Vladimir Privman

List of Publications by Year
in descending order

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	Predictive design of polymer molecular weight distributions in anionic polymerization. Polymer Chemistry, 2020, 11, 326-336.	1.9	45
2	Biomolecular Release from Alginate‐modified Electrode Triggered by Chemical Inputs Processed through a Biocatalytic Cascade – Integration of Biomolecular Computing and Actuation. Electroanalysis, 2018, 30, 426-435.	1.5	27
3	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
4	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
5	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
6	Design of High Quality Chemical XOR Gates with Noise Reduction. ChemPhysChem, 2017, 18, 1773-1781.	1.0	3
7	Glucose‐Triggered Insulin Release from Fe^{3+}‐Cross‐linked Alginate Hydrogel: Experimental Study and Theoretical Modeling. ChemPhysChem, 2017, 18, 1541-1551.	1.0	22
8	Kinetics modeling of nanoparticle growth on and evaporation off nanotubes. Journal of Applied Physics, 2017, 121, .	1.1	9
9	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
10	Vladimir Privman. International Journal of Parallel, Emergent and Distributed Systems, 2017, 32, 157-158.	0.7	0
11	Kinetic Monte Carlo model of breakup of nanowires into chains of nanoparticles. Journal of Applied Physics, 2017, 122, .	1.1	22
12	Experimental Realization of a High‐Quality Biochemical XOR Gate. ChemPhysChem, 2017, 18, 2908-2915.	1.0	10
13	Modeling and Modifying Response of Biochemical Processes for Biocomputing and Biosensing Signal Processing. Emergence, Complexity and Computation, 2017, , 61-83.	0.2	2
14	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
15	Diffusion of Oligonucleotides from within Iron‐Cross‐Linked, Polyelectrolyte‐Modified Alginate Beads: A Model System for Drug Release. ChemPhysChem, 2016, 17, 926-926.	1.0	1
16	Random sequential adsorption on imprecise lattice. Journal of Chemical Physics, 2016, 144, 244704.	1.2	6
17	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
18	Lattice percolation approach to 3D modeling of tissue aging. Physica A: Statistical Mechanics and Its Applications, 2016, 462, 207-216.	1.2	7

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19	Diffusion of Oligonucleotides from within Iron–Cross–Linked, Polyelectrolyte–Modified Alginate Beads: A Model System for Drug Release. ChemPhysChem, 2016, 17, 976-984.	1.0	15
20	Lattice percolation approach to numerical modelling of tissue aging. International Journal of Parallel, Emergent and Distributed Systems, 2016, 31, 1-19.	0.7	5
21	Can bio-inspired information processing steps be realized as synthetic biochemical processes?. Physica Status Solidi (A) Applications and Materials Science, 2015, 212, 219-228.	0.8	11
22	Formation of nanoclusters and nanopillars in nonequilibrium surface growth for catalysis applications: growth by diffusional transport of matter in solution synthesis. Heat and Mass Transfer, 2014, 50, 383-392.	1.2	13
23	Nonequilibrium kinetic modeling of sintering of a layer of dispersed nanocrystals. CrystEngComm, 2014, 16, 10395-10409.	1.3	11
24	Modeling of Growth Morphology of Core–Shell Nanoparticles. Journal of Physical Chemistry C, 2014, 118, 24959-24966.	1.5	13
25	Kinetic Model for a Threshold Filter in an Enzymatic System for Bioanalytical and Biocomputing Applications. Journal of Physical Chemistry B, 2014, 118, 12435-12443.	1.2	24
26	Percolation modeling of self-damaging of composite materials. Physica A: Statistical Mechanics and Its Applications, 2014, 405, 1-9.	1.2	6
27	Mechanisms of interparticle bridging in sintering of dispersed nanoparticles. Journal of Coupled Systems and Multiscale Dynamics, 2014, 2, 91-99.	0.2	11
28	A bioinspired associative memory system based on enzymatic cascades. Chemical Communications, 2013, 49, 6962.	2.2	30
29	Nonequilibrium kinetic study of sintering of dispersed nanoparticles. CrystEngComm, 2013, 15, 7177.	1.3	7
30	Networked Enzymatic Logic Gates with Filtering: New Theoretical Modeling Expressions and Their Experimental Application. Journal of Physical Chemistry B, 2013, 117, 14928-14939.	1.2	45
31	Synthesis of dispersed metal particles for applications in photovoltaics, catalysis, and electronics. Journal of Solid State Electrochemistry, 2013, 17, 279-297.	1.2	27
32	Extended Linear Response for Bioanalytical Applications Using Multiple Enzymes. Analytical Chemistry, 2013, 85, 2027-2031.	3.2	7
33	Enzymatic AND Logic Gate with Sigmoid Response Induced by Photochemically Controlled Oxidation of the Output. Journal of Physical Chemistry B, 2013, 117, 7559-7568.	1.2	46
34	Modularity of Biochemical Filtering for Inducing Sigmoid Response in Both Inputs in an Enzymatic AND Gate. Journal of Physical Chemistry B, 2013, 117, 9857-9865.	1.2	39
35	Enzyme-Based Logic Analysis of Biomarkers at Physiological Concentrations: AND Gate with Double-Sigmoid "Filter" Response. Journal of Physical Chemistry B, 2012, 116, 4457-4464.	1.2	48
36	Enzyme-Based Logic: OR Gate with Double-Sigmoid Filter Response. Journal of Physical Chemistry B, 2012, 116, 9683-9689.	1.2	53

