

Vladimir Privman

List of Publications by Year in descending order

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105
papers

3,801
citations

117453

34
h-index

133063

59
g-index

111
all docs

111
docs citations

111
times ranked

2680
citing authors

#	ARTICLE	IF	CITATIONS
1	Enzyme-based logic systems for information processing. <i>Chemical Society Reviews</i> , 2010, 39, 1835.	18.7	489
2	Mechanism of Formation of Monodispersed Colloids by Aggregation of Nanosize Precursors. <i>Journal of Colloid and Interface Science</i> , 1999, 213, 36-45.	5.0	373
3	Model of Formation of Monodispersed Colloids. <i>Journal of Physical Chemistry B</i> , 2001, 105, 11630-11635.	1.2	269
4	Optimization of Enzymatic Biochemical Logic for Noise Reduction and Scalability: How Many Biocomputing Gates Can Be Interconnected in a Circuit?. <i>Journal of Physical Chemistry B</i> , 2008, 112, 11777-11784.	1.2	107
5	Network Analysis of Biochemical Logic for Noise Reduction and Stability: A System of Three Coupled Enzymatic AND Gates. <i>Journal of Physical Chemistry B</i> , 2009, 113, 5301-5310.	1.2	105
6	Indirect Interaction of Solid-State Qubits via Two-Dimensional Electron Gas. <i>Physical Review Letters</i> , 2001, 86, 5112-5115.	2.9	103
7	Random sequential adsorption: from continuum to lattice and pre-patterned substrates. <i>Journal of Physics Condensed Matter</i> , 2007, 19, 065124.	0.7	98
8	Model of Nanocrystal Formation in Solution by Burst Nucleation and Diffusional Growth. <i>Langmuir</i> , 2008, 24, 26-35.	1.6	92
9	Model of Controlled Synthesis of Uniform Colloid Particles: Cadmium Sulfide. <i>Langmuir</i> , 2003, 19, 10679-10683.	1.6	84
10	Adiabatic Decoherence. <i>Journal of Statistical Physics</i> , 1998, 91, 787-799.	0.5	70
11	Semiclassical Monte Carlo model for in-plane transport of spin-polarized electrons in III-V heterostructures. <i>Journal of Applied Physics</i> , 2003, 94, 1769-1775.	1.1	65
12	Formation of monodispersed cadmium sulfide particles by aggregation of nanosize precursors. <i>Advances in Colloid and Interface Science</i> , 2003, 100-102, 169-183.	7.0	58
13	Decoherence of a measure of entanglement. <i>Physical Review A</i> , 2005, 71, .	1.0	56
14	Enzymatic AND Logic Gates Operated Under Conditions Characteristic of Biomedical Applications. <i>Journal of Physical Chemistry B</i> , 2010, 114, 12166-12174.	1.2	55
15	Enzyme-Based Logic: OR Gate with Double-Sigmoid Filter Response. <i>Journal of Physical Chemistry B</i> , 2012, 116, 9683-9689.	1.2	53
16	Short-time decoherence for general system-environment interactions. <i>Physical Review A</i> , 2004, 69, .	1.0	52
17	Enzymatic AND-gate based on electrode-immobilized glucose-6-phosphate dehydrogenase: Towards digital biosensors and biochemical logic systems with low noise. <i>Biosensors and Bioelectronics</i> , 2009, 25, 695-701.	5.3	52
18	Realization and Properties of Biochemical-Computing Biocatalytic XOR Gate Based on Signal Change. <i>Journal of Physical Chemistry B</i> , 2010, 114, 13601-13608.	1.2	52

