	11
95	BWO based THz imaging system. *Journal of Physics: Conference Series*, **2014**, 486, 012027	0.3	11
94	Bizarre behavior of heat capacity in crystals due to interplay between two types of anharmonicities. *Journal of Chemical Physics*, **2018**, 148, 134508	3.9	10
93	Novel Algorithm for Sample Material Parameter Determination using THz Time-Domain Spectrometer Signal Processing. *Journal of Physics: Conference Series*, **2014**, 486, 012018	0.3	10
92	Object-dependent spatial resolution of the reflection-mode terahertz solid immersion microscopy. *Optics Express*, **2021**, 29, 3553-3566	3.3	10
91	Multimodal Optical Diagnostics of Glycated Biological Tissues. *Biochemistry (Moscow)*, **2019**, 84, S124-S143	1.9	9
90	In vivospectroscopy of healthy skin and pathology in terahertz frequency range. *Journal of Physics: Conference Series*, **2015**, 584, 012023	0.3	9
89	Novel technique for medium permittivity profile reconstruction using THz pulsed spectroscopy. *Journal of Physics: Conference Series*, **2014**, 486, 012010	0.3	9
88	Nanoparticle-enabled experimentally trained wavelet-domain denoising method for optical coherence tomography. *Journal of Biomedical Optics*, **2018**, 23, 1-9	3.5	9
87	In vivoterahertz pulsed spectroscopy of dysplastic and non-dysplastic skin nevi. *Journal of Physics: Conference Series*, **2016**, 735, 012076	0.3	9
86	Neurosurgical sapphire handheld probe for intraoperative optical diagnostics, laser coagulation and aspiration of malignant brain tissue **2017**,		8
85	Nanoporous SiO2 based on annealed artificial opals as a favorable material platform of terahertz optics. *Optical Materials Express*, **2020**, 10, 2100	2.6	8

84	Terahertz dielectric spectroscopy and solid immersion microscopy of glioma model 101.8: brain tissue heterogeneity. *Biomedical Optics Express*, **2021**, 12, 5272-5289	3.5	8
83	Terahertz Microscope Based on Solid Immersion Effect for Imaging of Biological Tissues. *Optics and Spectroscopy (English Translation of Optika I Spektroskopiya)*, **2019**, 126, 560-567	0.7	7
82	Plasmonic Photoconductive Antennas for Terahertz Pulsed Spectroscopy and Imaging Systems. *Optics and Spectroscopy (English Translation of Optika I Spektroskopiya)*, **2019**, 126, 580-586	0.7	7
81	FDTD simulation of the electromagnetic field surface states in 2D photonic crystals. *Journal of Physics: Conference Series*, **2014**, 486, 012003	0.3	7
80	Step-index sapphire fiber and its application in a terahertz near-field microscopy **2019**,		7
79	Sapphire waveguides and fibers for terahertz applications. *Progress in Crystal Growth and Characterization of Materials*, **2021**, 67, 100523	3.5	7
78	Second optical harmonic near the surface of ferroelectric photonic crystals and photon traps. *Physics of the Solid State*, **2015**, 57, 453-459	0.8	6
77	Wide-Aperture Aspheric Optics for Formation of Subwavelength Caustics of a Terahertz Electromagnetic-Radiation Beam. *Optics and Spectroscopy (English Translation of Optika I Spektroskopiya)*, **2018**, 124, 428-436	0.7	6
76	Technological aspects of manufacturing terahertz photonic crystal waveguides based on sapphire shaped crystals **2017**,		6
75	An approach for automatic construction of the wavelet-domain de-noising procedure for THz pulsed spectroscopy signal processing. *Journal of Physics: Conference Series*, **2014**, 486, 012034	0.3	6
74	In vitro terahertz spectroscopy of gelatin-embedded human brain tumors: a pilot study **2018**,		6
73	Electromagnetic field localization behind a mesoscale dielectric particle with a broken symmetry: a photonic hook phenomenon **2020**,		6
72	Capability of physically reasonable OCT-based differentiation between intact brain tissues, human brain gliomas of different WHO grades, and glioma model 101.8 from rats. *Biomedical Optics Express*, **2020**, 11, 6780-6798	3.5	6
71	Quantitative super-resolution solid immersion microscopy via refractive index profile reconstruction. *Optica*,	8.6	6
70	Combined terahertz imaging system for enhanced imaging quality. *Optical and Quantum Electronics* , **2016**, 48, 1	2.4	6
69	Moisture adsorption by decellularized bovine pericardium collagen matrices studied by terahertz pulsed spectroscopy and solid immersion microscopy. *Biomedical Optics Express*, **2021**, 12, 5368-5386	3.5	6
68	Wavelet-domain de-noising technique for THz pulsed spectroscopy **2014**,		5
67	Optimization of sapphire capillary needles for interstitial and percutaneous laser medicine. *Journal of Biomedical Optics*, **2019**, 24, 1-7	3.5	5

