Vladimir Chernyak

List of Publications by Year
in descending order

100	5,150	94433	85541
papers	citations	37 h-index	71 g-index

103	103	103	2769
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Stochastic equation of motion approach to fermionic dissipative dynamics. I. Formalism. Journal of Chemical Physics, 2020, 152, 204105.	3.0	13
2	Stochastic equation of motion approach to fermionic dissipative dynamics. II. Numerical implementation. Journal of Chemical Physics, 2020, 152, 204106.	3.0	12
3	Stochastic Representation of Non-Markovian Fermionic Quantum Dissipation. Physical Review Letters, 2019, 123, 050601.	7.8	14
4	Solvent effects and charge transfer states in organic photovoltaics: a time-dependent density functional theory study on the PCPDTBT:PCBM low band gap system. Journal of Photonics for Energy, 2018, 8, 1.	1.3	1
5	Ensemble of Thermostatically Controlled Loads: Statistical Physics Approach. Scientific Reports, 2017, 7, 8673.	3.3	17
6	Utilizing Microcavities To Suppress Third-Order Cascades in Fifth-Order Raman Spectra. Journal of Physical Chemistry Letters, 2017, 8, 3387-3391.	4.6	6
7	Symmetry and the critical phase of the two-bath spin-boson model: Ground-state properties. Physical Review B, 2015, 91, .	3.2	25
8	Polaron dynamics with a multitude of Davydov D2 trial states. Journal of Chemical Physics, 2015, 143, 014113.	3.0	63
9	Ground-state properties of sub-Ohmic spin-boson model with simultaneous diagonal and off-diagonal coupling. Physical Review B, 2014, 90, .	3.2	27
10	Communication: Spin-boson model with diagonal and off-diagonal coupling to two independent baths: Ground-state phase transition in the deep sub-Ohmic regime. Journal of Chemical Physics, 2014, 140, 161105.	3.0	13
11	Disorder Influenced Absorption Line Shapes of a Chromophore Coupled to Two-Level Systems. Journal of Physical Chemistry A, 2013, 117, 12320-12331.	2.5	2
12	Disorder and spectral line shapes in two-level systems. Chemical Physics Letters, 2013, 582, 66-70.	2.6	1
13	Nonadiabatic excited-state molecular dynamics: Numerical tests of convergence and parameters. Journal of Chemical Physics, 2012, 136, 054108.	3.0	84
14	Nonadiabatic Excited-State Molecular Dynamics Modeling of Photoinduced Dynamics in Conjugated Molecules. Journal of Physical Chemistry B, 2011, 115, 5402-5414.	2.6	172
15	Lanczos Algorithm for Electron Transfer Rates in Solvents with Complex Spectral Densities. Advances in Chemical Physics, 2007, , 515-551.	0.3	1
16	Coherence and correlations in multitime quantum measurements of stochastic quantum trajectories. Physical Review E, 2006, 73, 036119.	2.1	13
17	Exciton sizes of conducting polymers predicted by time-dependent density functional theory. Physical Review B, 2005, 71, .	3.2	192
18	Semiclassical Scattering on Conical Intersections. Physical Review Letters, 2005, 95, 223001.	7.8	17