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19	Analog Noise Reduction in Enzymatic Logic Gates. <i>Journal of Physical Chemistry B</i> , 2009, 113, 10472-10479.	1.2	49
20	Enzyme-Based Logic Analysis of Biomarkers at Physiological Concentrations: AND Gate with Double-Sigmoid "Filter" Response. <i>Journal of Physical Chemistry B</i> , 2012, 116, 4457-4464.	1.2	48
21	Biomolecular Filters for Improved Separation of Output Signals in Enzyme Logic Systems Applied to Biomedical Analysis. <i>Analytical Chemistry</i> , 2011, 83, 8383-8386.	3.2	47
22	Biochemical Filter with Sigmoidal Response: Increasing the Complexity of Biomolecular Logic. <i>Journal of Physical Chemistry B</i> , 2010, 114, 14103-14109.	1.2	46
23	A biochemical logic approach to biomarker-activated drug release. <i>Journal of Materials Chemistry</i> , 2012, 22, 19709.	6.7	46
24	Enzymatic AND Logic Gate with Sigmoid Response Induced by Photochemically Controlled Oxidation of the Output. <i>Journal of Physical Chemistry B</i> , 2013, 117, 7559-7568.	1.2	46
25	FINITE-SIZE SCALING THEORY. , 1990, , 1-98.		46
26	Networked Enzymatic Logic Gates with Filtering: New Theoretical Modeling Expressions and Their Experimental Application. <i>Journal of Physical Chemistry B</i> , 2013, 117, 14928-14939.	1.2	45
27	Predictive design of polymer molecular weight distributions in anionic polymerization. <i>Polymer Chemistry</i> , 2020, 11, 326-336.	1.9	45
28	Shape Selection in Diffusive Growth of Colloids and Nanoparticles. <i>Langmuir</i> , 2009, 25, 7940-7953.	1.6	42
29	Modularity of Biochemical Filtering for Inducing Sigmoid Response in Both Inputs in an Enzymatic AND Gate. <i>Journal of Physical Chemistry B</i> , 2013, 117, 9857-9865.	1.2	39
30	Locally frozen defects in random sequential adsorption with diffusional relaxation. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1993, 199, 527-538.	1.2	36
31	COLLECTIVE EFFECTS IN RANDOM SEQUENTIAL ADSORPTION OF DIFFUSING HARD SQUARES. <i>Modern Physics Letters B</i> , 1993, 07, 189-196.	1.0	36
32	Towards biochemical filters with a sigmoidal response to pH changes: buffered biocatalytic signal transduction. <i>Physical Chemistry Chemical Physics</i> , 2011, 13, 4507.	1.3	36
33	Control of Noise in Chemical and Biochemical Information Processing. <i>Israel Journal of Chemistry</i> , 2011, 51, 118-131.	1.0	36
34	Initial Decoherence of Open Quantum Systems. <i>Journal of Statistical Physics</i> , 2003, 110, 957-970.	0.5	34
35	Realization and Properties of Biochemical-Computing Biocatalytic XOR Gate Based on Enzyme Inhibition by a Substrate. <i>Journal of Physical Chemistry B</i> , 2011, 115, 9838-9845.	1.2	34
36	Exchange interaction, entanglement, and quantum noise due to a thermal bosonic field. <i>Physical Review B</i> , 2007, 75, .	1.1	33

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37	Mechanisms of Diffusional Nucleation of Nanocrystals and Their Self-Assembly into Uniform Colloids. <i>Annals of the New York Academy of Sciences</i> , 2009, 1161, 508-525.	1.8	32
38	A bioinspired associative memory system based on enzymatic cascades. <i>Chemical Communications</i> , 2013, 49, 6962.	2.2	30
39	Measures of decoherence. , 2003, , .		29
40	Models of synthesis of uniform colloids and nanocrystals. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2010, 43, 1-12.	1.3	29
41	Quantum computing with spin qubits in semiconductor structures. <i>Computer Physics Communications</i> , 2002, 146, 331-338.	3.0	27
42	Morphology of fine-particle monolayers deposited on nanopatterned substrates. <i>Physical Review E</i> , 2008, 77, 031603.	0.8	27
43	Synthesis of dispersed metal particles for applications in photovoltaics, catalysis, and electronics. <i>Journal of Solid State Electrochemistry</i> , 2013, 17, 279-297.	1.2	27
44	Biomolecular Release from Alginate-Modified Electrode Triggered by Chemical Inputs Processed through a Biocatalytic Cascade – Integration of Biomolecular Computing and Actuation. <i>Electroanalysis</i> , 2018, 30, 426-435.	1.5	27
45	Nuclear-spin qubit dephasing time in the integer quantum Hall effect regime. <i>Physical Review B</i> , 2001, 63, .	1.1	25
46	Kinetic Model for a Threshold Filter in an Enzymatic System for Bioanalytical and Biocomputing Applications. <i>Journal of Physical Chemistry B</i> , 2014, 118, 12435-12443.	1.2	24
47	SHORT-TIME DECOHERENCE AND DEVIATION FROM PURE QUANTUM STATES. <i>Modern Physics Letters B</i> , 2002, 16, 459-465.	1.0	23
48	Additivity of decoherence measures for multiqubit quantum systems. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2004, 328, 87-93.	0.9	23
49	Morphology of Nanoclusters and Nanopillars Formed in Nonequilibrium Surface Growth for Catalysis Applications. <i>Langmuir</i> , 2011, 27, 8554-8561.	1.6	23
50	Design of Digital Response in Enzyme-Based Bioanalytical Systems for Information Processing Applications. <i>Journal of Physical Chemistry B</i> , 2012, 116, 13690-13695.	1.2	23
51	Monte Carlo modeling of spin FETs controlled by spin-orbit interaction. <i>Mathematics and Computers in Simulation</i> , 2004, 65, 351-363.	2.4	22
52	Glucose-Triggered Insulin Release from Fe ³⁺ -Cross-Linked Alginate Hydrogel: Experimental Study and Theoretical Modeling. <i>ChemPhysChem</i> , 2017, 18, 1541-1551.	1.0	22
53	Kinetic Monte Carlo model of breakup of nanowires into chains of nanoparticles. <i>Journal of Applied Physics</i> , 2017, 122, .	1.1	22
54	Diffusional growth of colloids. <i>Journal of Chemical Physics</i> , 1999, 110, 9254-9258.	1.2	21

