

Nikolai Bunkin

List of Publications by Citations

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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	Submicrocavity Structure of Water between Hydrophobic and Hydrophilic Walls as Revealed by Optical Cavitation. <i>Journal of Colloid and Interface Science</i> , 1995 , 173, 443-447	9.3	109
99	Effect of Salts and Dissolved Gas on Optical Cavitation near Hydrophobic and Hydrophilic Surfaces. <i>Langmuir</i> , 1997 , 13, 3024-3028	4	76
98	Formation and Dynamics of Ion-Stabilized Gas Nanobubble Phase in the Bulk of Aqueous NaCl Solutions. <i>Journal of Physical Chemistry B</i> , 2016 , 120, 1291-303	3.4	56
97	Ion-Specific and Thermal Effects in the Stabilization of the Gas Nanobubble Phase in Bulk Aqueous Electrolyte Solutions. <i>Langmuir</i> , 2016 , 32, 11245-11255	4	49
96	Structure of the nanobubble clusters of dissolved air in liquid media. <i>Journal of Biological Physics</i> , 2012 , 38, 121-52	1.6	49
95	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. <i>Nanomedicine: Nanotechnology, Biology, and Medicine</i> , 2019 , 15, 37-46	6	43
94	Nanoscale structure of dissolved air bubbles in water as studied by measuring the elements of the scattering matrix. <i>Journal of Chemical Physics</i> , 2009 , 130, 134308	3.9	42
93	Existence of charged submicrobubble clusters in polar liquids as revealed by correlation between optical cavitation and electrical conductivity. <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> , 1996 , 110, 207-212	5.1	42
92	Nanobubble clusters of dissolved gas in aqueous solutions of electrolyte. I. Experimental proof. <i>Journal of Chemical Physics</i> , 2012 , 137, 054706	3.9	39
91	Long-living nanobubbles of dissolved gas in aqueous solutions of salts and erythrocyte suspensions. <i>Journal of Biophotonics</i> , 2011 , 4, 150-64	3.1	38
90	Effect of visible light on biological objects: Physiological and pathophysiological aspects. <i>Physics of Wave Phenomena</i> , 2017 , 25, 207-213	1.2	33
89	Influence of dissolved gas on optical breakdown and small-angle scattering of light in liquids. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1997 , 229, 327-333	2.3	32
88	Biocompatibility of new materials based on nano-structured nitinol with titanium and tantalum composite surface layers: experimental analysis in vitro and in vivo. <i>Journal of Materials Science: Materials in Medicine</i> , 2018 , 29, 33	4.5	31
87	Colloidal crystal formation at the "Nafion-water" interface. <i>Journal of Physical Chemistry B</i> , 2014 , 118, 3372-7	3.4	27
86	Shaking-Induced Aggregation and Flotation in Immunoglobulin Dispersions: Differences between Water and Water-Ethanol Mixtures. <i>ACS Omega</i> , 2020 , 5, 14689-14701	3.9	26
85	Bubston structure of water and electrolyte aqueous solutions. <i>Physics-Usppekhi</i> , 2016 , 59, 846-865	2.8	25
84	Role of dissolved gas in optical breakdown of water: differences between effects due to helium and other gases. <i>Journal of Physical Chemistry B</i> , 2010 , 114, 7743-52	3.4	22

