

# Nikita Chernomyrdin

## List of Publications by Year in descending order

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Version: 2024-02-01

85  
papers

1,531  
citations

361045

20  
h-index

329751

37  
g-index

85  
all docs

85  
docs citations

85  
times ranked

735  
citing authors

#	ARTICLE	IF	CITATIONS
1	Terahertz biophotonics as a tool for studies of dielectric and spectral properties of biological tissues and liquids. <i>Progress in Quantum Electronics</i> , 2018, 62, 1-77.	3.5	204
2	The progress and perspectives of terahertz technology for diagnosis of neoplasms: a review. <i>Journal of Optics (United Kingdom)</i> , 2020, 22, 013001.	1.0	135
3	Terahertz radiation and the skin: a review. <i>Journal of Biomedical Optics</i> , 2021, 26, .	1.4	81
4	Reflection-mode continuous-wave 0.15 $\mu\text{m}$ -resolution terahertz solid immersion microscopy of soft biological tissues. <i>Applied Physics Letters</i> , 2018, 113, .	1.5	80
5	Experimental observation of a photonic hook. <i>Applied Physics Letters</i> , 2019, 114, .	1.5	80
6	Terahertz spectroscopy of gelatin-embedded human brain gliomas of different grades: a road toward intraoperative THz diagnosis. <i>Journal of Biomedical Optics</i> , 2019, 24, 1.	1.4	75
7	Solid immersion terahertz imaging with sub-wavelength resolution. <i>Applied Physics Letters</i> , 2017, 110, .	1.5	69
8	Highly Accurate in Vivo Terahertz Spectroscopy of Healthy Skin: Variation of Refractive Index and Absorption Coefficient Along the Human Body. <i>IEEE Transactions on Terahertz Science and Technology</i> , 2015, 5, 817-827.	2.0	66
9	Sapphire shaped crystals for waveguiding, sensing and exposure applications. <i>Progress in Crystal Growth and Characterization of Materials</i> , 2018, 64, 133-151.	1.8	65
10	Wide-aperture aspherical lens for high-resolution terahertz imaging. <i>Review of Scientific Instruments</i> , 2017, 88, 014703.	0.6	63
11	Sapphire Photonic Crystal Waveguides for Terahertz Sensing in Aggressive Environments. <i>Advanced Optical Materials</i> , 2018, 6, 1800573.	3.6	48
12	Terahertz dielectric spectroscopy of human brain gliomas and intact tissues ex vivo: double-Debye and double-overdamped-oscillator models of dielectric response. <i>Biomedical Optics Express</i> , 2021, 12, 69.	1.5	40
13	Shaping the spectrum of terahertz photoconductive antenna by frequency-dependent impedance modulation. <i>Semiconductor Science and Technology</i> , 2019, 34, 034005.	1.0	38
14	Numerical analysis and experimental study of terahertz solid immersion microscopy. <i>Optical Engineering</i> , 2019, 59, 1.	0.5	28
15	Terahertz spectroscopy of pigmented skin nevi in vivo. <i>Optics and Spectroscopy (English Translation)</i> Tj ETQq1 1 0,784314 rgBT / Overl	0,2	27
16	Prospects of terahertz technology in diagnosis of human brain tumors – A review. <i>Journal of Biomedical Photonics and Engineering</i> , 2020, 6, .	0.4	27
17	Optimal hyperosmotic agents for tissue immersion optical clearing in terahertz biophotonics. <i>Journal of Biophotonics</i> , 2020, 13, e202000297.	1.1	24
18	Terahertz dielectric spectroscopy and solid immersion microscopy of ex vivo glioma model 101.8: brain tissue heterogeneity. <i>Biomedical Optics Express</i> , 2021, 12, 5272.	1.5	23

