

Dvira Segal

List of Publications by Year in descending order

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127
papers

5,086
citations

87723

38
h-index

98622

67
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129
all docs

129
docs citations

129
times ranked

2748
citing authors

#	ARTICLE	IF	CITATIONS
1	Strong system-bath coupling effects in quantum absorption refrigerators. <i>Physical Review E</i> , 2022, 105, 034112.	0.8	13
2	Optimal control of quantum thermal machines using machine learning. <i>Physical Review Research</i> , 2022, 4, .	1.3	22
3	Absence and recovery of cost-precision tradeoff relations in quantum transport. <i>Physical Review B</i> , 2022, 105, .	1.1	6
4	Quantum phonon transport through channels and moleculesâ€™A Perspective. <i>Applied Physics Letters</i> , 2022, 120, .	1.5	11
5	Quantum thermal transport beyond second order with the reaction coordinate mapping. <i>Journal of Chemical Physics</i> , 2022, 156, .	1.2	3
6	Quantum Flicker Noise in Atomic and Molecular Junctions. <i>Physical Review Letters</i> , 2022, 128, .	2.9	9
7	Hamiltonian transformability, fast adiabatic dynamics and hidden adiabaticity. <i>Scientific Reports</i> , 2021, 11, 4648.	1.6	2
8	Reply to the â€™Comment on â€™Loss-Free Excitonic Quantum Batteryâ€™â€™. <i>Journal of Physical Chemistry C</i> , 2021, 125, 7521-7522.	1.5	0
9	Coherences and the thermodynamic uncertainty relation: Insights from quantum absorption refrigerators. <i>Physical Review E</i> , 2021, 103, 032138.	0.8	25
10	Harmonic chains and the thermal diode effect. <i>Physical Review E</i> , 2021, 103, 052130.	0.8	14
11	Strong coupling effects in quantum thermal transport with the reaction coordinate method. <i>New Journal of Physics</i> , 2021, 23, 063036.	1.2	15
12	Universal Bounds on Fluctuations in Continuous Thermal Machines. <i>Physical Review Letters</i> , 2021, 127, 190603.	2.9	31
13	Periodically Driven Quantum Thermal Machines from Warming up to Limit Cycle. <i>Physical Review Letters</i> , 2021, 127, 200602.	2.9	23
14	Capturing non-Markovian dynamics with the reaction coordinate method. <i>Physical Review A</i> , 2021, 104, .	1.0	10
15	On the definitions and simulations of vibrational heat transport in nanojunctions. <i>Journal of Chemical Physics</i> , 2020, 153, 174101.	1.2	6
16	Dissipation engineering of nonreciprocal quantum dot circuits: An input-output approach. <i>Physical Review B</i> , 2020, 102, .	1.1	1
17	Quantum nondemolition photon counting with a hybrid electromechanical probe. <i>Physical Review A</i> , 2020, 102, .	1.0	4
18	Thermodynamic uncertainty relation in atomic-scale quantum conductors. <i>Physical Review B</i> , 2020, 101, .	1.1	25

