Abrahan Nitzan

List of Publications by Citations

206 papers	16,229 citations	56 h-index	124 g-index
212 ext. papers	17,190 ext. citations	5.5 avg, IF	7.07 L-index

#	Paper	IF	Citations
206	Electron transport in molecular wire junctions. *Science*, **2003**, 300, 1384-9	33.3	2037
205	Electromagnetic theory of enhanced Raman scattering by molecules adsorbed on rough surfaces. *Journal of Chemical Physics*, **1980**, 73, 3023-3037	3.9	916
204	Electron transmission through molecules and molecular interfaces. *Annual Review of Physical Chemistry*, **2001**, 52, 681-750	15.7	808
203	Chemical Dynamics in Condensed Phases **2006**,		806
202	Spectroscopic properties of molecules interacting with small dielectric particles. *Journal of Chemical Physics*, **1981**, 75, 1139-1152	3.9	626
201	Molecular transport junctions: vibrational effects. *Journal of Physics Condensed Matter*, **2007**, 19, 103201	1.8	552
200	Covalently bonded single-molecule junctions with stable and reversible photoswitched conductivity. *Science*, **2016**, 352, 1443-5	33.3	529
199	The enhancement of Raman scattering, resonance Raman scattering, and fluorescence from molecules adsorbed on a rough silver surface. *Journal of Chemical Physics*, **1983**, 78, 5324-5338	3.9	431
198	Thermal conductance through molecular wires. *Journal of Chemical Physics*, **2003**, 119, 6840-6855	3.9	311
197	Spin-boson thermal rectifier. *Physical Review Letters*, **2005**, 94, 034301	7.4	300
196	Inelastic electron tunneling spectroscopy in molecular junctions: peaks and dips. *Journal of Chemical Physics*, **2004**, 121, 11965-79	3.9	297
195	Hysteresis, switching, and negative differential resistance in molecular junctions: a polaron model. *Nano Letters*, **2005**, 5, 125-30	11.5	280
194	Electron Transfer Rates in Bridged Molecular Systems 2. A Steady-State Analysis of Coherent Tunneling and Thermal Transitions *Journal of Physical Chemistry B*, **2000**, 104, 3817-3829	3.4	274
193	Dynamic bond percolation theory: A microscopic model for diffusion in dynamically disordered systems. I. Definition and one-dimensional case. *Journal of Chemical Physics*, **1983**, 79, 3133-3142	3.9	240
192	Theoretical model for enhanced photochemistry on rough surfaces. *Journal of Chemical Physics*, **1981**, 75, 2205-2214	3.9	235
191	Finite time optimizations of a Newton law Carnot cycle. *Journal of Chemical Physics*, **1981**, 74, 3546-3560	3.9	194
190	Concepts in the design and engineering of single-molecule electronic devices. *Nature Reviews Physics*, **2019**, 1, 211-230	23.6	191

