Alexey V Shkirin

List of Publications by Year
in descending order

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60 papers	1,279 citations	393982 19 h-index	377514 34 g-index
62 all docs	62 docs citations	62 times ranked	719 citing authors

#	Article	IF	Citations
1	Submicrocavity Structure of Water between Hydrophobic and Hydrophilic Walls as Revealed by Optical Cavitation. Journal of Colloid and Interface Science, 1995, 173, 443-447.	5.0	127
2	Production and Use of Selenium Nanoparticles as Fertilizers. ACS Omega, 2020, 5, 17767-17774.	1.6	96
3	Formation and Dynamics of Ion-Stabilized Gas Nanobubble Phase in the Bulk of Aqueous NaCl Solutions. Journal of Physical Chemistry B, 2016, 120, 1291-1303.	1.2	79
4	Ion-Specific and Thermal Effects in the Stabilization of the Gas Nanobubble Phase in Bulk Aqueous Electrolyte Solutions. Langmuir, 2016, 32, 11245-11255.	1.6	78
5	Unmodified hydrated Đ¡60 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.	1.7	63
6	Structure of the nanobubble clusters of dissolved air in liquid media. Journal of Biological Physics, 2012, 38, 121-152.	0.7	54
7	Shaking-Induced Aggregation and Flotation in Immunoglobulin Dispersions: Differences between Water and Waterâ€“Ethanol Mixtures. ACS Omega, 2020, 5, 14689-14701.	1.6	54
8	Longâ€living nanobubbles of dissolved gas in aqueous solutions of salts and erythrocyte suspensions. Journal of Biophotonics, 2011, 4, 150-164.	1.1	51
9	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.	1.2	48
10	Nanobubble clusters of dissolved gas in aqueous solutions of electrolyte. I. Experimental proof. Journal of Chemical Physics, 2012, 137, 054706.	1.2	48
11	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.	1.7	38
12	Colloidal Crystal Formation at the â€œNafionâ€“Waterâ€•Interface. Journal of Physical Chemistry B, 2014, 118, 3372-3377.	1.2	34
13	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, 7743-7752.	1.2	33
14	Near-surface structure of Nafion in deuterated water. Journal of Chemical Physics, 2018, 149, 164901.	1.2	32
15	Bubston structure of water and aqueous solutions of electrolytes. Physics of Wave Phenomena, 2013, 21, 81-109.	0.3	26
16	Nanobubble clusters of dissolved gas in aqueous solutions of electrolyte. II. Theoretical interpretation. Journal of Chemical Physics, 2012, 137, 054707.	1.2	25
17	The Physical Nature of Mesoscopic Inhomogeneities in Highly Diluted Aqueous Suspensions of Protein Particles. Physics of Wave Phenomena, 2019, 27, 102-112.	0.3	24
18	Cluster structure of stable dissolved gas nanobubbles in highly purified water. Journal of Experimental and Theoretical Physics, 2009, 108, 800-816.	0.2	23

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19	Small-angle scattering of laser radiation by stable micron particles in twice-distilled water. Quantum Electronics, 2005, 35, 180-184.	0.3	19
20	Influence of Fluoropolymer Film Modified With Nanoscale Photoluminophor on Growth and Development of Plants. Frontiers in Physics, 2020, 8, .	1.0	19
21	Dynamics of Nafion membrane swelling in H2O/D2O mixtures as studied using FTIR technique. Journal of Chemical Physics, 2018, 148, 124901.	1.2	18
22	Identification of Organic Matter Dispersions Based on Light Scattering Matrices Focusing on Soil Organic Matter Management. ACS Omega, 2020, 5, 33214-33224.	1.6	18
23	Role of a dissolved gas in the optical breakdown of water. Quantum Electronics, 2006, 36, 117-124.	0.3	16
24	Laser scattering in water and aqueous solutions of salts. Proceedings of SPIE, 2010, , .	0.8	14
25	Study of the nanobubble phase of aqueous NaCl solutions by dynamic light scattering. Quantum Electronics, 2014, 44, 1022-1028.	0.3	14
26	Studies of spinodal decomposition in stratified solutions using laser methods. Physics-Uspekhi, 1997, 40, 1019-1034.	0.8	13
27	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.	1.1	13
28	Droplet-like heterogeneity of aqueous tetrahydrofuran solutions at the submicrometer scale. Journal of Chemical Physics, 2016, 145, 184501.	1.2	13
29	Effect of Gas Type and Its Pressure on Nanobubble Generation. Frontiers in Chemistry, 2021, 9, 630074.	1.8	13
30	Laser Diagnostics of the Mesoscale Heterogeneity of Aqueous Solutions of Polar Organic Compounds. Physics of Wave Phenomena, 2018, 26, 21-35.	0.3	12
31	Applications of Mueller Matrix Polarimetry to Biological and Agricultural Diagnostics: A Review. Applied Sciences (Switzerland), 2022, 12, 5258.	1.3	12
32	Cluster Structure of Dissolved Gas Nanobubbles in Ionic Aqueous Solutions. Journal of Chemical & Engineering Data, 2012, 57, 2823-2831.	1.0	11
33	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, 2888.	2.0	11
34	Study of nanostructure of highly purified water by measuring scattering matrix elements of laser radiation. Physics of Wave Phenomena, 2008, 16, 243-260.	0.3	10
35	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.	0.3	10
36	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.	0.2	10

