Nikolai Bunkin

List of Publications by Year in Descending Order

100 papers	1,227 citations	20 h-index	31 g-index
108 ext. papers	1,434 ext. citations	2.2 avg, IF	4.41 L-index

#	Paper	IF	Citations
100	Nafion Swelling in Salt Solutions in a Finite Sized Cell: Curious Phenomena Dependent on Sample Preparation Protocol.. *Polymers*, **2022**, 14,	4.5	1
99	Analysis of Fat and Protein Content in Milk Using Laser Polarimetric Scatterometry. *Agriculture (Switzerland)*, **2021**, 11, 1028	3	2
98	New Organosilicon Composite Based on Borosiloxane and Zinc Oxide Nanoparticles Inhibits Bacterial Growth, but Does Not Have a Toxic Effect on the Development of Animal Eukaryotic Cells. *Materials*, **2021**, 14,	3.5	2
97	Effect of Gas Type and Its Pressure on Nanobubble Generation. *Frontiers in Chemistry*, **2021**, 9, 630074	5	4
96	Swelling of Polymer Membrane in an Aqueous Protein Suspension: Photoluminescence Spectroscopy Experiments. *Physics of Wave Phenomena*, **2021**, 29, 123-130	1.2	0
95	On the Influence of the Alkaline Composition of Liquid Subphase on the Nafion Film Morphology. *Physics of Wave Phenomena*, **2021**, 29, 131-135	1.2	1
94	Long-Term Effect of Low-Frequency Electromagnetic Irradiation in Water and Isotonic Aqueous Solutions as Studied by Photoluminescence from Polymer Membrane. *Polymers*, **2021**, 13,	4.5	4
93	The Role of Shaking of a Liquid Sample in the Dynamics of Polymer Membrane Swelling: A Cell of Limited Volume. *Physics of Wave Phenomena*, **2021**, 29, 114-122	1.2	0
92	Possible Effect of Human-Experimenter on Homeopathic-Like Aqueous Preparations. *Water (Switzerland)*, **2021**, 13, 1475	3	2
91	Dynamics of Polymer Membrane Swelling in Aqueous Suspension of Amino-Acids with Different Isotopic Composition; Photoluminescence Spectroscopy Experiments. *Polymers*, **2021**, 13,	4.5	1
90	Laser Fluorescence and Extinction Methods for Measuring the Flow and Composition of Milk in a Milking Machine. *Photonics*, **2021**, 8, 390	2.2	2
89	Fourier IR Spectroscopy Study of the Effects of Unsteadiness on the Process of Swelling of Polymeric Membranes. *Optics and Spectroscopy (English Translation of Optika I Spektroskopiya)*, **2021**, 129, 460-470	0.7	
88	Shaking-Induced Aggregation and Flotation in Immunoglobulin Dispersions: Differences between Water and Water-Ethanol Mixtures. *ACS Omega*, **2020**, 5, 14689-14701	3.9	26
87	Role of gas nanobubbles in nonlinear hyper-Raman scattering of light in water. *Journal of the Optical Society of America B: Optical Physics*, **2020**, 37, 2805	1.7	6
86	Role of gas nanobubbles in nonlinear hyper-Raman scattering of light in water: publisher note. *Journal of the Optical Society of America B: Optical Physics*, **2020**, 37, 3729	1.7	
85	Study of light-scattering properties of protein-containing microparticles with a small difference in refractive indices. *Journal of Physics: Conference Series*, **2020**, 1560, 012074	0.3	1
84	Identification of Organic Matter Dispersions Based on Light Scattering Matrices Focusing on Soil Organic Matter Management. *ACS Omega*, **2020**, 5, 33214-33224	3.9	6