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19	Sharp Negative Differential Resistance from Vibrational Mode Softening in Molecular Junctions. Nano Letters, 2020, 20, 6128-6134.	4.5	10
20	Generalized input-output method to quantum transport junctions. I. General formulation. Physical Review B, 2020, 101, .	1.1	16
21	Generalized input-output method to quantum transport junctions. II. Applications. Physical Review B, 2020, 101, .	1.1	12
22	Experimental study of the thermodynamic uncertainty relation. Physical Review Research, 2020, 2, .	1.3	33
23	Loss-Free Excitonic Quantum Battery. Journal of Physical Chemistry C, 2019, 123, 18303-18314.	1.5	38
24	Interplay of Direct and Indirect Charge-Transfer Pathways in Donor-“Bridge”-Acceptor Systems. Journal of Physical Chemistry B, 2019, 123, 6099-6110.	1.2	5
25	Thermodynamic uncertainty relation in quantum thermoelectric junctions. Physical Review E, 2019, 99, 062141.	0.8	56
26	Non-Markovian dynamics revealed at a bound state in the continuum. Physical Review A, 2019, 99, .	1.0	26
27	Origin of the Anomalous Electronic Shot Noise in Atomic-Scale Junctions. Journal of Physical Chemistry C, 2019, 123, 23853-23862.	1.5	6
28	Thermodynamic uncertainty relation in thermal transport. Physical Review E, 2019, 100, 042101.	0.8	49
29	Phononic heat transport in molecular junctions: Quantum effects and vibrational mismatch. Journal of Chemical Physics, 2019, 150, 024105.	1.2	26
30	Hybrid quantum-classical simulation of quantum speed limits in open quantum systems. Journal of Physics A: Mathematical and Theoretical, 2019, 52, 215301.	0.7	6
31	Machine Learning Prediction of DNA Charge Transport. Journal of Physical Chemistry C, 2019, , .	1.5	0
32	Path-integral methodology and simulations of quantum thermal transport: Full counting statistics approach. Journal of Chemical Physics, 2019, 150, 084111.	1.2	33
33	Machine Learning Prediction of DNA Charge Transport. Journal of Physical Chemistry B, 2019, 123, 2801-2811.	1.2	25
34	Cooling condition for multilevel quantum absorption refrigerators. Physical Review E, 2019, 100, 062112.	0.8	13
35	Principles of photothermal gas-phase heterogeneous CO ₂ catalysis. Energy and Environmental Science, 2019, 12, 1122-1142.	15.6	300
36	Mean First-Passage Time and Steady-State Transfer Rate in Classical Chains. Journal of Physical Chemistry C, 2019, 123, 1021-1031.	1.5	3

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37	From Exhaustive Simulations to Key Principles in DNA Nanoelectronics. <i>Journal of Physical Chemistry C</i> , 2018, 122, 4206-4216.	1.5	16
38	ProbeZT: Simulation of transport coefficients of molecular electronic junctions under environmental effects using $\text{BA}^{1/4}\text{ttiker}\hat{a}\text{E}^{\text{TM}}$ s probes. <i>Computer Physics Communications</i> , 2018, 224, 396-404.	3.0	10
39	Heat transfer statistics in mixed quantum-classical systems. <i>Journal of Chemical Physics</i> , 2018, 149, 224104.	1.2	14
40	Electronic noise due to temperature differences in atomic-scale junctions. <i>Nature</i> , 2018, 562, 240-244.	13.7	72
41	Assessing the validity of the thermodynamic uncertainty relation in quantum systems. <i>Physical Review B</i> , 2018, 98, .	1.1	89
42	Current fluctuations in quantum absorption refrigerators. <i>Physical Review E</i> , 2018, 97, 052145.	0.8	29
43	Coherence and decoherence in quantum absorption refrigerators. <i>Physical Review E</i> , 2018, 98, 012117.	0.8	46
44	Quantum energy exchange and refrigeration: a full-counting statistics approach. <i>New Journal of Physics</i> , 2018, 20, 083026.	1.2	38
45	Controlling charge transport mechanisms in molecular junctions: Distilling thermally induced hopping from coherent-resonant conduction. <i>Journal of Chemical Physics</i> , 2017, 146, 164702.	1.2	29
46	Probing the limits of heat flow. <i>Science</i> , 2017, 355, 1125-1126.	6.0	4
47	Effects of vibrational anharmonicity on molecular electronic conduction and thermoelectric efficiency. <i>Journal of Chemical Physics</i> , 2017, 146, 092303.	1.2	11
48	Quantum efficiency bound for continuous heat engines coupled to noncanonical reservoirs. <i>Physical Review B</i> , 2017, 96, .	1.1	67
49	The Anderson impurity model out-of-equilibrium: Assessing the accuracy of simulation techniques with an exact current-occupation relation. <i>Journal of Chemical Physics</i> , 2017, 147, 054104.	1.2	6
50	Qubit absorption refrigerator at strong coupling. <i>New Journal of Physics</i> , 2017, 19, 123034.	1.2	32
51	Energy current and its statistics in the nonequilibrium spin-boson model: Majorana fermion representation. <i>New Journal of Physics</i> , 2017, 19, 043030.	1.2	23
52	Thermopower of molecular junctions: Tunneling to hopping crossover in DNA. <i>Journal of Chemical Physics</i> , 2016, 145, 224702.	1.2	20
53	Inelastic effects in molecular transport junctions: The probe technique at high bias. <i>Journal of Chemical Physics</i> , 2016, 144, 124107.	1.2	22
54	Vibrational Heat Transport in Molecular Junctions. <i>Annual Review of Physical Chemistry</i> , 2016, 67, 185-209.	4.8	96