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19	Effect of Quantum Collapse on the Distribution of Work in Driven Single Molecules. Physical Review Letters, 2004, 93, 048302.	7.8	41
20	Extreme outages caused by polarization mode dispersion. Optics Letters, 2003, 28, 2159.	3.3	2
21	Compensation for extreme outages caused by polarization mode dispersion and amplifier noise. Optics Express, 2003, 11, 1607.	3.4	4
22	Mechanical response functions of finite-temperature Bose-Einstein condensates. Physical Review A, 2003, 67, .	2.5	2
23	Multitime correlation functions for single molecule kinetics with fluctuating bottlenecks. Journal of Chemical Physics, 2002, 116, 4240-4251.	3.0	49
24	Quantum quadratic brownian oscillator model for absorption lineshapes. Israel Journal of Chemistry, 2002, 42, 143-149.	2.3	3
25	Geometric picture for coupled electron-nuclear dynamics. International Journal of Quantum Chemistry, 2002, 90, 799-811.	2.0	1
26	Collective Electronic Oscillators for Second-Order Polarizabilities of Pushâ^'Pull Carotenoids. Journal of Physical Chemistry A, 2001, 105, 5692-5703.	2.5	18
27	Excited-State Molecular Dynamics Simulations of Conjugated Oligomers Using the Electronic Density Matrix. Journal of Physical Chemistry A, 2001, 105, 7057-7071.	2.5	7
28	Vibrational-exciton relaxation probed by three-pulse echoes in polypeptides. Chemical Physics, 2001, 266, 285-294.	1.9	29
29	Two-dimensional correlation spectroscopies of localized vibrations. Chemical Physics, 2001, 266, 311-322.	1.9	25
30	Quadratic Brownian-oscillator model for solvation dynamics in optical response. Journal of Chemical Physics, 2001, 114, 10430-10435.	3.0	14
31	Time-resolved x-ray spectroscopies:â€ƒNonlinear response functions and Liouville-space pathways. Physical Review A, 2001, 63, .	2.5	88
32	Simulations of energy funneling and time- and frequency-gated fluorescence in dendrimers. Journal of Chemical Physics, 2001, 114, 2419-2429.	3.0	62
33	Molecular Dynamics Simulations of Collective Electronic and Nuclear Modes in Conjugated Systems. Springer Series in Chemical Physics, 2001, , 595-597.	0.2	0
34	Energy funneling in the dendrimeric nanostar probed by time-resolved nonlinear spectroscopies. Springer Series in Chemical Physics, 2001, , 610-612.	0.2	0
35	Two-Dimensional Coherent Infrared Spectroscopy of Vibrational Excitons in Polypeptides. , 2001, , .		0
36	Optical Absorption of Long Range Electron Transfer Systems in Intense Fields. Journal of the Chinese Chemical Society, 2000, 47, 615-623.	1.4	3

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37	Simulations of two-dimensional femtosecond infrared photon echoes of glycine dipeptide. Journal of Raman Spectroscopy, 2000, 31, 125-135.	2.5	67
38	Electronic versus vibrational optical nonlinearities of push-pull polymers. Chemical Physics Letters, 2000, 319, 261-264.	2.6	23
39	Coherent-state representation of reduced density matrices of correlated electronic systems. Chemical Physics Letters, 2000, 327, 29-37.	2.6	3
40	Frenkel-exciton Hamiltonian for dendrimeric nanostar. Journal of Luminescence, 2000, 87-89, 115-118.	3.1	41
41	Two-dimensional infrared femtosecond spectroscopy of cyclic pentapeptides. AIP Conference Proceedings, 2000, , .	0.4	0
42	Excitonic Funneling in Extended Dendrimers with Nonlinear and Random Potentials. Physical Review Letters, 2000, 85, 282-285.	7.8	37
43	Density-matrix representation of nonadiabatic couplings in time-dependent density functional (TDDFT) theories. Journal of Chemical Physics, 2000, 112, 3572-3579.	3.0	183
44	Krylov-space algorithms for time-dependent Hartreeâ€“Fock and density functional computations. Journal of Chemical Physics, 2000, 113, 36-43.	3.0	79
45	Exciton transport in molecular aggregates probed by time and frequency gated optical spectroscopy. Journal of Chemical Physics, 2000, 112, 7953-7963.	3.0	36
46	Exciton Hamiltonian for the Bacteriochlorophyll System in the LH2 Antenna Complex of Purple Bacteria. Journal of Physical Chemistry B, 2000, 104, 4519-4528.	2.6	114
47	Exciton-Wave Packet Dynamics in Molecular Aggregates Studied with Pumpâ^'Probe Spectroscopyâ€. Journal of Physical Chemistry B, 2000, 104, 3976-3983.	2.6	24
48	Size Scaling of Third-Order Off-Resonant Polarizabilities. Electronic Coherence in Organic Oligomers. Journal of the American Chemical Society, 2000, 122, 452-459.	13.7	91
49	Through-Space Charge Transfer and Nonlinear Optical Properties of Substituted Paracyclophane. Journal of the American Chemical Society, 2000, 122, 11956-11962.	13.7	207
50	Off-Resonant Electronic and Vibrational Molecular Polarizabilities. Time-Dependent Collective-Oscillator Expansion. Journal of Physical Chemistry A, 2000, 104, 4263-4271.	2.5	4
51	Bacteriochlorophyll and Carotenoid Excitonic Couplings in the LH2 System of Purple Bacteria. Journal of Physical Chemistry B, 2000, 104, 9540-9553.	2.6	127
52	LOCALIZED AND DELOCALIZED ELECTRONIC EXCITATIONS IN BIOLOGICAL AND ARTIFICIAL ANTENNA COMPLEXES. , 2000, , .		2
53	Molecular Dynamics Simulations of Collective Electronic and Nuclear Modes in Conjugated Systems. , 2000, , .		0
54	Ultrafast nonlinear spectroscopy of energy funneling in the dendrimeric nanostar. , 2000, , .		0