66	Wavelet-domain de-noising of OCT images of human brain malignant glioma **2018**,		5
65	Opal-based terahertz optical elements fabricated by self-assembly of porous SiO nanoparticles. *Optics Express*, **2021**, 29, 13764-13777	3.3	5
64	Terahertz transmission-mode scanning-probe near-field optical microscopy based on a flexible step-index sapphire fiber. *Optical Engineering*, **2021**, 60,	1.1	5
63	Scattering of terahertz radiation in thin layers of dielectric materials **2013**,		4
62	Scattering in structured two-layered medium. *Journal of Physics: Conference Series*, **2015**, 584, 012019	0.3	4
61	Sensing of phase transition in medium with terahertz pulsed spectroscopy. *Journal of Physics: Conference Series*, **2014**, 486, 012024	0.3	4
60	Terahertz solid immersion microscopy for sub-wavelength-resolution imaging of biological objects and tissues **2018**,		4
59	Terahertz spectroscopy of immersion optical clearing agents: DMSO, PG, EG, PEG **2018**,		4
58	Optical Properties of Hyperosmotic Agents for Immersion Clearing of Tissues in Terahertz Spectroscopy. *Optics and Spectroscopy (English Translation of Optika I Spektroskopiya)*, **2020**, 128, 1026-1035	0.7	4
57	The active-passive continuous-wave terahertz imaging system. *Journal of Physics: Conference Series*, **2016**, 735, 012075	0.3	4
56	Nonlinear optical conversion in synthetic opal. *Inorganic Materials*, **2015**, 51, 419-424	0.9	3
55	Numerical simulation of terahertz-wave propagation in photonic crystal waveguide based on sapphire shaped crystal. *Journal of Physics: Conference Series*, **2016**, 673, 012001	0.3	3
54	A comparison of terahertz optical constants and diffusion coefficients of tissue immersion optical clearing agents **2019**,		3
53	Terahertz transmission-mode near-field scanning-probe microscope based on a flexible sapphire fiber **2019**,		3
52	Improved biomedical imaging over a wide spectral range from UV to THz towards multimodality **2020**,		3
51	Emission Efficiency of Terahertz Antennas with Conventional Topology and Metal Metasurface: A Comparative Analysis. *Optics and Spectroscopy (English Translation of Optika I Spektroskopiya)*, **2020**, 128, 1018-1025	0.7	3
50	Monte Carlo simulation of optical coherence tomography signal of the skin nevus. *Journal of Physics: Conference Series*, **2016**, 673, 012014	0.3	3
49	Non-destructive testing of composite materials using terahertz time-domain spectroscopy **2016**,		3

48	. *IEEE Transactions on Terahertz Science and Technology*, **2021**, 1-1	3.4	3
47	Terahertz solid immersion microscopy: Recent achievements and challenges. *Applied Physics Letters* , **2022**, 120, 110501	3.4	3
46	Second Harmonic Generation in Microstructured Barium Titanate. *Journal of Russian Laser Research*, **2016**, 37, 254-258	0.7	2
45	A Comparison of Terahertz Pulsed Spectroscopy and Backward-Wave Oscillator Spectroscopy. *Journal of Physics: Conference Series*, **2014**, 536, 012009	0.3	2
44	An impact of multiple wave reflections in a flat sample on material parameter reconstruction using THz pulsed spectroscopy. *Journal of Physics: Conference Series*, **2015**, 584, 012005	0.3	2
43	Wavelet-domain de-noising of optical coherent tomography data for biomedical applications. *Journal of Physics: Conference Series*, **2015**, 584, 012013	0.3	2
42	Enhanced third harmonic generation using the surface states of light in periodic photonic structures. *Journal of Physics: Conference Series*, **2014**, 541, 012072	0.3	2
41	THz generation by two-color laser air plasma coupled to antiresonance hollow-core sapphire waveguides: THz-wave delivery and angular distribution management.. *Optics Express*, **2022**, 30, 4215-4230	3.3	2
40	Colloidal suspensions in external rotating electric field: experimental studies and prospective applications in physics, material science, and biomedicine **2018**,		2
39	Sapphire capillary interstitial irradiators for laser medicine **2018**,		2
38	Differentiation of healthy and malignant brain tissues using terahertz pulsed spectroscopy and optical coherence tomography **2019**,		2
37	Novel promising terahertz optical material based on nanoporous SiO2 **2020**,		2
36	Differentiation of basal cell carcinoma and healthy skin using multispectral modulation autofluorescence imaging: A pilot study. *Journal of Biomedical Photonics and Engineering*, **2019**, 5, 010302	2.4	2
35	Optical coherence tomography of human brain glioma as a promising tool for intraoperative diagnostics in neurosurgery **2019**,		2
34	Principle component analysis and linear discriminant analysis of multi-spectral autofluorescence imaging data for differentiating basal cell carcinoma and healthy skin **2016**,		2
33	Quantification of solid-phase chemical reactions using the temperature-dependent terahertz pulsed spectroscopy, sum rule, and Arrhenius theory: thermal decomposition of □-lactose monohydrate.. *Optics Express*, **2022**, 30, 9208-9221	3.3	2
32	Investigation of Heating of Optical Elements During Formation of High-Power CW Fiber Laser Radiation. *Russian Physics Journal*, **2019**, 61, 2305-2312	0.7	1
31	Terahertz waveguides based on multichannel sapphire shaped crystals **2016**,		1