83	Plasmon enhanced low frequency stimulated Raman scattering in water due to optical breakdown in gas nanobubbles. *Journal of Optics (United Kingdom)*, **2020**, 22, 015401	1.7	3
82	Development and application of photoconversion fluoropolymer films for greenhouses located at high or polar latitudes. *Journal of Photochemistry and Photobiology B: Biology*, **2020**, 213, 112056	6.7	11
81	Formation of Water-Free Cavity in the Process of Nafion Swelling in a Cell of Limited Volume; Effect of Polymer Fibers Unwinding. *Polymers*, **2020**, 12,	4.5	4
80	New Nanostructured Carbon Coating Inhibits Bacterial Growth, but Does Not Influence on Animal Cells. *Nanomaterials*, **2020**, 10,	5.4	12
79	Characteristics of Protein Aggregation and Flotation in Water and Alcohol-Water Mixture. *Physics of Wave Phenomena*, **2020**, 28, 145-149	1.2	
78	Rheological Effects of Polymer Membrane Swelling in Water and Their Dependence on Isotopic Composition. *Physics of Wave Phenomena*, **2020**, 28, 182-186	1.2	0
77	Influence of Fluoropolymer Film Modified With Nanoscale Photoluminophor on Growth and Development of Plants. *Frontiers in Physics*, **2020**, 8,	3.9	7
76	Mesodroplet Heterogeneity of Low-Concentration Aqueous Solutions of Polar Organic Compounds. *Physics of Wave Phenomena*, **2019**, 27, 91-101	1.2	4
75	The Physical Nature of Mesoscopic Inhomogeneities in Highly Diluted Aqueous Suspensions of Protein Particles. *Physics of Wave Phenomena*, **2019**, 27, 102-112	1.2	14
74	Biocompatibility of Biodegradable Polymer Films Based on Poly(lactic-co-glycolic acid) of Various Molecular Weights. *Inorganic Materials: Applied Research*, **2019**, 10, 887-891	0.6	
73	Effect of an Optical Breakdown on the Stimulated Raman Scattering in Water in the Field of Picosecond Laser Pulses. *Journal of Experimental and Theoretical Physics*, **2019**, 128, 664-671	1	7
72	Laser Photoluminescence Spectroscopy of the Subsurface Microstructure in a Nafion Polymer Membrane in Deuterated Water. *Herald of the Bauman Moscow State Technical University, Series Natural Sciences*, **2019**, 48-65	0.8	1
71	Study of the luminescence from polymeric membrane swollen in water with various content of deuterium; isotopic effects. *Journal of Physics: Conference Series*, **2019**, 1348, 012030	0.3	1
70	The research of time dependence polymeric membrane swelling in water with various deuterium content. *Journal of Physics: Conference Series*, **2019**, 1348, 012035	0.3	
69	Assessment of the possibility of identifying aqueous suspensions of protein-containing particles by the light scattering matrix. *IOP Conference Series: Earth and Environmental Science*, **2019**, 390, 012030	0.3	2
68	Development of a Biocompatible and Biodegradable Polymer Capable of Long-Term Release of Biologically Active Substances for Medicine and Agriculture. *Doklady Chemistry*, **2019**, 489, 261-263	0.8	13
67	Unmodified hydrated Fullerene molecules exhibit antioxidant properties, prevent damage to DNA and proteins induced by reactive oxygen species and protect mice against injuries caused by radiation-induced oxidative stress. *Nanomedicine: Nanotechnology, Biology, and Medicine*, **2019**, 15, 37-46	6	43
66	Biocompatibility of new materials based on nano-structured nitinol with titanium and tantalum composite surface layers: experimental analysis in vitro and in vivo. *Journal of Materials Science: Materials in Medicine*, **2018**, 29, 33	4.5	31

65	Laser Diagnostics of the Mesoscale Heterogeneity of Aqueous Solutions of Polar Organic Compounds. *Physics of Wave Phenomena*, **2018**, 26, 21-35	1.2	8
64	Dynamics of Nafion membrane swelling in HO/DO mixtures as studied using FTIR technique. *Journal of Chemical Physics*, **2018**, 148, 124901	3.9	17
63	Photoluminescence Spectroscopy of an Aqueous Solution of Uranyl Cloride upon Laser and LED Excitation. *Physics of Wave Phenomena*, **2018**, 26, 301-305	1.2	
62	Investigation of Deuterium Substitution Effects in a Polymer Membrane Using IR Fourier Spectrometry. *Optics and Spectroscopy (English Translation of Optika I Spektroskopiya)*, **2018**, 125, 337-342	0.7	5
61	Near-surface structure of Nafion in deuterated water. *Journal of Chemical Physics*, **2018**, 149, 164901	3.9	17
60	Effect of visible light on biological objects: Physiological and pathophysiological aspects. *Physics of Wave Phenomena*, **2017**, 25, 207-213	1.2	33
59	Suppression of the coalescence of gas bubbles in aqueous electrolyte solutions: dependence on the external pressure and velocity of gas flow through a column with liquid. *Physics of Wave Phenomena*, **2017**, 25, 219-224	1.2	2
58	Influence of low concentrations of scatterers and signal detection time on the results of their measurements using dynamic light scattering. *Quantum Electronics*, **2017**, 47, 949-955	1.8	6
57	Study of Suppression of Gas Bubbles Coalescence in the Liquid for Use in Technologies of Oil Production and Associated Gas Utilization **2017**,		1
56	Variation in the structure of a time-dependent SRS spectrum in microfiltered water. *Quantum Electronics*, **2017**, 47, 901-905	1.8	2
55	Time dependence of the luminescence from a polymer membrane swollen in water: Concentration and isotopic effects. *Physics of Wave Phenomena*, **2017**, 25, 259-271	1.2	6
54	Effect of the spatial distribution of probe beam on the results of measurements of the disperse composition of nanoparticles by dynamic light scattering method. *Bulletin of the Lebedev Physics Institute*, **2016**, 43, 252-255	0.5	3
53	Ion-Specific and Thermal Effects in the Stabilization of the Gas Nanobubble Phase in Bulk Aqueous Electrolyte Solutions. *Langmuir*, **2016**, 32, 11245-11255	4	49
52	Formation and Dynamics of Ion-Stabilized Gas Nanobubble Phase in the Bulk of Aqueous NaCl Solutions. *Journal of Physical Chemistry B*, **2016**, 120, 1291-303	3.4	56
51	Droplet-like heterogeneity of aqueous tetrahydrofuran solutions at the submicrometer scale. *Journal of Chemical Physics*, **2016**, 145, 184501	3.9	6
50	Bubston structure of water and electrolyte aqueous solutions. *Physics-Uspekhi*, **2016**, 59, 846-865	2.8	25
49	Laser diagnostics of the Bubston phase in the bulk of aqueous salt solutions. *Physics of Wave Phenomena*, **2015**, 23, 161-175	1.2	4
48	Study of the submicron heterogeneity of aqueous solutions of hydrogen-bond acceptor molecules by laser diagnostics methods. *Physics of Wave Phenomena*, **2015**, 23, 241-254	1.2	3