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55	Origin, Scaling, and Saturation of Nonlinear Polarizabilities in Donor/Acceptor Polymers. , 2000, , .		0
56	Complete Determination of Relaxation Parameters From Two-Dimensional Raman Spectroscopy. Laser Chemistry, 1999, 19, 109-116.	0.5	10
57	Two-exciton states and spectroscopy of phenylacetylene dendrimers. Journal of Chemical Physics, 1999, 111, 4158-4168.	3.0	32
58	Stochastic-trajectories and nonPoisson kinetics in single-molecule spectroscopy. Journal of Chemical Physics, 1999, 111, 7416-7425.	3.0	33
59	Exciton-scaling and optical excitations of self-similar phenylacetylene dendrimers. Journal of Chemical Physics, 1999, 110, 8161-8175.	3.0	90
60	Bosonized squeezed-state coupled-cluster approach to electron correlations in nonlinear spectroscopy. Journal of Chemical Physics, 1999, 111, 4383-4396.	3.0	11
61	Semiclassical simulations of multidimensional Raman echoes. Journal of Chemical Physics, 1999, 110, 1711-1725.	3.0	33
62	Intraband terahertz emission from coupled semiconductor quantum wells: A model study using the exciton representation. Physical Review B, 1999, 60, 2599-2609.	3.2	8
63	Scaling of Fluorescence Stokes Shift and Superradiance Coherence Size in Disordered Molecular Aggregates. Journal of Physical Chemistry A, 1999, 103, 10294-10299.	2.5	37
64	Multidimensional femtosecond correlation spectroscopies of electronic and vibrational excitons. Journal of Chemical Physics, 1999, 110, 5011-5028.	3.0	155
65	Electronic screening in second order optical polarizabilities of elongated Donor/Acceptor polyenes. Chemical Physics, 1999, 245, 145-163.	1.9	12
66	Two-Dimensional Raman Echoes:â€‰ Femtosecond View of Molecular Structure and Vibrational Coherence. Accounts of Chemical Research, 1999, 32, 145-154.	15.6	144
67	Superradiance Coherence Sizes in Single-Molecule Spectroscopy of LH2 Antenna Complexes. Journal of Physical Chemistry B, 1999, 103, 3954-3962.	2.6	74
68	Origin, scaling, and saturation of second order polarizabilities in donor/acceptor polyenes. Chemical Physics Letters, 1998, 287, 75-82.	2.6	42
69	Real-space analysis of electronic excitations in free-base (H2P) and magnesium (MgP) porphins. Chemical Physics Letters, 1998, 297, 357-364.	2.6	15
70	Collective coordinates for semiclassical femtosecond dissipative dynamics in Liouville space. Journal of Luminescence, 1998, 76-77, 15-21.	3.1	1
71	Excited electronic states of carotenoids: Time-dependent density-matrix-response algorithm. International Journal of Quantum Chemistry, 1998, 70, 711-727.	2.0	32
72	Solvent Reorganization in Long-Range Electron Transfer:Â Density Matrix Approach. Journal of Physical Chemistry A, 1998, 102, 1241-1251.	2.5	108