30	An Experimentally Trained Noise Filtration Method of Optical Coherence Tomography Signals. *Optics and Spectroscopy (English Translation of Optika I Spektroskopiya)*, **2019**, 126, 587-594	0.7	1
29	Differentiation of Pigmented Skin Lesions Based on Digital Processing of Optical Images. *Optics and Spectroscopy (English Translation of Optika I Spektroskopiya)*, **2019**, 126, 503-513	0.7	1
28	Problem of light scattering in complex media. *Journal of Physics: Conference Series*, **2015**, 584, 012025	0.3	1
27	Sapphire shaped crystals for laser-assisted cryodestruction of biological tissues **2018**,		1
26	Numerical simulations and experimental study of terahertz photoconductive antennas based on GaAs and its ternary compounds **2018**,		1
25	A concept of cryoapplicator based on sapphire shaped crystal enabling control of the ice ball formation using spatially resolved elastic backscattering of light **2018**,		1
24	High-temperature terahertz intrawaveguide spectroscopy using hollow-core sapphire photonic crystal waveguide **2019**,		1
23	A method for reconstruction of terahertz dielectric response of thin liquid samples **2019**,		1
22	Terahertz Spectroscopy and Imaging of Brain Tumors **2020**, 551-574		1
21	Study of malignant brain gliomas using optical coherence tomography and terahertz pulsed spectroscopy aimed on advanced intraoperative neurodiagnosis **2019**,		1
20	Temperature Evolution of the Dielectric Response of α-Lactose Monohydrate in the THz Frequency Range. *Optics and Spectroscopy (English Translation of Optika I Spektroskopiya)*, **2020**, 128, 752-758	0.7	1
19	Sapphire Single-Crystal Waveguides and Fibers for Thz Frequency Range. *Journal of Surface Investigation*, **2020**, 14, 437-439	0.5	1
18	Microfocusing sapphire capillary needle for laser surgery and therapy: Fabrication and characterization. *Journal of Biophotonics*, **2020**, 13, e202000164	3.1	1
17	Sapphire shaped crystals allow combining tissue cryodestruction, laser coagulation and diagnosis **2016**,		1
16	Biomedical applications of terahertz solid immersion microscopy. *EPJ Web of Conferences*, **2018**, 195, 10017	0.3	1
15	Boosting photoconductive large-area THz emitter via optical light confinement behind a highly refractive sapphire-fiber lens.. *Optics Letters*, **2022**, 47, 1899-1902	3	1
14	Structural light focusing phenomenon and enhanced second harmonic generation in NaNO2-infiltrated opal photonic crystal. *Journal of Physics: Conference Series*, **2015**, 584, 012002	0.3	0
13	Study of electromagnetic field surface states in photonic crystals using the finite-difference method. *Bulletin of the Lebedev Physics Institute*, **2015**, 42, 48-54	0.5	

12	Radiation scattering on growing ordered structures. *Journal of Physics: Conference Series*, **2016**, 673, 012011	0.3
11	Nonlinear conversion in optical waveguide filled with NaNO2. *Journal of Physics: Conference Series*, **2015**, 584, 012009	0.3
10	Hyper-spectral modulation fluorescent imaging using double acousto-optical tunable filter based on TeO2-crystals. *Journal of Physics: Conference Series*, **2015**, 584, 012017	0.3
9	Pseudo-stochastic signal characterization in wavelet-domain. *Journal of Physics: Conference Series*, **2015**, 584, 012021	0.3
8	Impact of Scattering in Quasi-Ordered Structures on THz Imaging. *EPJ Web of Conferences*, **2018**, 195, 08001	0.3
7	APPLICATION OF THERAHERTZ TECHNOLOGIES IN BIOPHOTONICS. Part 2: Spectroscopy and imaging of malignant neoplasms [illegible] 2: [illegible] *Photonics Russia*, **2019**, [illegible]	0.5
6	Special Section Guest Editorial: Terahertz and Infrared Optics: Towards Biophotonics. *Optical Engineering*, **2020**, 59, 1	1.1
5	Modeling and experimental demonstration of terahertz frequency tunable metamaterial absorber. *Journal of Physics: Conference Series*, **2016**, 735, 012087	0.3
4	Intraoperative diagnosis of malignant brain gliomas using terahertz pulsed spectroscopy and optical coherence tomography. *EPJ Web of Conferences*, **2018**, 195, 10018	0.3
3	Interaction of terahertz radiation with tissue phantoms: numerical and experimental studies. *EPJ Web of Conferences*, **2018**, 195, 10012	0.3
2	Continuously tunable middle-IR bandpass filters based on gradient metal-hole arrays for multispectral sensing and thermography. *Journal of Applied Physics*, **2022**, 131, 123103	2.5
1	Photoconductive THz Detector Based on New Functional Layers in Multi-Layer Heterostructures. *Optics and Spectroscopy (English Translation of Optika I Spektroskopiya)*, **2021**, 129, 851-856	0.7