47	Investigation of the phase states of aqueous salt solutions near a polymer membrane surface. *Physics of Wave Phenomena*, **2015**, 23, 255-264	1.2	2
46	Colloidal crystal formation at the "Nafion-water" interface. *Journal of Physical Chemistry B*, **2014**, 118, 3372-7	3.4	27
45	Phase states of water near the surface of a polymer membrane. Phase microscopy and luminescence spectroscopy experiments. *Journal of Experimental and Theoretical Physics*, **2014**, 119, 924-932	1	10
44	Self-oscillating Water Chemiluminescence Modes and Reactive Oxygen Species Generation Induced by Laser Irradiation; Effect of the Exclusion Zone Created by Nafion. *Entropy*, **2014**, 16, 6166-6185	2.8	13
43	Study of the nanobubble phase of aqueous NaCl solutions by dynamic light scattering. *Quantum Electronics*, **2014**, 44, 1022-1028	1.8	12
42	Bubston structure of water and aqueous solutions of electrolytes. *Physics of Wave Phenomena*, **2013**, 21, 81-109	1.2	20
41	Calculations of light scattering matrices for stochastic ensembles of nanosphere clusters. *Journal of Quantitative Spectroscopy and Radiative Transfer*, **2013**, 123, 23-29	2.1	8
40	Structure of the nanobubble clusters of dissolved air in liquid media. *Journal of Biological Physics*, **2012**, 38, 121-52	1.6	49
39	Cluster Structure of Dissolved Gas Nanobubbles in Ionic Aqueous Solutions. *Journal of Chemical & Engineering Data*, **2012**, 57, 2823-2831	2.8	6
38	Nanobubble clusters of dissolved gas in aqueous solutions of electrolyte. I. Experimental proof. *Journal of Chemical Physics*, **2012**, 137, 054706	3.9	39
37	Nanobubble clusters of dissolved gas in aqueous solutions of electrolyte. II. Theoretical interpretation. *Journal of Chemical Physics*, **2012**, 137, 054707	3.9	20
36	Refraction coefficient of water and aqueous solutions in the optical frequency range in the vicinity of Nafion. *Biophysics (Russian Federation)*, **2012**, 57, 733-749	0.7	2
35	Long-living nanobubbles of dissolved gas in aqueous solutions of salts and erythrocyte suspensions. *Journal of Biophotonics*, **2011**, 4, 150-64	3.1	38
34	Frequency shift of Rayleigh line fine structure components in a water solution of 4-methylpyridine as a function of temperature, concentration, and light scattering angle. *Quantum Electronics*, **2010**, 40, 817-821	1.8	7
33	Laser scattering in water and aqueous solutions of salts **2010**,		12
32	Role of dissolved gas in optical breakdown of water: differences between effects due to helium and other gases. *Journal of Physical Chemistry B*, **2010**, 114, 7743-52	3.4	22
31	Acoustic properties of globular photonic crystals based on synthetic opals. *Physics of Wave Phenomena*, **2010**, 18, 90-95	1.2	6
30	Determination of the microstructure of gas bubbles in highly purified water by measuring the elements of the laser radiation scattering matrix. *Quantum Electronics*, **2009**, 39, 367-381	1.8	3