189	Semiclassical evaluation of nonadiabatic rates in condensed phases. *Journal of Chemical Physics*, **1993**, 99, 1109-1123	3.9	190
188	Resonant inelastic tunneling in molecular junctions. *Physical Review B*, **2006**, 73,	3.3	188
187	A Relationship between Electron-Transfer Rates and Molecular Conduction *Journal of Physical Chemistry A*, **2001**, 105, 2677-2679	2.8	177
186	Heat conduction in molecular transport junctions. *Physical Review B*, **2007**, 75,	3.3	170
185	Vibrational relaxation of a molecule in a dense medium. *Molecular Physics*, **1973**, 25, 713-734	1.7	170
184	Electron Transfer Rates in Bridged Molecular Systems: A Phenomenological Approach to Relaxation. *Journal of Physical Chemistry A*, **1997**, 101, 6158-6164	2.8	169
183	Photophysics and photochemistry near surfaces and small particles. *Surface Science*, **1985**, 158, 165-189	1.8	154
182	Molecular optoelectronics: the interaction of molecular conduction junctions with light. *Physical Chemistry Chemical Physics*, **2012**, 14, 9421-38	3.6	139
181	A rate constant expression for charge transfer through fluctuating bridges. *Journal of Chemical Physics*, **2003**, 119, 5782-5788	3.9	121
180	Vibronic effects in off-resonant molecular wire conduction. *Journal of Chemical Physics*, **2003**, 118, 6072-6082	3.9	119
179	Accelerated energy transfer between molecules near a solid particle. *Chemical Physics Letters*, **1984**, 104, 31-37	2.5	115
178	Relaxation dynamics following transition of solvated electrons. *Journal of Chemical Physics*, **1989**, 90, 4413-4422	3.9	111
177	Current-induced nonequilibrium vibrations in single-molecule devices. *Physical Review B*, **2006**, 73,	3.3	110
176	Optical Selection Studies of Radiationless Decay in an Isolated Large Molecule. *Journal of Chemical Physics*, **1971**, 55, 1355-1368	3.9	110
175	On the Line Widths of Vibrational Features in Inelastic Electron Tunneling Spectroscopy. *Nano Letters*, **2004**, 4, 1605-1611	11.5	109
174	Simulations of solvation dynamics in simple polar solvents. *Journal of Chemical Physics*, **1992**, 96, 5433-5440	3.9	104
173	Dynamics and spectra of a solvated electron in water clusters. *Journal of Chemical Physics*, **1988**, 89, 2242-2256	3.9	101
172	Heating in current carrying molecular junctions. *Journal of Chemical Physics*, **2002**, 117, 3915-3927	3.9	94

171	Can photochemistry be enhanced on rough surfaces?. *Journal of Chemical Physics*, **1981**, 74, 5321-5322	3.9	94
170	Nonlinear charge transport in redox molecular junctions: a Marcus perspective. *ACS Nano*, **2011**, 5, 6669-6685	13.7	93
169	Heat rectification in molecular junctions. *Journal of Chemical Physics*, **2005**, 122, 194704	3.9	92
168	Non-Markovian theory of activated rate processes. I. Formalism. *Journal of Chemical Physics*, **1983**, 79, 393-404	3.9	92
167	Tunneling Time for Electron Transfer Reactions. *Journal of Physical Chemistry B*, **2000**, 104, 5661-5665	3.4	86
166	Inelastic tunneling effects on noise properties of molecular junctions. *Physical Review B*, **2006**, 74,	3.3	85
165	Cooling mechanisms in molecular conduction junctions. *Physical Review B*, **2009**, 80,	3.3	81
164	Rectification of laser-induced electronic transport through molecules. *Journal of Chemical Physics*, **2003**, 118, 3283-3293	3.9	78
163	Inelastic effects in molecular junctions in the Coulomb and Kondo regimes: Nonequilibrium equation-of-motion approach. *Physical Review B*, **2007**, 76,	3.3	74
162	Stochastic classical trajectory approach to relaxation phenomena. I. Vibrational relaxation of impurity molecules in solid matrices. *Journal of Chemical Physics*, **1978**, 69, 336	3.9	70
161	Activated Rate Processes in Condensed Phases: the Kramers Theory Revisited. *Advances in Chemical Physics*, **2007**, 489-555		67
160	Inelastic effects in molecular junction transport: scattering and self-consistent calculations for the Seebeck coefficient. *Molecular Physics*, **2008**, 106, 397-404	1.7	65
159	Solvation dynamics in dielectric solvents with restricted molecular rotations: Polyethers. *Journal of Chemical Physics*, **1995**, 102, 7180-7196	3.9	65
158	Intramolecular Nonradiative Transitions in the ''Non-Condon'' Scheme. *Journal of Chemical Physics*, **1972**, 56, 3360-3373	3.9	65
157	Raman scattering in current-carrying molecular junctions. *Journal of Chemical Physics*, **2009**, 130, 144109	3.9	63
156	Circular Currents in Molecular Wires. *Journal of Physical Chemistry C*, **2010**, 114, 20583-20594	3.8	63
155	Non-Markovian theory of activated rate processes. IV. The double well model. *Journal of Chemical Physics*, **1984**, 80, 3596-3605	3.9	61
154	Quantum thermodynamics of the driven resonant level model. *Physical Review B*, **2016**, 93,	3.3	60