83	Bubston structure of water and aqueous solutions of electrolytes. <i>Physics of Wave Phenomena</i> , 2013 , 21, 81-109	1.2	20
82	Nanobubble clusters of dissolved gas in aqueous solutions of electrolyte. II. Theoretical interpretation. <i>Journal of Chemical Physics</i> , 2012 , 137, 054707	3.9	20
81	Screening of strongly charged macroparticles in liquid electrolyte solutions. <i>Journal of Experimental and Theoretical Physics</i> , 2003 , 96, 730-746	1	20
80	Mechanism of low-threshold hypersonic cavitation stimulated by broadband laser pump. <i>Physical Review E</i> , 1999 , 60, 1681-90	2.4	20
79	Cluster structure of stable dissolved gas nanobubbles in highly purified water. <i>Journal of Experimental and Theoretical Physics</i> , 2009 , 108, 800-816	1	19
78	Dynamics of Nafion membrane swelling in HO/DO mixtures as studied using FTIR technique. <i>Journal of Chemical Physics</i> , 2018 , 148, 124901	3.9	17
77	Near-surface structure of Nafion in deuterated water. <i>Journal of Chemical Physics</i> , 2018 , 149, 164901	3.9	17
76	Spontaneous self-organization of microbubbles in a liquid. <i>Journal of Experimental and Theoretical Physics</i> , 2007 , 104, 486-498	1	16
75	Small-angle scattering of laser radiation by stable micron particles in twice-distilled water. <i>Quantum Electronics</i> , 2005 , 35, 180-184	1.8	16
74	The Physical Nature of Mesoscopic Inhomogeneities in Highly Diluted Aqueous Suspensions of Protein Particles. <i>Physics of Wave Phenomena</i> , 2019 , 27, 102-112	1.2	14
73	Self-oscillating Water Chemiluminescence Modes and Reactive Oxygen Species Generation Induced by Laser Irradiation; Effect of the Exclusion Zone Created by Nafion. <i>Entropy</i> , 2014 , 16, 6166-6185	2.8	13
72	Role of a dissolved gas in the optical breakdown of water. <i>Quantum Electronics</i> , 2006 , 36, 117-124	1.8	13
71	Development of a Biocompatible and Biodegradable Polymer Capable of Long-Term Release of Biologically Active Substances for Medicine and Agriculture. <i>Doklady Chemistry</i> , 2019 , 489, 261-263	0.8	13
70	Study of the nanobubble phase of aqueous NaCl solutions by dynamic light scattering. <i>Quantum Electronics</i> , 2014 , 44, 1022-1028	1.8	12
69	Laser scattering in water and aqueous solutions of salts 2010 ,		12
68	Bubbston-cluster structure under conditions of optical breakdown in a liquid. <i>Quantum Electronics</i> , 1994 , 24, 297-301	1.8	12
67	New Nanostructured Carbon Coating Inhibits Bacterial Growth, but Does Not Influence on Animal Cells. <i>Nanomaterials</i> , 2020 , 10,	5.4	12
66	Studies of spinodal decomposition in stratified solutions using laser methods. <i>Physics-USpekhi</i> , 1997 , 40, 1019-1034	2.8	11

65	Development and application of photoconversion fluoropolymer films for greenhouses located at high or polar latitudes. <i>Journal of Photochemistry and Photobiology B: Biology</i> , 2020 , 213, 112056	6.7	11
64	Phase states of water near the surface of a polymer membrane. Phase microscopy and luminescence spectroscopy experiments. <i>Journal of Experimental and Theoretical Physics</i> , 2014 , 119, 924-932	1.0	10
63	Thermodiffusional instability and potential distribution in laser-heated absorbing electrolytes. <i>Applied Physics A: Solids and Surfaces</i> , 1986 , 40, 159-162		9
62	Laser Diagnostics of the Mesoscale Heterogeneity of Aqueous Solutions of Polar Organic Compounds. <i>Physics of Wave Phenomena</i> , 2018 , 26, 21-35	1.2	8
61	Calculations of light scattering matrices for stochastic ensembles of nanosphere clusters. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2013 , 123, 23-29	2.1	8
60	Study of nanostructure of highly purified water by measuring scattering matrix elements of laser radiation. <i>Physics of Wave Phenomena</i> , 2008 , 16, 243-260	1.2	8
59	Effect of an Optical Breakdown on the Stimulated Raman Scattering in Water in the Field of Picosecond Laser Pulses. <i>Journal of Experimental and Theoretical Physics</i> , 2019 , 128, 664-671	1	7
58	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. <i>Quantum Electronics</i> , 2010 , 40, 817-821	1.8	7
57	Influence of Fluoropolymer Film Modified With Nanoscale Photoluminophor on Growth and Development of Plants. <i>Frontiers in Physics</i> , 2020 , 8,	3.9	7
56	Influence of low concentrations of scatterers and signal detection time on the results of their measurements using dynamic light scattering. <i>Quantum Electronics</i> , 2017 , 47, 949-955	1.8	6
55	Time dependence of the luminescence from a polymer membrane swollen in water: Concentration and isotopic effects. <i>Physics of Wave Phenomena</i> , 2017 , 25, 259-271	1.2	6
54	Cluster Structure of Dissolved Gas Nanobubbles in Ionic Aqueous Solutions. <i>Journal of Chemical & Engineering Data</i> , 2012 , 57, 2823-2831	2.8	6
53	Acoustic properties of globular photonic crystals based on synthetic opals. <i>Physics of Wave Phenomena</i> , 2010 , 18, 90-95	1.2	6
52	Light-induced phase transitions in stratifying liquid mixtures. <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> , 1997 , 129-130, 33-43	5.1	6
51	Role of gas nanobubbles in nonlinear hyper-Raman scattering of light in water. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2020 , 37, 2805	1.7	6
50	Identification of Organic Matter Dispersions Based on Light Scattering Matrices Focusing on Soil Organic Matter Management. <i>ACS Omega</i> , 2020 , 5, 33214-33224	3.9	6
49	Droplet-like heterogeneity of aqueous tetrahydrofuran solutions at the submicrometer scale. <i>Journal of Chemical Physics</i> , 2016 , 145, 184501	3.9	6
48	Interior structure of degassed water as studied by the four-photon polarization spectroscopy method. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1997 , 225, 349-355	2.3	5