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73	Localized Electronic Excitations in Phenylacetylene Dendrimers. Journal of Physical Chemistry B, 1998, 102, 3310-3315.	2.6	198
74	Exciton-migration and three-pulse femtosecond optical spectroscopies of photosynthetic antenna complexes. Journal of Chemical Physics, 1998, 108, 7763-7774.	3.0	380
75	Stilbenoid Dimers:â€‰ Dissection of a Paracyclophane Chromophore. Journal of the American Chemical Society, 1998, 120, 9188-9204.	13.7	214
76	Excitonic Interactions and Stark Spectroscopy of Light Harvesting Systems. Journal of Physical Chemistry B, 1998, 102, 8893-8908.	2.6	33
77	Multidimensional femtosecond spectroscopies of molecular aggregates and semiconductor nanostructures: The nonlinear exciton equations. Journal of Chemical Physics, 1998, 109, 9587-9601.	3.0	124
78	Simulation of threeâ€“pulseâ€“echo and fluorescence depolarization in photosynthetic aggregates. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 1998, 356, 405-419.	3.4	37
79	Excited electronic states of carotenoids: Timeâ€dependent densityâ€matrixâ€response algorithm. International Journal of Quantum Chemistry, 1998, 70, 711-727.	2.0	1
80	Two-Dimensional Femtosecond Spectroscopies of Coupled Chromophores. Springer Series in Chemical Physics, 1998, , 663-665.	0.2	2
81	Two-Dimensional Real-Space Analysis of Optical Excitations in Acceptor-Substituted Carotenoids. Journal of the American Chemical Society, 1997, 119, 11408-11419.	13.7	123
82	Electronic Coherence and Collective Optical Excitations of Conjugated Molecules. Science, 1997, 277, 781-787.	12.6	345
83	Third-order optical response of intermediate excitons with fractional nonlinear statistics. Journal of the Optical Society of America B: Optical Physics, 1996, 13, 1302.	2.1	45
84	Interplay of multiple vibrational spectral densities in femtosecond nonlinear spectroscopy of liquids. Journal of Chemical Physics, 1996, 105, 8543-8555.	3.0	33
85	Collective electronic oscillators for nonlinear optical response of conjugated molecules. Chemical Physics Letters, 1996, 259, 55-61.	2.6	80
86	Chemical Bonding and Size Scaling of Nonlinear Polarizabilities of Conjugated Polymers. Physical Review Letters, 1996, 77, 4656-4659.	7.8	62
87	Classical chaos and fluctuation-dissipation relations for nonlinear response. Physical Review E, 1996, 53, R1-R4.	2.1	109
88	Sizeâ€consistent quasiparticle representation of nonlinear optical susceptibilities in manyâ€electron systems. Journal of Chemical Physics, 1996, 104, 444-459.	3.0	76
89	Optical Stark spectroscopy of molecular aggregates. Journal of Chemical Physics, 1996, 104, 5415-5423.	3.0	6
90	Collective coordinates for nuclear spectral densities in energy transfer and femtosecond spectroscopy of molecular aggregates. Journal of Chemical Physics, 1996, 105, 4565-4583.	3.0	113

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91	Recursive densityâ€matrixâ€spectralâ€moment algorithm for molecular nonlinear polarizabilities. Journal of Chemical Physics, 1996, 105, 8914-8928.	3.0	72
92	Four-wave mixing and luminescence of confined excitons in molecular aggregates and nanostructures. many-body green function approach. Physics Reports, 1995, 263, 213-309.	25.6	78
93	Gauge invariant formulation of molecular electrodynamics and the multipolar Hamiltonian. Chemical Physics, 1995, 198, 133-143.	1.9	7
94	Generalized sum rules for optical nonlinearities of manyâ€electron systems. Journal of Chemical Physics, 1995, 103, 7640-7644.	3.0	22
95	Two-Exciton Collective Photon Echoes in Disordered Molecular Nanostructures. Physical Review Letters, 1995, 74, 4895-4898.	7.8	13
96	Cooperative ultrafast nonlinear optical response of molecular nanostructures. Journal of Chemical Physics, 1994, 100, 2465-2480.	3.0	16
97	Cooperative radiative decay of disordered molecular monolayers. Physical Review B, 1994, 50, 5609-5619.	3.2	5
98	Exciton confinement and nonlocal nonlinear optical response of organic quantum wells. Physical Review B, 1994, 49, 17079-17091.	3.2	3
99	Path integral formulation of retardation effects in nonlinear optics. Journal of Chemical Physics, 1994, 100, 2953-2974.	3.0	23
100	Cooperative radiative decay in the nonlinear optical response of excitonic nanostructures. Physical Review B, 1993, 48, 2470-2478.	3.2	28