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19	Quantitative super-resolution solid immersion microscopy via refractive index profile reconstruction. <i>Optica</i> , 2021, 8, 1471.	4.8	23
20	Object-dependent spatial resolution of the reflection-mode terahertz solid immersion microscopy. <i>Optics Express</i> , 2021, 29, 3553.	1.7	20
21	Proof of concept for continuously-tunable terahertz bandpass filter based on a gradient metal-hole array. <i>Optics Express</i> , 2020, 28, 26228.	1.7	20
22	Overcoming the Abbe Diffraction Limit Using a Bundle of Metal-Coated High-Refractive-Index Sapphire Optical Fibers. <i>Advanced Optical Materials</i> , 2020, 8, 2000307.	3.6	18
23	Moisture adsorption by decellularized bovine pericardium collagen matrices studied by terahertz pulsed spectroscopy and solid immersion microscopy. <i>Biomedical Optics Express</i> , 2021, 12, 5368.	1.5	17
24	Terahertz solid immersion microscopy: Recent achievements and challenges. <i>Applied Physics Letters</i> , 2022, 120, .	1.5	17
25	Terahertz Microscope Based on Solid Immersion Effect for Imaging of Biological Tissues. <i>Optics and Spectroscopy (English Translation of Optika I Spektroskopiya)</i> , 2019, 126, 560-567.	0.2	16
26	A potential of terahertz solid immersion microscopy for visualizing sub-wavelength-scale tissue spheroids. , 2018, , .		16
27	<i>In vivo</i> terahertz pulsed spectroscopy of dysplastic and non-dysplastic skin nevi. <i>Journal of Physics: Conference Series</i> , 2016, 735, 012076.	0.3	15
28	Nanoparticle-enabled experimentally trained wavelet-domain denoising method for optical coherence tomography. <i>Journal of Biomedical Optics</i> , 2018, 23, 1.	1.4	14
29	<i>In vivo</i> spectroscopy of healthy skin and pathology in terahertz frequency range. <i>Journal of Physics: Conference Series</i> , 2015, 584, 012023.	0.3	12
30	Step-index sapphire fiber and its application in a terahertz near-field microscopy. , 2019, , .		11
31	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. <i>Biomedical Optics Express</i> , 2020, 11, 6780.	1.5	11
32	Novel technique for medium permittivity profile reconstruction using THz pulsed spectroscopy. <i>Journal of Physics: Conference Series</i> , 2014, 486, 012010.	0.3	10
33	Optical Properties of Hyperosmotic Agents for Immersion Clearing of Tissues in Terahertz Spectroscopy. <i>Optics and Spectroscopy (English Translation of Optika I Spektroskopiya)</i> , 2020, 128, 1026-1035.	0.2	8
34	Terahertz transmission-mode scanning-probe near-field optical microscopy based on a flexible step-index sapphire fiber. <i>Optical Engineering</i> , 2021, 60, .	0.5	8
35	Fabrication and characterization of a composite TiO <sub>2</sub> -polypropylene high-refractive-index solid immersion lens for super-resolution THz imaging. <i>Optical Materials Express</i> , 2022, 12, 3015.	1.6	8
36	An approach for automatic construction of the wavelet-domain de-noising procedure for THz pulsed spectroscopy signal processing. <i>Journal of Physics: Conference Series</i> , 2014, 486, 012034.	0.3	7

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37	Wavelet-domain de-noising of OCT images of human brain malignant glioma. , 2018, , .		7
38	Wavelet-domain de-noising technique for THz pulsed spectroscopy. , 2014, , .		6
39	Wide-Aperture Aspheric Optics for Formation of Subwavelength Caustics of a Terahertz Electromagnetic-Radiation Beam. Optics and Spectroscopy (English Translation of Optika I) Tj ETQq1 1 0.784314 0.01 /Overlock 10 T		6
40	Early Diagnosis of Skin Melanoma Using Several Imaging Systems. Optics and Spectroscopy (English) Tj ETQq0 0 0 0.02 /Overlock 10 T		6
41	In situ terahertz monitoring of an ice ball formation during tissue cryosurgery: a feasibility test. Journal of Biomedical Optics, 2021, 26, .	1.4	6
42	In vitro terahertz spectroscopy of gelatin-embedded human brain tumors: a pilot study. , 2018, , .		6
43	Temperature Evolution of the Dielectric Response of $\alpha$ -Lactose Monohydrate in the THz Frequency Range. Optics and Spectroscopy (English Translation of Optika I Spektroskopiya), 2020, 128, 752-758.	0.2	5
44	A concept of cryoapplicator based on sapphire shaped crystal enabling control of the ice ball formation using spatially resolved elastic backscattering of light. , 2018, , .		5
45	Terahertz transmission-mode near-field scanning-probe microscope based on a flexible sapphire fiber. , 2019, , .		5
46	Terahertz solid immersion microscopy for sub-wavelength-resolution imaging of biological objects and tissues. , 2018, , .		4
47	Terahertz spectroscopy of immersion optical clearing agents: DMSO, PG, EG, PEG. , 2018, , .		4
48	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.	0.4	4
49	A Comparison of Terahertz Pulsed Spectroscopy and Backward-Wave Oscillator Spectroscopy. Journal of Physics: Conference Series, 2014, 536, 012009.	0.3	3
50	Wavelet-domain de-noising of optical coherent tomography data for biomedical applications. Journal of Physics: Conference Series, 2015, 584, 012013.	0.3	3
51	Non-destructive testing of composite materials using terahertz time-domain spectroscopy. , 2016, , .		3
52	Sapphire shaped crystals for laser-assisted cryodestruction of biological tissues. , 2018, , .		3
53	Differentiation of healthy and malignant brain tissues using terahertz pulsed spectroscopy and optical coherence tomography. , 2019, , .		3
54	Optical characteristics of LaNiO <sub>3</sub> thin films in the terahertz-“infrared frequency range. Journal of Applied Physics, 2022, 131, 025305.	1.1	3