47	Adsorption and Desorption of Ions at the Surface of Liquid. <i>Zeitschrift Fur Physikalische Chemie</i> , 2001 , 215, 111-132	3.1	5
46	Investigation of Deuterium Substitution Effects in a Polymer Membrane Using IR Fourier Spectrometry. <i>Optics and Spectroscopy (English Translation of Optika I Spektroskopiya)</i> , 2018 , 125, 337-342	9.7	5
45	Mesodroplet Heterogeneity of Low-Concentration Aqueous Solutions of Polar Organic Compounds. <i>Physics of Wave Phenomena</i> , 2019 , 27, 91-101	1.2	4
44	Laser diagnostics of the Bubston phase in the bulk of aqueous salt solutions. <i>Physics of Wave Phenomena</i> , 2015 , 23, 161-175	1.2	4
43	Formation of Water-Free Cavity in the Process of Nafion Swelling in a Cell of Limited Volume; Effect of Polymer Fibers Unwinding. <i>Polymers</i> , 2020 , 12,	4.5	4
42	Effect of Gas Type and Its Pressure on Nanobubble Generation. <i>Frontiers in Chemistry</i> , 2021 , 9, 630074	5	4
41	Long-Term Effect of Low-Frequency Electromagnetic Irradiation in Water and Isotonic Aqueous Solutions as Studied by Photoluminescence from Polymer Membrane. <i>Polymers</i> , 2021 , 13,	4.5	4
40	Effect of the spatial distribution of probe beam on the results of measurements of the disperse composition of nanoparticles by dynamic light scattering method. <i>Bulletin of the Lebedev Physics Institute</i> , 2016 , 43, 252-255	0.5	3
39	Study of the submicron heterogeneity of aqueous solutions of hydrogen-bond acceptor molecules by laser diagnostics methods. <i>Physics of Wave Phenomena</i> , 2015 , 23, 241-254	1.2	3
38	Determination of the microstructure of gas bubbles in highly purified water by measuring the elements of the laser radiation scattering matrix. <i>Quantum Electronics</i> , 2009 , 39, 367-381	1.8	3
37	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. <i>Physics of Wave Phenomena</i> , 2009 , 17, 1-10	1.2	3
36	Influence of electric field on heterogeneous reactions stimulated by laser light. <i>Applied Physics A: Solids and Surfaces</i> , 1990 , 50, 27-34		3
35	Influence of electric field on heterogeneous reactions stimulated by laser light. <i>Applied Physics A: Solids and Surfaces</i> , 1990 , 50, 101-105		3
34	Plasmon enhanced low frequency stimulated Raman scattering in water due to optical breakdown in gas nanobubbles. <i>Journal of Optics (United Kingdom)</i> , 2020 , 22, 015401	1.7	3
33	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. <i>Physics of Wave Phenomena</i> , 2017 , 25, 219-224	1.2	2
32	Variation in the structure of a time-dependent SRS spectrum in microfiltered water. <i>Quantum Electronics</i> , 2017 , 47, 901-905	1.8	2
31	Investigation of the phase states of aqueous salt solutions near a polymer membrane surface. <i>Physics of Wave Phenomena</i> , 2015 , 23, 255-264	1.2	2
30	Refraction coefficient of water and aqueous solutions in the optical frequency range in the vicinity of Nafion. <i>Biophysics (Russian Federation)</i> , 2012 , 57, 733-749	0.7	2

