Vladimir Chernyak

List of Publications by Citations

96 papers	4,694 citations	36 h-index	67 g-index
103 ext. papers	4,932 ext. citations	4.7 avg, IF	5.2 L-index

#	Paper	IF	Citations
96	Exciton-migration and three-pulse femtosecond optical spectroscopies of photosynthetic antenna complexes. *Journal of Chemical Physics*, **1998**, 108, 7763-7774	3.9	345
95	Electronic Coherence and Collective Optical Excitations of Conjugated Molecules. *Science*, **1997**, 277, 781-787	33.3	315
94	Stilbenoid Dimers: Dissection of a Paracyclophane Chromophore. *Journal of the American Chemical Society*, **1998**, 120, 9188-9204	16.4	203
93	Through-Space Charge Transfer and Nonlinear Optical Properties of Substituted Paracyclophane. *Journal of the American Chemical Society*, **2000**, 122, 11956-11962	16.4	188
92	Localized Electronic Excitations in Phenylacetylene Dendrimers. *Journal of Physical Chemistry B*, **1998**, 102, 3310-3315	3.4	180
91	Exciton sizes of conducting polymers predicted by time-dependent density functional theory. *Physical Review B*, **2005**, 71,	3.3	179
90	Density-matrix representation of nonadiabatic couplings in time-dependent density functional (TDDFT) theories. *Journal of Chemical Physics*, **2000**, 112, 3572-3579	3.9	161
89	Nonadiabatic excited-state molecular dynamics modeling of photoinduced dynamics in conjugated molecules. *Journal of Physical Chemistry B*, **2011**, 115, 5402-14	3.4	155
88	Multidimensional femtosecond correlation spectroscopies of electronic and vibrational excitons. *Journal of Chemical Physics*, **1999**, 110, 5011-5028	3.9	146
87	Two-Dimensional Raman Echoes: Femtosecond View of Molecular Structure and Vibrational Coherence. *Accounts of Chemical Research*, **1999**, 32, 145-154	24.3	128
86	Multidimensional femtosecond spectroscopies of molecular aggregates and semiconductor nanostructures: The nonlinear exciton equations. *Journal of Chemical Physics*, **1998**, 109, 9587-9601	3.9	116
85	Bacteriochlorophyll and Carotenoid Excitonic Couplings in the LH2 System of Purple Bacteria. *Journal of Physical Chemistry B*, **2000**, 104, 9540-9553	3.4	115
84	Two-Dimensional Real-Space Analysis of Optical Excitations in Acceptor-Substituted Carotenoids. *Journal of the American Chemical Society*, **1997**, 119, 11408-11419	16.4	110
83	Collective coordinates for nuclear spectral densities in energy transfer and femtosecond spectroscopy of molecular aggregates. *Journal of Chemical Physics*, **1996**, 105, 4565-4583	3.9	106
82	Solvent Reorganization in Long-Range Electron Transfer:Density Matrix Approach. *Journal of Physical Chemistry A*, **1998**, 102, 1241-1251	2.8	103
81	Classical chaos and fluctuation-dissipation relations for nonlinear response. *Physical Review E*, **1996**, 53, R1-R4	2.4	103
80	Exciton Hamiltonian for the Bacteriochlorophyll System in the LH2 Antenna Complex of Purple Bacteria. *Journal of Physical Chemistry B*, **2000**, 104, 4519-4528	3.4	102