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55	Intermediate Coherent-Incoherent Charge Transport: DNA as a Case Study. <i>Journal of Physical Chemistry C</i> , 2016, 120, 23951-23962.	1.5	27
56	Tunable photonic cavity coupled to a voltage-biased double quantum dot system: Diagrammatic nonequilibrium Green's function approach. <i>Physical Review B</i> , 2016, 94, .	1.1	17
57	Giant photon gain in large-scale quantum dot-circuit QED systems. <i>Physical Review B</i> , 2016, 94, .	1.1	14
58	Reconciling perturbative approaches in phonon-assisted transport junctions. <i>Journal of Chemical Physics</i> , 2016, 144, 074102.	1.2	9
59	Efficiency Statistics and Bounds for Systems with Broken Time-Reversal Symmetry. <i>Physical Review Letters</i> , 2015, 115, 040601.	2.9	43
60	Phonon thermoelectric transistors and rectifiers. <i>Physical Review B</i> , 2015, 92, .	1.1	83
61	Full counting statistics of vibrationally assisted electronic conduction: Transport and fluctuations of thermoelectric efficiency. <i>Physical Review B</i> , 2015, 92, .	1.1	84
62	Transient unidirectional energy flow and diode-like phenomenon induced by non-Markovian environments. <i>Scientific Reports</i> , 2015, 5, 15332.	1.6	9
63	Charge transport in molecular junctions: From tunneling to hopping with the probe technique. <i>Journal of Chemical Physics</i> , 2015, 143, 024111.	1.2	48
64	Thermoelectricity in molecular junctions with harmonic and anharmonic modes. <i>Beilstein Journal of Nanotechnology</i> , 2015, 6, 2129-2139.	1.5	11
65	Quantum Bounds on Heat Transport Through Nanojunctions. <i>Physical Review Letters</i> , 2015, 114, 220401.	2.9	29
66	Tunneling Diodes under Environmental Effects. <i>Journal of Physical Chemistry C</i> , 2015, 119, 25291-25297.	1.5	18
67	Can the Seebeck Coefficient Identify Quantum Interference in Molecular Conduction?. <i>Journal of Physical Chemistry C</i> , 2015, 119, 12097-12108.	1.5	23
68	Landau-Zener transitions mediated by an environment: Population transfer and energy dissipation. <i>Journal of Chemical Physics</i> , 2014, 140, 124709.	1.2	20
69	Magnetotransport in Aharonov-Bohm interferometers: Exact numerical simulations. <i>Physical Review B</i> , 2014, 90, .	1.1	6
70	Two-level system in spin baths: Non-adiabatic dynamics and heat transport. <i>Journal of Chemical Physics</i> , 2014, 140, 164110.	1.2	16
71	From Dissipative Dynamics to Studies of Heat Transfer at the Nanoscale: Analysis of the Spin-Boson Model. <i>Journal of Physical Chemistry A</i> , 2014, 118, 11323-11336.	1.1	39
72	Electron transport in nanoscale junctions with local anharmonic modes. <i>Journal of Chemical Physics</i> , 2014, 141, 014704.	1.2	14