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37	Design of Digital Response in Enzyme-Based Bioanalytical Systems for Information Processing Applications. Journal of Physical Chemistry B, 2012, 116, 13690-13695.	1.2	23
38	A biochemical logic approach to biomarker-activated drug release. Journal of Materials Chemistry, 2012, 22, 19709.	6.7	46
39	Realization of Associative Memory in an Enzymatic Process: Toward Biomolecular Networks with Learning and Unlearning Functionalities. Journal of Physical Chemistry Letters, 2012, 3, 1234-1237.	2.1	16
40	Models of Size and Shape Control in Synthesis of Uniform Colloids and Nanocrystals. , 2012, , 1-24.		0
41	Realization and Properties of Biochemical-Computing Biocatalytic XOR Gate Based on Enzyme Inhibition by a Substrate. Journal of Physical Chemistry B, 2011, 115, 9838-9845.	1.2	34
42	Towards biochemical filters with a sigmoidal response to pH changes: buffered biocatalytic signal transduction. Physical Chemistry Chemical Physics, 2011, 13, 4507.	1.3	36
43	Biomolecular Filters for Improved Separation of Output Signals in Enzyme Logic Systems Applied to Biomedical Analysis. Analytical Chemistry, 2011, 83, 8383-8386.	3.2	47
44	Morphology of Nanoclusters and Nanopillars Formed in Nonequilibrium Surface Growth for Catalysis Applications. Langmuir, 2011, 27, 8554-8561.	1.6	23
45	Error-Control and Digitalization Concepts for Chemical and Biomolecular Information Processing Systems. Journal of Computational and Theoretical Nanoscience, 2011, 8, 490-502.	0.4	16
46	Control of Noise in Chemical and Biochemical Information Processing. Israel Journal of Chemistry, 2011, 51, 118-131.	1.0	36
47	Models of synthesis of uniform colloids and nanocrystals. Physica E: Low-Dimensional Systems and Nanostructures, 2010, 43, 1-12.	1.3	29
48	Learning through play. Nature Nanotechnology, 2010, 5, 767-768.	15.6	16
49	Realization and Properties of Biochemical-Computing Biocatalytic XOR Gate Based on Signal Change. Journal of Physical Chemistry B, 2010, 114, 13601-13608.	1.2	52
50	Biochemical Filter with Sigmoidal Response: Increasing the Complexity of Biomolecular Logic. Journal of Physical Chemistry B, 2010, 114, 14103-14109.	1.2	46
51	Enzymatic AND Logic Gates Operated Under Conditions Characteristic of Biomedical Applications. Journal of Physical Chemistry B, 2010, 114, 12166-12174.	1.2	55
52	Enzyme-based logic systems for information processing. Chemical Society Reviews, 2010, 39, 1835.	18.7	489
53	Mechanisms of Diffusional Nucleation of Nanocrystals and Their Selfâ€Assembly into Uniform Colloids. Annals of the New York Academy of Sciences, 2009, 1161, 508-525.	1.8	32
54	Enzymatic AND-gate based on electrode-immobilized glucose-6-phosphate dehydrogenase: Towards digital biosensors and biochemical logic systems with low noise. Biosensors and Bioelectronics, 2009, 25, 695-701.	5.3	52