79	Size Scaling of Third-Order Off-Resonant Polarizabilities. Electronic Coherence in Organic Oligomers. *Journal of the American Chemical Society*, **2000**, 122, 452-459	16.4	83
78	Exciton-scaling and optical excitations of self-similar phenylacetylene dendrimers. *Journal of Chemical Physics*, **1999**, 110, 8161-8175	3.9	83
77	Nonadiabatic excited-state molecular dynamics: numerical tests of convergence and parameters. *Journal of Chemical Physics*, **2012**, 136, 054108	3.9	80
76	Time-resolved x-ray spectroscopies: Nonlinear response functions and Liouville-space pathways. *Physical Review A*, **2001**, 63,	2.6	79
75	Krylov-space algorithms for time-dependent HartreeFock and density functional computations. *Journal of Chemical Physics*, **2000**, 113, 36-43	3.9	74
74	Superradiance Coherence Sizes in Single-Molecule Spectroscopy of LH2 Antenna Complexes. *Journal of Physical Chemistry B*, **1999**, 103, 3954-3962	3.4	72
73	Collective electronic oscillators for nonlinear optical response of conjugated molecules. *Chemical Physics Letters*, **1996**, 259, 55-61	2.5	72
72	Size-consistent quasiparticle representation of nonlinear optical susceptibilities in many-electron systems. *Journal of Chemical Physics*, **1996**, 104, 444-459	3.9	71
71	Four-wave mixing and luminescence of confined excitons in molecular aggregates and nanostructures. many-body green function approach. *Physics Reports*, **1995**, 263, 213-309	27.7	71
70	Recursive density-matrix-spectral-moment algorithm for molecular nonlinear polarizabilities. *Journal of Chemical Physics*, **1996**, 105, 8914-8928	3.9	66
69	Simulations of two-dimensional femtosecond infrared photon echoes of glycine dipeptide. *Journal of Raman Spectroscopy*, **2000**, 31, 125-135	2.3	64
68	Chemical Bonding and Size-Scaling of Nonlinear Polarizabilities of Conjugated Polymers. *Physical Review Letters*, **1996**, 77, 4656-4659	7.4	59
67	Simulations of energy funneling and time- and frequency-gated fluorescence in dendrimers. *Journal of Chemical Physics*, **2001**, 114, 2419-2429	3.9	58
66	Polaron dynamics with a multitude of Davydov D2 trial states. *Journal of Chemical Physics*, **2015**, 143, 014113	3.9	52
65	Multitime correlation functions for single molecule kinetics with fluctuating bottlenecks. *Journal of Chemical Physics*, **2002**, 116, 4240-4251	3.9	46
64	Third-order optical response of intermediate excitons with fractional nonlinear statistics. *Journal of the Optical Society of America B: Optical Physics*, **1996**, 13, 1302	1.7	43
63	Origin, scaling, and saturation of second order polarizabilities in donor/acceptor polyenes. *Chemical Physics Letters*, **1998**, 287, 75-82	2.5	37
62	Effect of quantum collapse on the distribution of work in driven single molecules. *Physical Review Letters*, **2004**, 93, 048302	7.4	37

61	Excitonic funneling in extended dendrimers with nonlinear and random potentials. *Physical Review Letters*, **2000**, 85, 282-5	7.4	36
60	Scaling of Fluorescence Stokes Shift and Superradiance Coherence Size in Disordered Molecular Aggregates. *Journal of Physical Chemistry A*, **1999**, 103, 10294-10299	2.8	35
59	Frenkel-exciton Hamiltonian for dendrimeric nanostar. *Journal of Luminescence*, **2000**, 87-89, 115-118	3.8	33
58	Simulation of three-pulse-echo and fluorescence depolarization in photosynthetic aggregates. *Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences*, **1998**, 356, 405-419	3	33
57	Interplay of multiple vibrational spectral densities in femtosecond nonlinear spectroscopy of liquids. *Journal of Chemical Physics*, **1996**, 105, 8543-8555	3.9	33
56	Exciton transport in molecular aggregates probed by time and frequency gated optical spectroscopy. *Journal of Chemical Physics*, **2000**, 112, 7953-7963	3.9	32
55	Excitonic Interactions and Stark Spectroscopy of Light Harvesting Systems. *Journal of Physical Chemistry B*, **1998**, 102, 8893-8908	3.4	31
54	Semiclassical simulations of multidimensional Raman echoes. *Journal of Chemical Physics*, **1999**, 110, 1711-1725	3.9	31
53	Excited electronic states of carotenoids: Time-dependent density-matrix-response algorithm. *International Journal of Quantum Chemistry*, **1998**, 70, 711-727	2.1	30
52	Stochastic-trajectories and nonPoisson kinetics in single-molecule spectroscopy. *Journal of Chemical Physics*, **1999**, 111, 7416-7425	3.9	30
51	Vibrational-exciton relaxation probed by three-pulse echoes in polypeptides. *Chemical Physics*, **2001**, 266, 285-294	2.3	29
50	Two-exciton states and spectroscopy of phenylacetylene dendrimers. *Journal of Chemical Physics*, **1999**, 111, 4158-4168	3.9	29
49	Cooperative radiative decay in the nonlinear optical response of excitonic nanostructures. *Physical Review B*, **1993**, 48, 2470-2478	3.3	26
48	Two-dimensional correlation spectroscopies of localized vibrations. *Chemical Physics*, **2001**, 266, 311-322	2.3	24
47	Electronic versus vibrational optical nonlinearities of push-pull polymers. *Chemical Physics Letters*, **2000**, 319, 261-264	2.5	22
46	Symmetry and the critical phase of the two-bath spin-boson model: Ground-state properties. *Physical Review B*, **2015**, 91,	3.3	21
45	Ground-state properties of sub-Ohmic spin-boson model with simultaneous diagonal and off-diagonal coupling. *Physical Review B*, **2014**, 90,	3.3	21
44	Exciton-Wave Packet Dynamics in Molecular Aggregates Studied with Pump-Probe Spectroscopy. *Journal of Physical Chemistry B*, **2000**, 104, 3976-3983	3.4	21