153	Inelastic transport in the Coulomb blockade regime within a nonequilibrium atomic limit. *Physical Review B*, **2008**, 78,	3.3	59
152	Dynamics of excess electron migration, solvation, and spectra in polar molecular clusters. *Journal of Chemical Physics*, **1989**, 91, 5567-5580	3.9	59
151	Numerical studies of the interaction of an atomic sample with the electromagnetic field in two dimensions. *Physical Review A*, **2011**, 84,	2.6	57
150	Optics of exciton-plasmon nanomaterials. *Journal of Physics Condensed Matter*, **2017**, 29, 443003	1.8	56
149	Quantum simulations and ab initio electronic structure studies of (H2O)2. *Journal of Chemical Physics*, **1989**, 91, 7797-7808	3.9	55
148	Theory of light emission from quantum noise in plasmonic contacts: above-threshold emission from higher-order electron-plasmon scattering. *Physical Review Letters*, **2015**, 114, 126803	7.4	54
147	Steady-state quantum mechanics of thermally relaxing systems. *Chemical Physics*, **2001**, 268, 315-335	2.3	54
146	Resonance Fluorescence from Large Molecules. *Journal of Chemical Physics*, **1972**, 57, 2870-2889	3.9	54
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144	Molecular Wire Junctions: Tuning the Conductance. *Journal of Physical Chemistry B*, **2003**, 107, 91-95	3.4	53
143	The relationship between electron transfer rate and molecular conduction 2. The sequential hopping case. *Israel Journal of Chemistry*, **2002**, 42, 163-166	3.4	51
142	Computing vibrational energy relaxation for high-frequency modes in condensed environments. *Journal of Chemical Physics*, **1997**, 107, 10470-10479	3.9	49
141	Random coupling models for intramolecular dynamics. I. Mathematical approach. *Journal of Chemical Physics*, **1980**, 72, 2054-2069	3.9	49
140	Theory of inverse electronic relaxation. *Journal of Chemical Physics*, **1979**, 71, 3524-3532	3.9	49
139	Electron tunneling through water layers: Effect of layer structure and thickness. *Journal of Chemical Physics*, **1997**, 106, 6647-6654	3.9	47
138	Chemistry. Molecules take the heat. *Science*, **2007**, 317, 759-60	33.3	47
137	Numerical simulations of solvation dynamics in electrolyte solutions. *Journal of Chemical Physics*, **1994**, 100, 3855-3868	3.9	47
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130	On the application of instantaneous normal mode analysis to long time dynamics of liquids. *Journal of Chemical Physics*, **1995**, 103, 2169-2177	3.9	41
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128	Electronic relaxation of small molecules in a dense medium. *Theoretica Chimica Acta*, **1973**, 29, 97-116		41
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125	Transient resonance structures in electron tunneling through water. *Journal of Chemical Physics*, **1999**, 111, 7558-7566	3.9	39
124	Cavity molecular dynamics simulations of liquid water under vibrational ultrastrong coupling. *Proceedings of the National Academy of Sciences of the United States of America*, **2020**, 117, 18324-18331	11.5	39
123	Numerical computation of tunneling fluxes. *Journal of Chemical Physics*, **2002**, 117, 10817-10826	3.9	38
122	Non radiative transition probabilities in the statistical limit. *Theoretica Chimica Acta*, **1973**, 30, 217-229		38
121	Interference effects in sequential decay. *Molecular Physics*, **1973**, 26, 281-290	1.7	38
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119	Frictional effects near a metal surface. *Journal of Chemical Physics*, **2015**, 143, 054103	3.9	37
118	Electron transfer in confined electromagnetic fields. *Journal of Chemical Physics*, **2019**, 150, 174122	3.9	36