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55	Computational model for the formation of uniform silver spheres by aggregation of nanosize precursors. <i>Journal of Chemical Physics</i> , 2008, 129, 184705.	1.2	18
56	Recent Theoretical Results for Nonequilibrium Deposition of Submicron Particles. <i>Journal of Adhesion</i> , 2000, 74, 421-440.	1.8	16
57	Learning through play. <i>Nature Nanotechnology</i> , 2010, 5, 767-768.	15.6	16
58	Error-Control and Digitalization Concepts for Chemical and Biomolecular Information Processing Systems. <i>Journal of Computational and Theoretical Nanoscience</i> , 2011, 8, 490-502.	0.4	16
59	Realization of Associative Memory in an Enzymatic Process: Toward Biomolecular Networks with Learning and Unlearning Functionalities. <i>Journal of Physical Chemistry Letters</i> , 2012, 3, 1234-1237.	2.1	16
60	Diffusion of Oligonucleotides from within Iron-Cross-Linked, Polyelectrolyte-Modified Alginate Beads: A Model System for Drug Release. <i>ChemPhysChem</i> , 2016, 17, 976-984.	1.0	15
61	Coherent interaction of spins induced by thermal bosonic environment. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2006, 359, 81-85.	0.9	13
62	Percolation modeling of conductance of self-healing composites. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2007, 385, 543-550.	1.2	13
63	Three-dimensional percolation modeling of self-healing composites. <i>Physical Review E</i> , 2008, 78, 021104.	0.8	13
64	Formation of nanoclusters and nanopillars in nonequilibrium surface growth for catalysis applications: growth by diffusional transport of matter in solution synthesis. <i>Heat and Mass Transfer</i> , 2014, 50, 383-392.	1.2	13
65	Modeling of Growth Morphology of Core-Shell Nanoparticles. <i>Journal of Physical Chemistry C</i> , 2014, 118, 24959-24966.	1.5	13
66	MEASUREMENT OF A QUANTUM SYSTEM COUPLED TO INDEPENDENT HEAT-BATH AND POINTER MODES. <i>Modern Physics Letters B</i> , 2000, 14, 303-312.	1.0	12
67	Nonequilibrium kinetic modeling of sintering of a layer of dispersed nanocrystals. <i>CrystEngComm</i> , 2014, 16, 10395-10409.	1.3	11
68	Can bio-inspired information processing steps be realized as synthetic biochemical processes?. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2015, 212, 219-228.	0.8	11
69	Mechanisms of interparticle bridging in sintering of dispersed nanoparticles. <i>Journal of Coupled Systems and Multiscale Dynamics</i> , 2014, 2, 91-99.	0.2	11
70	Experimental Realization of a High-Quality Biochemical XOR Gate. <i>ChemPhysChem</i> , 2017, 18, 2908-2915.	1.0	10
71	Kinetics modeling of nanoparticle growth on and evaporation off nanotubes. <i>Journal of Applied Physics</i> , 2017, 121, .	1.1	9
72	EVALUATION OF DECOHERENCE FOR QUANTUM COMPUTING ARCHITECTURES: QUBIT SYSTEM SUBJECT TO TIME-DEPENDENT CONTROL. <i>International Journal of Modern Physics B</i> , 2006, 20, 1476-1495.	1.0	8