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73	Heat transfer in the spin-boson model: A comparative study in the incoherent tunneling regime. <i>Physical Review E</i> , 2014, 90, 012148.	0.8	40
74	The probe technique far from equilibrium: Magnetic field symmetries of nonlinear transport. <i>European Physical Journal B</i> , 2013, 86, 1.	0.6	29
75	Path-integral simulations with fermionic and bosonic reservoirs: Transport and dissipation in molecular electronic junctions. <i>Journal of Chemical Physics</i> , 2013, 138, 214111.	1.2	63
76	Qubit-mediated energy transfer between thermal reservoirs: Beyond the Markovian master equation. <i>Physical Review B</i> , 2013, 87, .	1.1	26
77	Magnetic field symmetries of nonlinear transport with elastic and inelastic scattering. <i>Physical Review B</i> , 2013, 88, .	1.1	8
78	Exact dynamics of interacting qubits in a thermal environment: results beyond the weak coupling limit. <i>New Journal of Physics</i> , 2013, 15, 023044.	1.2	7
79	Full density matrix dynamics for large quantum systems: interactions, decoherence and inelastic effects. <i>New Journal of Physics</i> , 2013, 15, 013014.	1.2	12
80	Flux-dependent occupations and occupation difference in geometrically symmetric and energy degenerate double-dot Aharonov-Bohm interferometers. <i>Physical Review B</i> , 2013, 87, .	1.1	14
81	Vibrational cooling, heating, and instability in molecular conducting junctions: full counting statistics analysis. <i>Physical Chemistry Chemical Physics</i> , 2012, 14, 13820.	1.3	76
82	Analysis Technique for Exceptional Points in Open Quantum Systems and QPT Analogy for the Appearance of Irreversibility. <i>International Journal of Theoretical Physics</i> , 2012, 51, 3536-3550.	0.5	19
83	Towards equilibration and thermalization between finite quantum systems: Unitary emulation of dephasing effects and inelastic interactions. <i>Physical Review B</i> , 2012, 86, .	1.1	5
84	Dynamics of coherences in the interacting double-dot Aharonov-Bohm interferometer: Exact numerical simulations. <i>Physical Review B</i> , 2012, 85, .	1.1	26
85	Nonequilibrium transport in quantum impurity models: exact path integral simulations. <i>Physical Chemistry Chemical Physics</i> , 2011, 13, 14378.	1.3	24
86	Theory of quantum energy transfer in spin chains: Superexchange and ballistic motion. <i>Journal of Chemical Physics</i> , 2011, 135, 234508.	1.2	1
87	Quantum heat transfer in harmonic chains with self-consistent reservoirs: Exact numerical simulations. <i>Physical Review E</i> , 2011, 84, 011151.	0.8	47
88	Quantum effects in thermal conduction: Nonequilibrium quantum discord and entanglement. <i>Physical Review A</i> , 2011, 84, .	1.0	38
89	Quantum fluctuation theorem for heat exchange in the strong coupling regime. <i>Physical Review B</i> , 2011, 84, .	1.1	47
90	Quantum heat transfer: A Born-Oppenheimer method. <i>Physical Review E</i> , 2011, 83, 051114.	0.8	22

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91	Non-equilibrium spin-boson model: Counting statistics and the heat exchange fluctuation theorem. <i>Journal of Chemical Physics</i> , 2011, 135, 164106.	1.2	56
92	Symmetry properties of the heat current in non-ballistic asymmetric junctions: A case study. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2010, 374, 765-769.	0.9	0
93	Universality in exact quantum state population dynamics and control. <i>Physical Review A</i> , 2010, 82, .	1.0	2
94	Numerically exact path-integral simulation of nonequilibrium quantum transport and dissipation. <i>Physical Review B</i> , 2010, 82, .	1.1	138
95	Thermal conductance of the Fermi-Pasta-Ulam chains: Atomic to mesoscopic transition. <i>Physical Review E</i> , 2010, 81, 040102.	0.8	10
96	Interface effects in thermal conduction through molecular junctions: Numerical simulations. <i>Journal of Chemical Physics</i> , 2010, 133, 094101.	1.2	10
97	Minimal model of a heat engine: Information theory approach. <i>Physical Review E</i> , 2010, 82, 011120.	0.8	40
98	Absence of thermal rectification in asymmetric harmonic chains with self-consistent reservoirs. <i>Physical Review E</i> , 2009, 79, 012103.	0.8	41
99	Sufficient Conditions for Thermal Rectification in Hybrid Quantum Structures. <i>Physical Review Letters</i> , 2009, 102, 095503.	2.9	117
100	Nonlinear quantum heat transfer in hybrid structures: Sufficient conditions for thermal rectification. <i>Physical Review E</i> , 2009, 80, 041103.	0.8	61
101	Energy flux operator, current conservation and the formal Fourier's law. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2009, 42, 025302.	0.7	48
102	Vibrational relaxation in the Kubo oscillator: Stochastic pumping of heat. <i>Journal of Chemical Physics</i> , 2009, 130, 134510.	1.2	16
103	Stochastic Pumping of Heat: Approaching the Carnot Efficiency. <i>Physical Review Letters</i> , 2008, 101, 260601.	2.9	63
104	Thermal conduction in molecular chains: Non-Markovian effects. <i>Journal of Chemical Physics</i> , 2008, 128, 224710.	1.2	10
105	Single Mode Heat Rectifier: Controlling Energy Flow Between Electronic Conductors. <i>Physical Review Letters</i> , 2008, 100, 105901.	2.9	122
106	Nonlinear thermal control in anN-terminal junction. <i>Physical Review E</i> , 2008, 77, 021103.	0.8	16
107	Electric Control on the Nanoscale Using Tubular Image States. <i>Israel Journal of Chemistry</i> , 2007, 47, 105-110.	1.0	1
108	Molecular heat pump. <i>Physical Review E</i> , 2006, 73, 026109.	0.8	139