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55	Principle component analysis and linear discriminant analysis of multi-spectral autofluorescence imaging data for differentiating basal cell carcinoma and healthy skin. , 2016, , .		2
56	Terahertz waveguides based on multichannel sapphire shaped crystals. , 2016, , .		2
57	Biomedical applications of sapphire shaped crystals. , 2018, , .		2
58	An Experimentally Trained Noise Filtration Method of Optical Coherence Tomography Signals. Optics and Spectroscopy (English Translation of Optika I Spektroskopiya), 2019, 126, 587-594.	0.2	2
59	Numerical simulations and experimental study of terahertz photoconductive antennas based on GaAs and its ternary compounds. , 2018, , .		2
60	A method for reconstruction of terahertz dielectric response of thin liquid samples. , 2019, , .		2
61	Optical coherence tomography of human brain glioma as a promising tool for intraoperative diagnostics in neurosurgery. , 2019, , .		2
62	Study of malignant brain gliomas using optical coherence tomography and terahertz pulsed spectroscopy aimed on advanced intraoperative neurodiagnosis. , 2019, , .		2
63	Continuously tunable middle-IR bandpass filters based on gradient metal-hole arrays for multispectral sensing and thermography. Journal of Applied Physics, 2022, 131, .	1.1	2
64	Biomedical applications of terahertz solid immersion microscopy. EPJ Web of Conferences, 2018, 195, 10017.	0.1	1
65	Sub-wavelength-resolution imaging of biological tissues using THz solid immersion microscopy. , 2018, , .		1
66	Terahertz axicon fabricated by direct sedimentation of SiO <sub>2</sub> colloidal nanoparticles in a mold. , 2021, , .		1
67	Dielectric permittivity of organosilicate glass thin films on a sapphire substrate determined using time-domain THz and Fourier IR spectroscopy. Journal Physics D: Applied Physics, 0, , .	1.3	1
68	Terahertz pulsed spectroscopy of human brain tumors in a gelatin slab. , 2019, , .		1
69	Portable uncooled shutterless camera operating in the long-wavelength infrared range; part II: digital image processing. , 2020, , .		1
70	Portable uncooled shutterless camera operating in the long-wavelength infrared range; part I: camera calibration. , 2020, , .		1
71	Summer school in Kabardino-Balkaria by BMSTU SPIE Student Chapter. Proceedings of SPIE, 2014, , .	0.8	0
72	Hyper-spectral modulation fluorescent imaging using double acousto-optical tunable filter based on TeO <sub>2</sub> -crystals. Journal of Physics: Conference Series, 2015, 584, 012017.	0.3	0

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73	Multi-spectral endogenous fluorescence imaging for bacterial differentiation. , 2017, , .		0
74	Intraoperative diagnosis of malignant brain gliomas using terahertz pulsed spectroscopy and optical coherence tomography. EPJ Web of Conferences, 2018, 195, 10018.	0.1	0
75	Microstructured sapphire shaped crystals for antiresonant and bandgap terahertz waveguiding. EPJ Web of Conferences, 2018, 195, 09003.	0.1	0
76	In vitro terahertz dielectric spectroscopy of human brain tumors. , 2018, , .		0
77	In vitro terahertz spectroscopy of malignant brain gliomas embedded in gelatin slab. , 2018, , .		0
78	Investigation of heating laser head optical elements by radiation from high-power fiber laser. , 2018, , .		0
79	Terahertz continuous-wave solid immersion imaging with spatial resolution beyond the Abbe limit. , 2018, , .		0
80	Development of a Standard for Verification of the System for Automated Morphometry of Clinical Images of Skin Neoplasms. Optics and Spectroscopy (English Translation of Optika I Spektroskopiya), 2020, 128, 815-823.	0.2	0
81	Double-overdamped-oscillator model of terahertz complex dielectric permittivity of human brain tissues. , 2021, , .		0
82	Impact of Scattering in Quasi-Ordered Structures on THz Imaging. EPJ Web of Conferences, 2018, 195, 08001.	0.1	0
83	FDTD-modelling of terahertz solid immersion microscopy. , 2019, , .		0
84	Overcoming the Abbe diffraction limit in THz spectroscopy and imaging of soft biological tissues. , 2020, , .		0
85	Characterizing solid immersion focusing system using numerical modeling. , 2021, , .		0