Alexey P Popov

List of Publications by Year
in descending order

119 papers	2,212 citations	218677 26 h-index	265206 42 g-index
121 all docs	121 docs citations	121 times ranked	2696 citing authors

#	Article	IF	Citations
1	Bloodâ€“nanomaterials interactions. , 2022, , 1-40.		0
2	Hemorheological alterations of red blood cells induced by 450-nm and 520-nm laser radiation. Journal of Photochemistry and Photobiology B: Biology, 2022, 230, 112438.	3.8	4
3	Dimethylammonium iodide stabilized bismuth halide perovskite photocatalyst for hydrogen evolution. Nano Research, 2021, 14, 1116-1125.	10.4	34
4	Evolution of raw meat polarizationâ€based properties by means of Mueller matrix imaging. Journal of Biophotonics, 2021, 14, e202000376.	2.3	12
5	In vivo nano-biosensing element of red blood cell-mediated delivery. Biosensors and Bioelectronics, 2021, 175, 112845.	10.1	20
6	Skin Complications of Diabetes Mellitus Revealed by Polarized Hyperspectral Imaging and Machine Learning. IEEE Transactions on Medical Imaging, 2021, 40, 1207-1216.	8.9	60
7	In vitro influence of 520 nm diode laser irradiation on red blood cell spontaneous aggregation studied by optical tweezers and light microscopy. , 2021, , .		0
8	Biodegradable Nanocarriers Resembling Extracellular Vesicles Deliver Genetic Material with the Highest Efficiency to Various Cell Types. Small, 2020, 16, e1904880.	10.0	25
9	Impact of Nanocapsules on Red Blood Cells Interplay Jointly Assessed by Optical Tweezers and Microscopy. Micromachines, 2020, 11, 19.	2.9	14
10	In-Body Communications Exploiting Light: A Proof-of-Concept Study Using Ex Vivo Tissue Samples. IEEE Access, 2020, 8, 190378-190389.	4.2	3
11	A highly efficient and safe gene delivery platform based on polyelectrolyte coreâ€“shell nanoparticles for hard-to-transfect clinically relevant cell types. Journal of Materials Chemistry B, 2020, 8, 9576-9588.	5.8	23
12	Colon cancer detection by using PoincarÃ© sphere and <scp>2D</scp> polarimetric mapping of ex vivo colon samples. Journal of Biophotonics, 2020, 13, e202000082.	2.3	41
13	The advancement of blood cell research by optical tweezers. Reviews in Physics, 2020, 5, 100043.	8.9	41
14	Two-point Stokes vector diagnostic approach for characterization of optically anisotropic biological tissues. Journal Physics D: Applied Physics, 2020, 53, 395401.	2.8	22
15	Optical Tweezers in Studies of Red Blood Cells. Cells, 2020, 9, 545.	4.1	82
16	Meat freshness revealed by visible to near-infrared spectroscopy and principal component analysis. Journal of Physics Communications, 2020, 4, 095011.	1.2	17
17	Role of scattering and birefringence in phase retardation revealed by locus of Stokes vector on PoincarÃ© sphere. Journal of Biomedical Optics, 2020, 25, 1.	2.6	21
18	Wireless data transfer through biological tissues using near-infrared light: testing skull and skin phantoms. , 2020, , .		4