29	Effect of local molecular ordering on the temperature behavior of the relaxation time of order-parameter fluctuations in the isotropic phase of PAA nematic liquid crystal. *Physics of Wave Phenomena*, **2009**, 17, 1-10	1.2	3
28	Multiphoton optical breakdown in water under picosecond laser pulses. *Physics of Wave Phenomena* , **2009**, 17, 32-38	1.2	
27	Cluster structure of stable dissolved gas nanobubbles in highly purified water. *Journal of Experimental and Theoretical Physics*, **2009**, 108, 800-816	1	19
26	Nanoscale structure of dissolved air bubbles in water as studied by measuring the elements of the scattering matrix. *Journal of Chemical Physics*, **2009**, 130, 134308	3.9	42
25	Study of nanostructure of highly purified water by measuring scattering matrix elements of laser radiation. *Physics of Wave Phenomena*, **2008**, 16, 243-260	1.2	8
24	Spontaneous self-organization of microbubbles in a liquid. *Journal of Experimental and Theoretical Physics*, **2007**, 104, 486-498	1	16
23	Parametric interactions in highly purified water in intense optical radiation field: Degassing effect. *Physics of Wave Phenomena*, **2007**, 15, 46-56	1.2	
22	Parametric interaction in deeply purified water in a high-power optical radiation field. Degassing effect. *Quantum Electronics*, **2007**, 37, 804-812	1.8	2
21	Role of a dissolved gas in the optical breakdown of water. *Quantum Electronics*, **2006**, 36, 117-124	1.8	13
20	Optical breakdown in a liquid: The slow phase of the dynamics of cavity collapse and a noncontact technique for pressure measurement in a liquid. *Acoustical Physics*, **2005**, 51, 246-254	1.1	
19	Small-angle scattering of laser radiation by stable micron particles in twice-distilled water. *Quantum Electronics*, **2005**, 35, 180-184	1.8	16
18	Screening of strongly charged macroparticles in liquid electrolyte solutions. *Journal of Experimental and Theoretical Physics*, **2003**, 96, 730-746	1	20
17	Ionic contribution to Rayleigh line wing under conditions of light scattering by liquid electrolytic solutions. *Journal of Experimental and Theoretical Physics*, **2001**, 92, 390-399	1	
16	Adsorption and Desorption of Ions at the Surface of Liquid. *Zeitschrift Fur Physikalische Chemie*, **2001**, 215, 111-132	3.1	5
15	Ion-Induced Random Electric Fields in Aqueous Salt Solutions as Studied by the Four-Photon Polarization Spectroscopy Method. *Zeitschrift Fur Physikalische Chemie*, **2000**, 214,	3.1	1
14	Mechanism of low-threshold hypersonic cavitation stimulated by broadband laser pump. *Physical Review E*, **1999**, 60, 1681-90	2.4	20
13	Studies of spinodal decomposition in stratified solutions using laser methods. *Physics-Uspekhi*, **1997** , 40, 1019-1034	2.8	11
12	Effect of Salts and Dissolved Gas on Optical Cavitation near Hydrophobic and Hydrophilic Surfaces. *Langmuir*, **1997**, 13, 3024-3028	4	76

11	Interior structure of degassed water as studied by the four-photon polarization spectroscopy method. *Physics Letters, Section A: General, Atomic and Solid State Physics*, **1997**, 225, 349-355	2.3	5
10	Influence of dissolved gas on optical breakdown and small-angle scattering of light in liquids. *Physics Letters, Section A: General, Atomic and Solid State Physics*, **1997**, 229, 327-333	2.3	32
9	Light-induced phase transitions in stratifying liquid mixtures. *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, **1997**, 129-130, 33-43	5.1	6
8	Local light-induced phase separation of binary liquid solutions. *Quantum Electronics*, **1996**, 26, 60-64	1.8	1
7	Existence of charged submicrobubble clusters in polar liquids as revealed by correlation between optical cavitation and electrical conductivity. *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, **1996**, 110, 207-212	5.1	42
6	Quasioscillations in the structure of a liquid mixture under spinodal decomposition. *Journal of Chemical Physics*, **1996**, 104, 6659-6664	3.9	2
5	Submicrocavity Structure of Water between Hydrophobic and Hydrophilic Walls as Revealed by Optical Cavitation. *Journal of Colloid and Interface Science*, **1995**, 173, 443-447	9.3	109
4	Bubbston-cluster structure under conditions of optical breakdown in a liquid. *Quantum Electronics*, **1994**, 24, 297-301	1.8	12
3	Influence of electric field on heterogeneous reactions stimulated by laser light. *Applied Physics A: Solids and Surfaces*, **1990**, 50, 27-34		3
2	Influence of electric field on heterogeneous reactions stimulated by laser light. *Applied Physics A: Solids and Surfaces*, **1990**, 50, 101-105		3
1	Thermodiffusional instability and potential distribution in laser-heated absorbing electrolytes. *Applied Physics A: Solids and Surfaces*, **1986**, 40, 159-162		9