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109	Nanoscale Paul Trapping of a Single Electron. <i>Nano Letters</i> , 2006, 6, 1622-1626.	4.5	17
110	Heat flow in nonlinear molecular junctions: Master equation analysis. <i>Physical Review B</i> , 2006, 73, .	1.1	123
111	Ultraslow phonon-assisted collapse of tubular image states. <i>Surface Science</i> , 2005, 577, 86-92.	0.8	8
112	Thermoelectric effect in molecular junctions: A tool for revealing transport mechanisms. <i>Physical Review B</i> , 2005, 72, .	1.1	87
113	Reentrant onset of chaos in tubular image states. <i>Journal of Chemical Physics</i> , 2005, 122, 134705.	1.2	5
114	Heat rectification in molecular junctions. <i>Journal of Chemical Physics</i> , 2005, 122, 194704.	1.2	99
115	Tunable Bands of Electronic Image States in Nanowire Lattices. <i>Physical Review Letters</i> , 2005, 94, 016402.	2.9	13
116	Bands of Image States in Nanowire Lattices and Infrared Control of Proteins on Nanotube Ropes. <i>Fullerenes Nanotubes and Carbon Nanostructures</i> , 2005, 13, 267-274.	1.0	0
117	Spin-Boson Thermal Rectifier. <i>Physical Review Letters</i> , 2005, 94, 034301.	2.9	334
118	Shaping of detached image states above suspended nanowires. <i>Physical Review B</i> , 2004, 69, .	1.1	14
119	Electric and magnetic-field tuning of tubular image states above suspended nanowires. <i>Chemical Physics Letters</i> , 2004, 392, 314-318.	1.2	7
120	Thermal conductance through molecular wires. <i>Journal of Chemical Physics</i> , 2003, 119, 6840-6855.	1.2	338
121	Heating in current carrying molecular junctions. <i>Journal of Chemical Physics</i> , 2002, 117, 3915-3927.	1.2	99
122	Conduction in molecular junctions: inelastic effects. <i>Chemical Physics</i> , 2002, 281, 235-256.	0.9	61
123	Steady-state quantum mechanics of thermally relaxing systems. <i>Chemical Physics</i> , 2001, 268, 315-335.	0.9	56
124	Electron Transfer Rates in Bridged Molecular Systems 2. A Steady-State Analysis of Coherent Tunneling and Thermal Transitions. <i>Journal of Physical Chemistry B</i> , 2000, 104, 3817-3829.	1.2	298
125	Activated Conduction in Microscopic Molecular Junctions. <i>Journal of Physical Chemistry B</i> , 2000, 104, 2790-2793.	1.2	96
126	Perturbation theory approach to tunneling: Direct and resonance transmission in super-exchange models. <i>Journal of Chemical Physics</i> , 1999, 111, 1569-1579.	1.2	21

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127	Bounds on fluctuations for ensembles of quantum thermal machines. Journal of Physics A: Mathematical and Theoretical, 0, , .	0.7	5