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19	Evaluating Î²-amyloidosis progression in Alzheimerâ€™s disease with Mueller polarimetry. Biomedical Optics Express, 2020, 11, 4509.	2.9	43
20	Probing the red blood cell interaction in individual cell pairs by optical tweezers. , 2020, , .		1
21	The use of Stokes-Mueller polarimetry for assessment of amyloid-Î² progression in a mouse model of Alzheimerâ€™s disease. , 2020, , .		2
22	Development of oral cancer tissue-mimicking phantom based on polyvinyl chloride plastisol and graphite for terahertz frequencies. Journal of Biomedical Optics, 2020, 25, .	2.6	10
23	Mutual interaction of red blood cells influenced by nanoparticles. Scientific Reports, 2019, 9, 5147.	3.3	35
24	Influence of Pulsed Heâ€“Ne Laser Irradiation on the Red Blood Cell Interaction Studied by Optical Tweezers. Micromachines, 2019, 10, 853.	2.9	16
25	Influence of interaction time on the red blood cell (dis)aggregation dynamics in vitro studied by optical tweezers. , 2019, , .		3
26	Influence of blood pulsation on diagnostic volume in pulse oximetry and photoplethysmography measurements. Applied Optics, 2019, 58, 9398.	1.8	40
27	Hyperspectral imaging of human skin aided by artificial neural networks. Biomedical Optics Express, 2019, 10, 3545.	2.9	68
28	Optical Wireless Data Transfer Through Biotissues: Practical Evidence and Initial Results. Lecture Notes of the Institute for Computer Sciences, Social-Informatics and Telecommunications Engineering, 2019, , 191-205.	0.3	4
29	Assessment of age-related skin changes using hyperspectral polarization imaging. , 2019, , .		0
30	Combined use of optical tweezers and scanning electron microscopy to reveal influence of nanoparticles on red blood cells interactions. , 2019, , .		0
31	Combined multi-wavelength laser speckle contrast imaging and diffuse reflectance imaging for skin perfusion assessment. , 2019, , .		1
32	Influence of blood pulsation on diagnostic volume in pulse oximetry and photoplethysmography measurements: publisherâ€™s note. Applied Optics, 2019, 58, 9688.	1.8	0
33	Speckle dynamics under ergodicity breaking. Journal Physics D: Applied Physics, 2018, 51, 155401.	2.8	21
34	Bare laserâ€synthesized Auâ€based nanoparticles as nondisturbing surfaceâ€enhanced Raman scattering probes for bacteria identification. Journal of Biophotonics, 2018, 11, e201700225.	2.3	42
35	Random networks of core-shell-like Cu-Cu2O/CuO nanowires as surface plasmon resonance-enhanced sensors. Scientific Reports, 2018, 8, 4708.	3.3	20
36	Investigation of Water-free Biotissue-mimicking Phantoms in Terahertz Frequency Range. , 2018, , .		2

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37	Terahertz time-domain spectroscopy for non-invasive assessment of water content in biological samples. Biomedical Optics Express, 2018, 9, 2266.	2.9	74
38	Mutual interaction of red blood cells assessed by optical tweezers and scanning electron microscopy imaging. Optics Letters, 2018, 43, 3921.	3.3	18
39	Assisted Medication Management in Elderly Care Using Miniaturised Near-Infrared Spectroscopy. , 2018, 2, 1-24.		17
40	Allocation of rhodamine-loaded nanocapsules from blood circulatory system to adjacent tissues assessedin vivoby fluorescence spectroscopy. Laser Physics Letters, 2018, 15, 105601.	1.4	6
41	Monitoring of temperature-mediated phase transitions of adipose tissue by combined optical coherence tomography and Abbe refractometry. Journal of Biomedical Optics, 2018, 23, 1.	2.6	10
42	Delivery and reveal of localization of upconversion luminescent microparticles and quantum dots in the skin in vivo by fractional laser microablation, multimodal imaging, and optical clearing. Journal of Biomedical Optics, 2018, 23, 1.	2.6	8
43	Investigation of speckle pattern dynamics by laser speckle contrast imaging. , 2018, , .		1
44	Noninvasive control of rhodamine-loaded capsules distribution in vivo. , 2018, , .		0
45	Ecophotonics: assessment of temperature gradient in aquatic organisms using up-conversion luminescent particles. Quantum Electronics, 2017, 47, 153-157.	1.0	4
46	Towards enhanced optical sensor performance: SEIRA and SERS with plasmonic nanostars. Analyst, The, 2017, 142, 951-958.	3.5	49
47	Surface-enhanced Raman spectroscopy for identification and discrimination of beverage spoilage yeasts using patterned substrates and gold nanoparticles. Journal of Food Engineering, 2017, 212, 47-54.	5.2	24
48	Impact of blood volume changes within the human skin on the diffuse reflectance measurements in visible and NIR spectral ranges. Proceedings of SPIE, 2017, , .	0.8	1
49	Dual mode diffraction phase microscopy for quantitative functional assessment of biological cells. Laser Physics Letters, 2017, 14, 105601.	1.4	2
50	Surface enhanced infrared absorption spectroscopy based on gold nanostars and spherical nanoparticles. Analytica Chimica Acta, 2017, 990, 141-149.	5.4	45
51	Assessment of water content in biological samples by terahertz time-domain spectroscopy. Proceedings of SPIE, 2017, , .	0.8	0
52	Influence of probe pressure on diffuse reflectance spectra of human skin measured in vivo. Journal of Biomedical Optics, 2017, 22, 1.	2.6	23
53	Optical characterization of polymeric nanocapsules interaction with the cell membrane and in vivo analysis.. , 2017, , .		1
54	Imaging of subchondral bone by optical coherence tomography upon optical clearing of articular cartilage. Journal of Biophotonics, 2016, 9, 270-275.	2.3	41