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55	Network Analysis of Biochemical Logic for Noise Reduction and Stability: A System of Three Coupled Enzymatic AND Gates. Journal of Physical Chemistry B, 2009, 113, 5301-5310.	1.2	105
56	Analog Noise Reduction in Enzymatic Logic Gates. Journal of Physical Chemistry B, 2009, 113, 10472-10479.	1.2	49
57	Optimization of Enzymatic Logic Gates and Networks for Noise Reduction and Stability. , 2009, , .		3
58	Shape Selection in Diffusive Growth of Colloids and Nanoparticles. Langmuir, 2009, 25, 7940-7953.	1.6	42
59	Synthesis of Silver Colloids: Experiment and Computational Model. , 2009, , .		2
60	Quantitative Treatment of Decoherence. Topics in Applied Physics, 2009, , 141-167.	0.4	4
61	Optimization of Enzymatic Biochemical Logic for Noise Reduction and Scalability: How Many Biocomputing Gates Can Be Interconnected in a Circuit?. Journal of Physical Chemistry B, 2008, 112, 11777-11784.	1.2	107
62	Model of Nanocrystal Formation in Solution by Burst Nucleation and Diffusional Growth. Langmuir, 2008, 24, 26-35.	1.6	92
63	Computational model for the formation of uniform silver spheres by aggregation of nanosize precursors. Journal of Chemical Physics, 2008, 129, 184705.	1.2	18
64	Three-dimensional percolation modeling of self-healing composites. Physical Review E, 2008, 78, 021104.	0.8	13
65	Morphology of fine-particle monolayers deposited on nanopatterned substrates. Physical Review E, 2008, 77, 031603.	0.8	27
66	Random sequential adsorption: from continuum to lattice and pre-patterned substrates. Journal of Physics Condensed Matter, 2007, 19, 065124.	0.7	98
67	Exchange interaction, entanglement, and quantum noise due to a thermal bosonic field. Physical Review B, 2007, 75, .	1.1	33
68	Percolation modeling of conductance of self-healing composites. Physica A: Statistical Mechanics and Its Applications, 2007, 385, 543-550.	1.2	13
69	EVALUATION OF DECOHERENCE FOR QUANTUM COMPUTING ARCHITECTURES: QUBIT SYSTEM SUBJECT TO TIME-DEPENDENT CONTROL. International Journal of Modern Physics B, 2006, 20, 1476-1495.	1.0	8
70	Coherent interaction of spins induced by thermal bosonic environment. Physics Letters, Section A: General, Atomic and Solid State Physics, 2006, 359, 81-85.	0.9	13
71	Onset of Entanglement and Noise Cross-Correlations in Two-Qubit System Interacting with Common Bosonic Bath. , 2006, , .		1
72	Quantum dynamics of spins coupled by electrons in a one-dimensional channel. Physical Review B, 2005, 72, .	1.1	5