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73	SIRT6 knockout cells resist apoptosis initiation but not progression: a computational method to evaluate the progression of apoptosis. Apoptosis: an International Journal on Programmed Cell Death, 2017, 22, 1336-1343.	2.2	8
74	Exact Solutions of Low-Dimensional Reaction-Diffusion Systems. International Journal of Modern Physics B, 1997, 11, 109-114.	1.0	7
75	Onset of decoherence in open quantum systems. , 2003, , .		7
76	Nonequilibrium kinetic study of sintering of dispersed nanoparticles. CrystEngComm, 2013, 15, 7177.	1.3	7
77	Extended Linear Response for Bioanalytical Applications Using Multiple Enzymes. Analytical Chemistry, 2013, 85, 2027-2031.	3.2	7
78	Lattice percolation approach to 3D modeling of tissue aging. Physica A: Statistical Mechanics and Its Applications, 2016, 462, 207-216.	1.2	7
79	Promises and Challenges in Continuous Tracking Utilizing Amino Acids in Skin Secretions for Active Multi-Factor Biometric Authentication for Cybersecurity. ChemPhysChem, 2017, 18, 1714-1720.	1.0	7
80	Percolation modeling of self-damaging of composite materials. Physica A: Statistical Mechanics and Its Applications, 2014, 405, 1-9.	1.2	6
81	Random sequential adsorption on imprecise lattice. Journal of Chemical Physics, 2016, 144, 244704.	1.2	6
82	Nonstandard convergence to jamming in random sequential adsorption: The case of patterned one-dimensional substrates. Physica A: Statistical Mechanics and Its Applications, 2018, 491, 560-573.	1.2	6
83	EXACT RESULTS FOR 1D CONSERVED ORDER PARAMETER MODEL. Modern Physics Letters B, 1994, 08, 143-147.	1.0	5
84	Quantum dynamics of spins coupled by electrons in a one-dimensional channel. Physical Review B, 2005, 72, .	1.1	5
85	Design of Flow Systems for Improved Networking and Reduced Noise in Biomolecular Signal Processing in Biocomputing and Biosensing Applications. Sensors, 2016, 16, 1042.	2.1	5
86	Lattice percolation approach to numerical modelling of tissue aging. International Journal of Parallel, Emergent and Distributed Systems, 2016, 31, 1-19.	0.7	5
87	Quantitative Treatment of Decoherence. Topics in Applied Physics, 2009, , 141-167.	0.4	4
88	SECOND-ORDER DYNAMICS IN THE COLLECTIVE EVOLUTION OF COUPLED MAPS AND AUTOMATA. Modern Physics Letters B, 1992, 06, 1835-1841.	1.0	3
89	EXACT SOLUTION OF AN IRREVERSIBLE ONE-DIMENSIONAL MODEL WITH FULLY BIASED SPIN EXCHANGES. International Journal of Modern Physics B, 1996, 10, 3451-3459.	1.0	3
90	Optimization of Enzymatic Logic Gates and Networks for Noise Reduction and Stability. , 2009, , .		3

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91	Design of High Quality Chemical XOR Gates with Noise Reduction. ChemPhysChem, 2017, 18, 1773-1781.	1.0	3
92	FINITE-RANGE SCALING IN THE KAC MODEL. Modern Physics Letters B, 1991, 05, 1031-1036.	1.0	2
93	LONGITUDINAL CORRELATION LENGTH IN DIRECTED PERCOLATION AND RELATED MODELS: A POSSIBLE NEW SCALING MECHANISM. Modern Physics Letters B, 1991, 05, 555-559.	1.0	2
94	Design of Gates for Quantum Computation: The NOT Gate. International Journal of Modern Physics B, 1997, 11, 2207-2215.	1.0	2
95	Design of Gates for Quantum Computation: The Three-Spin XOR Gate in Terms of Two-Spin Interactions. International Journal of Modern Physics B, 1998, 12, 591-600.	1.0	2
96	Synthesis of Silver Colloids: Experiment and Computational Model. , 2009, , .		2
97	Theoretical modeling expressions for networked enzymatic signal processing steps as logic gates optimized by filtering. International Journal of Parallel, Emergent and Distributed Systems, 2017, 32, 30-43.	0.7	2
98	Modeling and Modifying Response of Biochemical Processes for Biocomputing and Biosensing Signal Processing. Emergence, Complexity and Computation, 2017, , 61-83.	0.2	2
99	DYNAMICS OF NONEQUILIBRIUM DEPOSITION WITH DIFFUSIONAL RELAXATION. , 1995, , 177-193.		2
100	Quantum Signal Splitting that Avoids Initialization of the Targets. Modern Physics Letters B, 1997, 11, 1277-1283.	1.0	1
101	Onset of Entanglement and Noise Cross-Correlations in Two-Qubit System Interacting with Common Bosonic Bath. , 2006, , .		1
102	Diffusion of Oligonucleotides from within Ironâ€Crossâ€Linked, Polyelectrolyteâ€Modified Alginate Beads: A Model System for Drug Release. ChemPhysChem, 2016, 17, 926-926.	1.0	1
103	Rate-equation modelling and ensemble approach to extraction of parameters for viral infection-induced cell apoptosis and necrosis. Journal of Chemical Physics, 2016, 145, 094103.	1.2	1
104	Models of Size and Shape Control in Synthesis of Uniform Colloids and Nanocrystals. , 2012, , 1-24.		0
105	Vladimir Privman. International Journal of Parallel, Emergent and Distributed Systems, 2017, 32, 157-158.	0.7	0