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55	Plasmon-Resonant Gold Nanostars With Variable Size as Contrast Agents for Imaging Applications. IEEE Journal of Selected Topics in Quantum Electronics, 2016, 22, 13-20.	2.9	23
56	Refractive index retrieval from transmittance measurements. Optik, 2016, 127, 5562-5567.	2.9	1
57	A novel WS2 nanowire-nanoflake hybrid material synthesized from WO3 nanowires in sulfur vapor. Scientific Reports, 2016, 6, 25610.	3.3	21
58	Performance Enhancement of Polymer Electrolyte MEIS Hydrogen Sensor by DC-Biasing. IEEE Sensors Journal, 2016, 16, 5292-5297.	4.7	3
59	Nanoparticle-free tissue-mimicking phantoms with intrinsic scattering. Biomedical Optics Express, 2016, 7, 2088.	2.9	33
60	Detection of Listeria innocua on roll-to-roll produced SERS substrates with gold nanoparticles. RSC Advances, 2016, 6, 62981-62989.	3.6	23
61	Polarization sensitive optical biopsy with diffusely reflected polarized light. , 2016, , .		0
62	The effect of laser irradiation on living cells incubated with gold nanoparticles. , 2015, , .		2
63	Simulation of the effect of photoprotective titanium dioxide (TiO2) and zinc oxide (ZnO) nanoparticles on the thermal response and optical characteristics of skin. Optics and Spectroscopy (English Translation of Optika I Spektroskopiya), 2015, 118, 668-673.	0.6	7
64	Measurements of fundamental properties of homogeneous tissue phantoms. Journal of Biomedical Optics, 2015, 20, 045004.	2.6	48
65	Spatial evolution of depolarization in homogeneous turbid media within the differential Mueller matrix formalism. Optics Letters, 2015, 40, 5634.	3.3	45
66	Optical properties of plasmon-resonant bare and silica-coated nanostars used for cell imaging. Journal of Biomedical Optics, 2015, 20, 076017.	2.6	21
67	Optical clearing of articular cartilage: a comparison of clearing agents. , 2015, , .		0
68	Use of optical skin phantoms for preclinical evaluation of laser efficiency for skin lesion therapy. Journal of Biomedical Optics, 2015, 20, 085003.	2.6	25
69	In vitro terahertz monitoring of muscle tissue dehydration under the action of hyperosmotic agents. Quantum Electronics, 2014, 44, 633-640.	1.0	27
70	Application of semiconductor and upconversion nanomaterials in cosmetics, coatings, and phantoms. Proceedings of SPIE, 2014, , .	0.8	4
71	Gold nanostructures for OCT imaging of capillary flow. Proceedings of SPIE, 2014, , .	0.8	4
72	Light Propagation in NIR Spectroscopy of the Human Brain. IEEE Journal of Selected Topics in Quantum Electronics, 2014, 20, 289-298.	2.9	40