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73	Decoherence of a measure of entanglement. Physical Review A, 2005, 71, .	1.0	56
74	Short-time decoherence for general system-environment interactions. Physical Review A, 2004, 69, .	1.0	52
75	Additivity of decoherence measures for multiqubit quantum systems. Physics Letters, Section A: General, Atomic and Solid State Physics, 2004, 328, 87-93.	0.9	23
76	Monte Carlo modeling of spin FETs controlled by spin–orbit interaction. Mathematics and Computers in Simulation, 2004, 65, 351-363.	2.4	22
77	Initial Decoherence of Open Quantum Systems. Journal of Statistical Physics, 2003, 110, 957-970.	0.5	34
78	Formation of monodispersed cadmium sulfide particles by aggregation of nanosize precursors. Advances in Colloid and Interface Science, 2003, 100-102, 169-183.	7.0	58
79	Model of Controlled Synthesis of Uniform Colloid Particles: Cadmium Sulfide. Langmuir, 2003, 19, 10679-10683.	1.6	84
80	Semiclassical Monte Carlo model for in-plane transport of spin-polarized electrons in III–V heterostructures. Journal of Applied Physics, 2003, 94, 1769-1775.	1.1	65
81	Onset of decoherence in open quantum systems. , 2003, , .		7
82	Measures of decoherence. , 2003, , .		29
83	SHORT-TIME DECOHERENCE AND DEVIATION FROM PURE QUANTUM STATES. Modern Physics Letters B, 2002, 16, 459-465.	1.0	23
84	Quantum computing with spin qubits in semiconductor structures. Computer Physics Communications, 2002, 146, 331-338.	3.0	27
85	Model of Formation of Monodispersed Colloids. Journal of Physical Chemistry B, 2001, 105, 11630-11635.	1.2	269
86	Nuclear-spin qubit dephasing time in the integer quantum Hall effect regime. Physical Review B, 2001, 63, .	1.1	25
87	Indirect Interaction of Solid-State Qubits via Two-Dimensional Electron Gas. Physical Review Letters, 2001, 86, 5112-5115.	2.9	103
88	MEASUREMENT OF A QUANTUM SYSTEM COUPLED TO INDEPENDENT HEAT-BATH AND POINTER MODES. Modern Physics Letters B, 2000, 14, 303-312.	1.0	12
89	Recent Theoretical Results for Nonequilibrium Deposition of Submicron Particles. Journal of Adhesion, 2000, 74, 421-440.	1.8	16
90	Mechanism of Formation of Monodispersed Colloids by Aggregation of Nanosize Precursors. Journal of Colloid and Interface Science, 1999, 213, 36-45.	5.0	373

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91	Diffusional growth of colloids. Journal of Chemical Physics, 1999, 110, 9254-9258.	1.2	21
92	Adiabatic Decoherence. Journal of Statistical Physics, 1998, 91, 787-799.	0.5	70
93	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
94	Design of Gates for Quantum Computation: The NOT Gate. International Journal of Modern Physics B, 1997, 11, 2207-2215.	1.0	2
95	Quantum Signal Splitting that Avoids Initialization of the Targets. Modern Physics Letters B, 1997, 11, 1277-1283.	1.0	1
96	Exact Solutions of Low-Dimensional Reaction-Diffusion Systems. International Journal of Modern Physics B, 1997, 11, 109-114.	1.0	7
97	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
98	DYNAMICS OF NONEQUILIBRIUM DEPOSITION WITH DIFFUSIONAL RELAXATION. , 1995, , 177-193.		2
99	EXACT RESULTS FOR 1D CONSERVED ORDER PARAMETER MODEL. Modern Physics Letters B, 1994, 08, 143-147.	1.0	5
100	Locally frozen defects in random sequential adsorption with diffusional relaxation. Physica A: Statistical Mechanics and Its Applications, 1993, 199, 527-538.	1.2	36
101	COLLECTIVE EFFECTS IN RANDOM SEQUENTIAL ADSORPTION OF DIFFUSING HARD SQUARES. Modern Physics Letters B, 1993, 07, 189-196.	1.0	36
102	SECOND-ORDER DYNAMICS IN THE COLLECTIVE EVOLUTION OF COUPLED MAPS AND AUTOMATA. Modern Physics Letters B, 1992, 06, 1835-1841.	1.0	3
103	FINITE-RANGE SCALING IN THE KAC MODEL. Modern Physics Letters B, 1991, 05, 1031-1036.	1.0	2
104	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
105	FINITE-SIZE SCALING THEORY. , 1990, , 1-98.		46