117	Electronic noise due to temperature differences in atomic-scale junctions. *Nature*, **2018**, 562, 240-244	50.4	36
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113	Numerical simulations of molecular multiphoton excitation models. *Journal of Chemical Physics*, **1980**, 72, 1928-1937	3.9	34
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111	The electrostatic potential profile along a biased molecular wire: A model quantum-mechanical calculation. *Journal of Chemical Physics*, **2003**, 118, 3756-3763	3.9	33
110	Effects of vibrational relaxation on molecular electronic transitions. *Journal of Chemical Physics*, **1973**, 58, 2412-2434	3.9	33
109	Nonclassical time correlation functions in continuous quantum measurement. *New Journal of Physics*, **2012**, 14, 013009	2.9	32
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107	On the theory of time resolved near-resonance light scattering. *Journal of Chemical Physics*, **1975**, 63, 1289-1294	3.9	32
106	Raman scattering from biased molecular conduction junctions: The electronic background and its temperature. *Physical Review B*, **2011**, 84,	3.3	31
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103	Correlated dynamic percolation: Many bond effective-medium theory. *Journal of Chemical Physics*, **1989**, 90, 3784-3794	3.9	30
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98	Electron transfer at thermally heterogeneous molecule-metal interfaces. *Journal of Chemical Physics*, **2017**, 146, 092305	3.9	26
97	Raman Scattering and Electronic Heating in Molecular Conduction Junctions. *Journal of Physical Chemistry Letters*, **2011**, 2, 2110-2113	6.4	26
96	Dynamic percolation theory for diffusion of interacting particles. *Journal of Chemical Physics*, **1990**, 92, 1329-1338	3.9	26
95	Nuclear Dynamics at Molecule-Metal Interfaces: A Pseudoparticle Perspective. *Journal of Physical Chemistry Letters*, **2015**, 6, 4898-903	6.4	24
94	Numerical Simulations of Electron Tunneling Currents in Water *Journal of Physical Chemistry A*, **2002**, 106, 10790-10796	2.8	24
93	Dynamically disordered hopping, glass transition, and polymer electrolytes. *Journal of Chemical Physics*, **1995**, 103, 3253-3261	3.9	24
92	Random coupling models for intramolecular dynamics. II. Kinetic equations for collisionless multiphoton excitation of large molecules. *Journal of Chemical Physics*, **1980**, 72, 2070-2080	3.9	24
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88	Coherent and Diffusive Time Scales for Exciton Dissociation in Bulk Heterojunction Photovoltaic Cells. *Journal of Physical Chemistry C*, **2014**, 118, 27235-27244	3.8	21
87	Raman scattering from molecular conduction junctions: Charge transfer mechanism. *Physical Review B*, **2012**, 85,	3.3	21
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84	Numerical Calculations of Radiative and Non-Radiative Relaxation of Molecules Near Metal Particles. *Journal of Physical Chemistry C*, **2014**, 118, 10545-10551	3.8	20
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80	Perturbation theory approach to tunneling: Direct and resonance transmission in super-exchange models. *Journal of Chemical Physics*, **1999**, 111, 1569-1579	3.9	19
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78	Collective Vibrational Strong Coupling Effects on Molecular Vibrational Relaxation and Energy Transfer: Numerical Insights via Cavity Molecular Dynamics Simulations*. *Angewandte Chemie - International Edition*, **2021**, 60, 15533-15540	16.4	19
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75	Steady-State Theory of Current Transfer. *Journal of Physical Chemistry C*, **2010**, 114, 8005-8013	3.8	18
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71	Lattice theory of solvation and dissociation in macromolecular fluids. I. Mean field approximation. *Journal of Chemical Physics*, **1994**, 100, 705-718	3.9	17
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List of Publications

9	Coupling, lifetimes, and "strong coupling" maps for single molecules at plasmonic interfaces.. *Journal of Chemical Physics*, **2022**, 156, 154303	3.9	2
8	Quantum Simulations of Vibrational Strong Coupling via Path Integrals.. *Journal of Physical Chemistry Letters*, **2022**, 3890-3895	6.4	2
7	Beyond Molecular Conduction: Optical and Thermal Effects in Molecular Junctions. *Advances in Chemical Physics*, **2014**, 135-158		1
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