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73	Titania nanofibers in gypsum composites: an antibacterial and cytotoxicology study. Journal of Materials Chemistry B, 2014, 2, 1307.	5.8	19
74	THz monitoring of the dehydration of biological tissues affected by hyperosmotic agents. Physics of Wave Phenomena, 2014, 22, 169-176.	1.1	29
75	Plasmon-resonant gold nanoparticles with variable morphology as optical labels and drug carriers for cytological research. , 2013, , .		5
76	Optical sensing of a pulsating liquid in a brain-mimicking phantom. Proceedings of SPIE, 2013, , .	0.8	12
77	Feasibility study of the optical imaging of a breast cancer lesion labeled with upconversion nanoparticle biocomplexes. Journal of Biomedical Optics, 2013, 18, 076004.	2.6	84
78	Two-photon-excited autofluorescence and second-harmonic generation microscopy for the visualization of penetration of TiO 2 and ZnO nanoparticles into human tooth tissue ex vivo. , 2012, , .		1
79	Glucose Sensing in Flowing Blood and Intralipid by Laser Pulse Time-of-Flight and Optical Coherence Tomography Techniques. IEEE Journal of Selected Topics in Quantum Electronics, 2012, 18, 1335-1342.	2.9	13
80	Inkjet-printed gas sensors: metal decorated WO3 nanoparticles and their gas sensing properties. Journal of Materials Chemistry, 2012, 22, 17878.	6.7	66
81	Photocatalytic activity of TiO₂nanoparticles: effect of thermal annealing under various gaseous atmospheres. Nanotechnology, 2012, 23, 475711.	2.6	33
82	Novel Printed Nanostructured Gas Sensors. Procedia Engineering, 2011, 25, 896-899.	1.2	14
83	Influence of titanium dioxide nanoparticles on skin surface temperature at sunlight irradiation. Biomedical Optics Express, 2011, 2, 3278.	2.9	15
84	Upconversion luminophores as a novel tool for deep tissue imaging. Proceedings of SPIE, 2011, , .	0.8	6
85	Laser applications in life sciences. Journal of Biophotonics, 2011, 4, 141-142.	2.3	0
86	Alteration of skin light-scattering and absorption properties by application of sunscreen nanoparticles: A Monte Carlo study. Journal of Quantitative Spectroscopy and Radiative Transfer, 2011, 112, 1891-1897.	2.3	11
87	Multilayer tissue phantoms with embedded capillary system for OCT and DOCT imaging. , 2011, , .		22
88	ZnO and TiO 2 particles: a study on nanosafety and photoprotection. Proceedings of SPIE, 2010, , .	0.8	5
89	Designing Inorganic Light-Protective Skin Nanotechnology Products. Journal of Biomedical Nanotechnology, 2010, 6, 432-451.	1.1	48
90	Biophysical mechanisms of modification of skin optical properties in the UV wavelength range with nanoparticles. Journal of Applied Physics, 2009, 105, .	2.5	12