29	Parametric interaction in deeply purified water in a high-power optical radiation field. Degassing effect. <i>Quantum Electronics</i> , 2007 , 37, 804-812	1.8	2
28	Quasioscillations in the structure of a liquid mixture under spinodal decomposition. <i>Journal of Chemical Physics</i> , 1996 , 104, 6659-6664	3.9	2
27	Analysis of Fat and Protein Content in Milk Using Laser Polarimetric Scatterometry. <i>Agriculture (Switzerland)</i> , 2021 , 11, 1028	3	2
26	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. <i>Materials</i> , 2021 , 14,	3.5	2
25	Possible Effect of Human-Experimenter on Homeopathic-Like Aqueous Preparations. <i>Water (Switzerland)</i> , 2021 , 13, 1475	3	2
24	Assessment of the possibility of identifying aqueous suspensions of protein-containing particles by the light scattering matrix. <i>IOP Conference Series: Earth and Environmental Science</i> , 2019 , 390, 012030	0.3	2
23	Laser Fluorescence and Extinction Methods for Measuring the Flow and Composition of Milk in a Milking Machine. <i>Photonics</i> , 2021 , 8, 390	2.2	2
22	Study of Suppression of Gas Bubbles Coalescence in the Liquid for Use in Technologies of Oil Production and Associated Gas Utilization 2017 ,		1
21	Local light-induced phase separation of binary liquid solutions. <i>Quantum Electronics</i> , 1996 , 26, 60-64	1.8	1
20	Ion-Induced Random Electric Fields in Aqueous Salt Solutions as Studied by the Four-Photon Polarization Spectroscopy Method. <i>Zeitschrift Fur Physikalische Chemie</i> , 2000 , 214,	3.1	1
19	Laser Photoluminescence Spectroscopy of the Subsurface Microstructure in a Nafion Polymer Membrane in Deuterated Water. <i>Herald of the Bauman Moscow State Technical University, Series Natural Sciences</i> , 2019 , 48-65	0.8	1
18	Study of light-scattering properties of protein-containing microparticles with a small difference in refractive indices. <i>Journal of Physics: Conference Series</i> , 2020 , 1560, 012074	0.3	1
17	On the Influence of the Alkaline Composition of Liquid Subphase on the Nafion Film Morphology. <i>Physics of Wave Phenomena</i> , 2021 , 29, 131-135	1.2	1
16	Study of the luminescence from polymeric membrane swollen in water with various content of deuterium; isotopic effects. <i>Journal of Physics: Conference Series</i> , 2019 , 1348, 012030	0.3	1
15	Dynamics of Polymer Membrane Swelling in Aqueous Suspension of Amino-Acids with Different Isotopic Composition; Photoluminescence Spectroscopy Experiments. <i>Polymers</i> , 2021 , 13,	4.5	1
14	Nafion Swelling in Salt Solutions in a Finite Sized Cell: Curious Phenomena Dependent on Sample Preparation Protocol.. <i>Polymers</i> , 2022 , 14,	4.5	1
13	Rheological Effects of Polymer Membrane Swelling in Water and Their Dependence on Isotopic Composition. <i>Physics of Wave Phenomena</i> , 2020 , 28, 182-186	1.2	0
12	Swelling of Polymer Membrane in an Aqueous Protein Suspension: Photoluminescence Spectroscopy Experiments. <i>Physics of Wave Phenomena</i> , 2021 , 29, 123-130	1.2	0

11	The Role of Shaking of a Liquid Sample in the Dynamics of Polymer Membrane Swelling: A Cell of Limited Volume. <i>Physics of Wave Phenomena</i> , 2021 , 29, 114-122	1.2	0
10	Biocompatibility of Biodegradable Polymer Films Based on Poly(lactic-co-glycolic acid) of Various Molecular Weights. <i>Inorganic Materials: Applied Research</i> , 2019 , 10, 887-891	0.6	
9	Multiphoton optical breakdown in water under picosecond laser pulses. <i>Physics of Wave Phenomena</i> , 2009 , 17, 32-38	1.2	
8	Parametric interactions in highly purified water in intense optical radiation field: Degassing effect. <i>Physics of Wave Phenomena</i> , 2007 , 15, 46-56	1.2	
7	Optical breakdown in a liquid: The slow phase of the dynamics of cavity collapse and a noncontact technique for pressure measurement in a liquid. <i>Acoustical Physics</i> , 2005 , 51, 246-254	1.1	
6	Ionic contribution to Rayleigh line wing under conditions of light scattering by liquid electrolytic solutions. <i>Journal of Experimental and Theoretical Physics</i> , 2001 , 92, 390-399	1	
5	Role of gas nanobubbles in nonlinear hyper-Raman scattering of light in water: publisher's note. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2020 , 37, 3729	1.7	
4	Characteristics of Protein Aggregation and Flotation in Water and Alcohol-Water Mixture. <i>Physics of Wave Phenomena</i> , 2020 , 28, 145-149	1.2	
3	The research of time dependence polymeric membrane swelling in water with various deuterium content. <i>Journal of Physics: Conference Series</i> , 2019 , 1348, 012035	0.3	
2	Photoluminescence Spectroscopy of an Aqueous Solution of Uranyl Chloride upon Laser and LED Excitation. <i>Physics of Wave Phenomena</i> , 2018 , 26, 301-305	1.2	
1	Fourier IR Spectroscopy Study of the Effects of Unsteadiness on the Process of Swelling of Polymeric Membranes. <i>Optics and Spectroscopy (English Translation of Optika I Spektroskopiya)</i> , 2021 , 129, 460-470	0.7	