43	Path integral formulation of retardation effects in nonlinear optics. *Journal of Chemical Physics*, **1994**, 100, 2953-2974	3.9	20
42	Generalized sum rules for optical nonlinearities of many-electron systems. *Journal of Chemical Physics*, **1995**, 103, 7640-7644	3.9	19
41	Semiclassical scattering on conical intersections. *Physical Review Letters*, **2005**, 95, 223001	7.4	17
40	Collective Electronic Oscillators for Second-Order Polarizabilities of Push-Pull Carotenoids. *Journal of Physical Chemistry A*, **2001**, 105, 5692-5703	2.8	16
39	Real-space analysis of electronic excitations in free-base (H2P) and magnesium (MgP) porphins. *Chemical Physics Letters*, **1998**, 297, 357-364	2.5	14
38	Quadratic Brownian-oscillator model for solvation dynamics in optical response. *Journal of Chemical Physics*, **2001**, 114, 10430-10435	3.9	14
37	Cooperative ultrafast nonlinear optical response of molecular nanostructures. *Journal of Chemical Physics*, **1994**, 100, 2465-2480	3.9	14
36	Ensemble of Thermostatically Controlled Loads: Statistical Physics Approach. *Scientific Reports*, **2017**, 7, 8673	4.9	12
35	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	3.9	12
34	Two-exciton collective photon echoes in disordered molecular nanostructures. *Physical Review Letters*, **1995**, 74, 4895-4898	7.4	11
33	Bosonized squeezed-state coupled-cluster approach to electron correlations in nonlinear spectroscopy. *Journal of Chemical Physics*, **1999**, 111, 4383-4396	3.9	10
32	Stochastic Representation of Non-Markovian Fermionic Quantum Dissipation. *Physical Review Letters*, **2019**, 123, 050601	7.4	9
31	Coherence and correlations in multitime quantum measurements of stochastic quantum trajectories. *Physical Review E*, **2006**, 73, 036119	2.4	9
30	Intraband terahertz emission from coupled semiconductor quantum wells: A model study using the exciton representation. *Physical Review B*, **1999**, 60, 2599-2609	3.3	8
29	Electronic screening in second order optical polarizabilities of elongated Donor/Acceptor polyenes. *Chemical Physics*, **1999**, 245, 145-163	2.3	8
28	Stochastic equation of motion approach to fermionic dissipative dynamics. I. Formalism. *Journal of Chemical Physics*, **2020**, 152, 204105	3.9	7
27	Excited-State Molecular Dynamics Simulations of Conjugated Oligomers Using the Electronic Density Matrix. *Journal of Physical Chemistry A*, **2001**, 105, 7057-7071	2.8	7
26	Stochastic equation of motion approach to fermionic dissipative dynamics. II. Numerical implementation. *Journal of Chemical Physics*, **2020**, 152, 204106	3.9	6