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37	Calculations of light scattering matrices for stochastic ensembles of nanosphere clusters. Journal of Quantitative Spectroscopy and Radiative Transfer, 2013, 123, 23-29.	1.1	9
38	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.	0.3	8
39	Time dependence of the luminescence from a polymer membrane swollen in water: Concentration and isotopic effects. Physics of Wave Phenomena, 2017, 25, 259-271.	0.3	8
40	Acoustic properties of globular photonic crystals based on synthetic opals. Physics of Wave Phenomena, 2010, 18, 90-95.	0.3	7
41	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.	0.3	7
42	Mesodroplet Heterogeneity of Low-Concentration Aqueous Solutions of Polar Organic Compounds. Physics of Wave Phenomena, 2019, 27, 91-101.	0.3	7
43	Nafion Swelling in Salt Solutions in a Finite Sized Cell: Curious Phenomena Dependent on Sample Preparation Protocol. Polymers, 2022, 14, 1511.	2.0	7
44	Laser diagnostics of the Bubston phase in the bulk of aqueous salt solutions. Physics of Wave Phenomena, 2015, 23, 161-175.	0.3	6
45	Determination of the Disperse Composition of a PbO Suspension Containing Aggregates of Particles of Lamellar Shape by the Laser-Polarimetry Method. Optics and Spectroscopy (English Translation of) Tj ETQq1 1 0.784314 rgBT /Overlock	0.3	6
46	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.	0.3	5
47	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.	0.2	5
48	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.	0.3	4
49	Stochastic approach to the theory of stratification of water and aqueous solutions: A model of twinkling hydrogen bonds. Physics of Wave Phenomena, 2016, 24, 142-151.	0.3	4
50	Analysis of Fat and Protein Content in Milk Using Laser Polarimetric Scatterometry. Agriculture (Switzerland), 2021, 11, 1028.	1.4	4
51	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.	0.1	3
52	Laser Fluorescence and Extinction Methods for Measuring the Flow and Composition of Milk in a Milking Machine. Photonics, 2021, 8, 390.	0.9	3
53	Local light-induced phase separation of binary liquid solutions. Quantum Electronics, 1996, 26, 60-64.	0.3	2
54	Parametric interaction in deeply purified water in a high-power optical radiation field. Degassing effect. Quantum Electronics, 2007, 37, 804-812.	0.3	2

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55	Rheological Effects of Polymer Membrane Swelling in Water and Their Dependence on Isotopic Composition. Physics of Wave Phenomena, 2020, 28, 182-186.	0.3	2
56	Automated laser IR spectropolarimeter for surface Mueller matrix measurements. Instruments and Experimental Techniques, 2008, 51, 268-274.	0.1	1
57	Three-frequency thermal light scattering in electrolyte solutions. Quantum Electronics, 2002, 32, 135-139.	0.3	0
58	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.	0.2	0
59	Multiphoton optical breakdown in water under picosecond laser pulses. Physics of Wave Phenomena, 2009, 17, 32-38.	0.3	0
60	Characteristics of Protein Aggregation and Flotation in Water and Alcohol-Water Mixture. Physics of Wave Phenomena, 2020, 28, 145-149.	0.3	0