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91	Effect of size of TiO[sub 2] nanoparticles applied onto glass slide and porcine skin on generation of free radicals under ultraviolet irradiation. Journal of Biomedical Optics, 2009, 14, 021011.	2.6	26
92	Calculation of absorption, reflectance, transmission, and depolarization of UV radiation propagating through a layer of suspension of titanium dioxide nanoparticles. Moscow University Physics Bulletin (English Translation of Vestnik Moskovskogo Universiteta, Fizika), 2009, 64, 513-518.	0.4	3
93	Interaction of sunscreen TiO 2 nanoparticles with skin and UV light: penetration, protection, phototoxicity. , 2009, , .		1
94	Separation and characterization of deoxyribonucleases from hepatopancreas of freshwater snail in normality and under in vivo model intoxication. Biochemistry (Moscow), 2008, 73, 937-942.	1.5	3
95	Effect of multiple scattering of light by titanium dioxide nanoparticles implanted into a superficial skin layer on radiation transmission in different wavelength ranges. Quantum Electronics, 2007, 37, 17-21.	1.0	13
96	<title>Optimal sizes of gold nanoparticles for laser treatment of tumors</title>. Proceedings of SPIE, 2007, 6534, 927.	0.8	4
97	Reconstruction of stratum corneum profile of porcine ear skin after tape stripping using UV/VIS spectroscopy. , 2007, , .		8
98	<title>Sensing an aqueous Intralipid suspension with optical coherence tomography: reconstruction of the scattering coefficients</title>. , 2007, , .		1
99	Monte Carlo calculations of UV protective properties of emulsions containing TiO 2 , Si and SiO 2 nanoparticles. , 2007, , .		4
100	Monte Carlo method for simulating optical coherence tomography signal in homogeneous turbid media. Proceedings of SPIE, 2007, , .	0.8	5
101	<title>Influence of multiple light-scattering on TiO2 nanoparticles imbedded into stratum corneum on light transmittance in UV and visible wavelength regions</title>. , 2007, , .		0
102	The effect of nanometer particles of titanium oxide on the protective properties of skin in the UV region. Journal of Optical Technology (A Translation of Opticheskii Zhurnal), 2006, 73, 208.	0.4	11
103	Feasibility of glucose sensing by time- and spatial-resolved detection: Monte Carlo simulations of diffuse reflection in a three-layer skin model. , 2006, , .		0
104	<title>Fiber-optic detection of ultrashort laser pulses diffusely reflected from intralipid skin phantom: effect of numerical aperture and scattering anisotropy</title>. , 2006, 6344, 424.		0
105	Spectral features of composite oil-in-water emulsions containing silicon nanoparticles. Optics and Spectroscopy (English Translation of Optika I Spektroskopiya), 2006, 101, 590-596.	0.6	13
106	Advantages of NIR radiation use for optical determination of skin horny layer thickness with embedded TiO2 nanoparticles during tape stripping procedure. Laser Physics, 2006, 16, 751-757.	1.2	4
107	<title>Control of optical properties of human skin by embedding light scattering nanoparticles</title>. , 2005, , .		0
108	Efficiency of TiO 2 nanoparticles of different sizes as UV-B light skin-protective fraction in sunscreens. , 2005, , .		0

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109	Optical sensing of titanium dioxide nanoparticles within horny layer of human skin and their protecting effect against solar UV radiation. , 2005, , .		13
110	Effect of glucose concentration in a model light-scattering suspension on propagation of ultrashort laser pulses. Quantum Electronics, 2005, 35, 1075-1078.	1.0	13
111	Effect of size of TiO[sub 2] nanoparticles embedded into stratum corneum on ultraviolet-A and ultraviolet-B sun-blocking properties of the skin. Journal of Biomedical Optics, 2005, 10, 064037.	2.6	86
112	TiO2nanoparticles as an effective UV-B radiation skin-protective compound in sunscreens. Journal Physics D: Applied Physics, 2005, 38, 2564-2570.	2.8	174
113	<title>Measurements of glucose content in scattering media with time-of-flight technique: comparison with Monte Carlo simulations</title>. , 2004, , .		15
114	Manipulation of optical properties of human skin by light scattering nanoparticles of titanium dioxide. , 2004, , .		2
115	<title>Noninvasive glucose sensing in scattering media using OCT, PAS, and TOF techniques</title>. , 2004, , .		11
116	Effect of spectral width on short laser pulse propagation through upper layers of human skin: Monte Carlo simulations. , 2004, , .		0
117	Title is missing!. Applied Biochemistry and Microbiology, 2003, 39, 454-458.	0.9	5
118	Acid Phosphatase Complex from the Freshwater Snail Viviparus viviparus L. under Standard Conditions and Intoxication by Cadmium Ions. Biochemistry (Moscow), 2003, 68, 1327-1334.	1.5	7
119	<title>Laser pulse propagation in turbid media: Monte Carlo simulation and comparison with experiment</title>. , 2003, 5068, 299.		12