25	Utilizing Microcavities To Suppress Third-Order Cascades in Fifth-Order Raman Spectra. *Journal of Physical Chemistry Letters*, **2017**, 8, 3387-3391	6.4	6
24	Complete Determination of Relaxation Parameters From Two-Dimensional Raman Spectroscopy. *Laser Chemistry*, **1999**, 19, 109-116		6
23	Gauge invariant formulation of molecular electrodynamics and the multipolar Hamiltonian. *Chemical Physics*, **1995**, 198, 133-143	2.3	6
22	Compensation for extreme outages caused by polarization mode dispersion and amplifier noise. *Optics Express*, **2003**, 11, 1607-12	3.3	4
21	Off-Resonant Electronic and Vibrational Molecular Polarizabilities. Time-Dependent Collective-Oscillator Expansion. *Journal of Physical Chemistry A*, **2000**, 104, 4263-4271	2.8	4
20	Optical Stark spectroscopy of molecular aggregates. *Journal of Chemical Physics*, **1996**, 104, 5415-5423	3.9	4
19	Cooperative radiative decay of disordered molecular monolayers. *Physical Review B*, **1994**, 50, 5609-5619	3.3	4
18	Quantum quadratic brownian oscillator model for absorption lineshapes. *Israel Journal of Chemistry* , **2002**, 42, 143-149	3.4	3
17	Coherent-state representation of reduced density matrices of correlated electronic systems. *Chemical Physics Letters*, **2000**, 327, 29-37	2.5	3
16	Exciton confinement and nonlocal nonlinear optical response of organic quantum wells. *Physical Review B*, **1994**, 49, 17079-17091	3.3	3
15	Disorder influenced absorption line shapes of a chromophore coupled to two-level systems. *Journal of Physical Chemistry A*, **2013**, 117, 12320-31	2.8	2
14	Extreme outages caused by polarization mode dispersion. *Optics Letters*, **2003**, 28, 2159-61	3	2
13	Mechanical response functions of finite-temperature Bose-Einstein condensates. *Physical Review A*, **2003**, 67,	2.6	2
12	Optical Absorption of Long Range Electron Transfer Systems in Intense Fields. *Journal of the Chinese Chemical Society*, **2000**, 47, 615-623	1.5	2
11	LOCALIZED AND DELOCALIZED ELECTRONIC EXCITATIONS IN BIOLOGICAL AND ARTIFICIAL ANTENNA COMPLEXES **2000**,		2
10	Two-Dimensional Femtosecond Spectroscopies of Coupled Chromophores. *Springer Series in Chemical Physics*, **1998**, 663-665	0.3	2
9	Disorder and spectral line shapes in two-level systems. *Chemical Physics Letters*, **2013**, 582, 66-70	2.5	1
8	Collective coordinates for semiclassical femtosecond dissipative dynamics in Liouville space. *Journal of Luminescence*, **1998**, 76-77, 15-21	3.8	1

7	Lanczos Algorithm for Electron Transfer Rates in Solvents with Complex Spectral Densities. *Advances in Chemical Physics*, **2007**, 515-551		1
6	Geometric picture for coupled electron–nuclear dynamics. *International Journal of Quantum Chemistry*, **2002**, 90, 799-811	2.1	1
5	Two-Dimensional Raman-Echo Spectroscopy; Femtosecond View of Vibrational Coherence. *Springer Series in Chemical Physics*, **1998**, 541-543	0.3	1
4	Excited electronic states of carotenoids: Time-dependent density-matrix-response algorithm **1998**, 70, 711		1
3	Molecular Dynamics Simulations of Collective Electronic and Nuclear Modes in Conjugated Systems. *Springer Series in Chemical Physics*, **2001**, 595-597	0.3	
2	Energy funneling in the dendrimeric nanostar probed by time-resolved nonlinear spectroscopies. *Springer Series in Chemical Physics*, **2001**, 610-612	0.3	
1	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	1.2	