

Michael Thorwart

List of Publications by Year in descending order

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132
papers

4,396
citations

94433

37
h-index

114465

63
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134
all docs

134
docs citations

134
times ranked

3534
citing authors

#	ARTICLE	IF	CITATIONS
1	Quantum biology revisited. <i>Science Advances</i> , 2020, 6, eaaz4888.	10.3	266
2	Nature does not rely on long-lived electronic quantum coherence for photosynthetic energy transfer. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, 8493-8498.	7.1	235
3	Toward tailoring Majorana bound states in artificially constructed magnetic atom chains on elemental superconductors. <i>Science Advances</i> , 2018, 4, eaar5251.	10.3	233
4	Iterative real-time path integral approach to nonequilibrium quantum transport. <i>Physical Review B</i> , 2008, 77, .	3.2	190
5	Enhanced quantum entanglement in the non-Markovian dynamics of biomolecular excitons. <i>Chemical Physics Letters</i> , 2009, 478, 234-237.	2.6	172
6	Observation of a Superradiant Mott Insulator in the Dicke-Hubbard Model. <i>Physical Review Letters</i> , 2015, 115, 230403.	7.8	165
7	Quantum coherent biomolecular energy transfer with spatially correlated fluctuations. <i>New Journal of Physics</i> , 2010, 12, 065043.	2.9	122
8	Exciton transfer dynamics and quantumness of energy transfer in the Fenna-Matthews-Olson complex. <i>Physical Review E</i> , 2011, 84, 041926.	2.1	119
9	Comparative study of theoretical methods for non-equilibrium quantum transport. <i>New Journal of Physics</i> , 2010, 12, 043042.	2.9	111
10	Decoherence and dissipation during a quantum XOR gate operation. <i>Physical Review A</i> , 2001, 65, .	2.5	100
11	Landau-Zener Transitions in a Dissipative Environment: Numerically Exact Results. <i>Physical Review Letters</i> , 2009, 103, 220401.	7.8	92
12	Dynamics of the spin-boson model with a structured environment. <i>Chemical Physics</i> , 2004, 296, 333-344.	1.9	91
13	Iterative path-integral algorithm versus cumulant time-nonlocal master equation approach for dissipative biomolecular exciton transport. <i>New Journal of Physics</i> , 2011, 13, 063040.	2.9	82
14	Multiphoton Transitions in a Macroscopic Quantum Two-State System. <i>Physical Review Letters</i> , 2004, 93, 037001.	7.8	75
15	Nonequilibrium Phase Transition of Interacting Bosons in an Intra-Cavity Optical Lattice. <i>Physical Review Letters</i> , 2015, 114, 123601.	7.8	72
16	Iterative summation of path integrals for nonequilibrium molecular quantum transport. <i>Physical Review B</i> , 2012, 85, .	3.2	66
17	Iterative algorithm versus analytic solutions of the parametrically driven dissipative quantum harmonic oscillator. <i>Physical Review E</i> , 2000, 62, 5808-5817.	2.1	65
18	Molecular polarizability anisotropy of liquid water revealed by terahertz-induced transient orientation. <i>Nature Communications</i> , 2018, 9, 2142.	12.8	63

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19	Quantum hysteresis and resonant tunneling in bistable systems. <i>Chemical Physics</i> , 1998, 235, 61-80.	1.9	58
20	Non-Markovian dynamics of double quantum dot charge qubits due to acoustic phonons. <i>Physical Review B</i> , 2005, 72, .	3.2	58
21	Ultraslow quantum dynamics in a sub-Ohmic heat bath. <i>Physical Review B</i> , 2010, 81, .	3.2	58
22	Direct Observation of Ultrafast Exciton Dissociation in Lead Iodide Perovskite by 2D Electronic Spectroscopy. <i>ACS Photonics</i> , 2018, 5, 852-860.	6.6	57
23	Vibronically coherent speed-up of the excitation energy transfer in the Fenna-Matthews-Olson complex. <i>Physical Review E</i> , 2015, 91, 022706.	2.1	54
24	Two-Dimensional Electronic Spectroscopy of Light-Harvesting Complex II at Ambient Temperature: A Joint Experimental and Theoretical Study. <i>Journal of Physical Chemistry B</i> , 2015, 119, 12017-12027.	2.6	54
25	Macroscopic quantum effects in a strongly driven nanomechanical resonator. <i>Physical Review B</i> , 2004, 70, .	3.2	53
26	Controlling decoherence of a two-level atom in a lossy cavity. <i>Journal of Modern Optics</i> , 2000, 47, 2905-2919.	1.3	51
27	Skyrmion-“Anti-Skyrmion Pair Creation by in-Plane Currents. <i>Physical Review Letters</i> , 2017, 118, 267203.	7.8	50
28	Entanglement Spectroscopy of a Driven Solid-State Qubit and Its Detector. <i>Physical Review Letters</i> , 2004, 93, 267005.	7.8	49
29	Confinement-induced resonances for a two-component ultracold atom gas in arbitrary quasi-one-dimensional traps. <i>New Journal of Physics</i> , 2005, 7, 192-192.	2.9	49
30	Strong Coupling Theory for Driven Tunneling and Vibrational Relaxation. <i>Physical Review Letters</i> , 2000, 85, 860-863.	7.8	46
31	Nonlinear response of a driven vibrating nanobeam in the quantum regime. <i>New Journal of Physics</i> , 2006, 8, 21-21.	2.9	46
32	Multiphonon transitions in the biomolecular energy transfer dynamics. <i>Journal of Chemical Physics</i> , 2010, 132, 194111.	3.0	44
33	Strong Coupling Theory for Tunneling and Vibrational Relaxation in Driven Bistable Systems. <i>Annals of Physics</i> , 2001, 293, 15-66.	2.8	43
34	Intermolecular vibrations mediate ultrafast singlet fission. <i>Science Advances</i> , 2020, 6, .	10.3	42
35	Dynamical Hysteresis in Bistable Quantum Systems. <i>Physical Review Letters</i> , 1997, 78, 2503-2506.	7.8	40
36	Coherent control of an effective two-level system in a non-Markovian biomolecular environment. <i>New Journal of Physics</i> , 2009, 11, 085001.	2.9	40

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37	Noise-Induced Förster Resonant Energy Transfer between Orthogonal Dipoles in Photoexcited Molecules. <i>Physical Review Letters</i> , 2012, 108, 218302.	7.8	39
38	Quantum Mechanical Wave Packet Dynamics at a Conical Intersection with Strong Vibrational Dissipation. <i>Journal of Physical Chemistry Letters</i> , 2016, 7, 382-386.	4.6	37
39	Dissipative Landau-Zener quantum dynamics with transversal and longitudinal noise. <i>Physical Review A</i> , 2015, 91, .	2.5	36
40	Dynamics of the quantum Duffing oscillator in the driving induced bistable regime. <i>Chemical Physics</i> , 2006, 322, 135-143.	1.9	35
41	BCS theory of driven superconductivity. <i>European Physical Journal B</i> , 2016, 89, 1.	1.5	35
42	Primary Charge Separation in the Photosystem II Reaction Center Revealed by a Global Analysis of the Two-dimensional Electronic Spectra. <i>Scientific Reports</i> , 2017, 7, 12347.	3.3	34
43	Correlated Tunneling in Intramolecular Carbon Nanotube Quantum Dots. <i>Physical Review Letters</i> , 2002, 89, 196402.	7.8	33
44	On the origin of oscillations in two-dimensional spectra of excitonically-coupled molecular systems. <i>New Journal of Physics</i> , 2015, 17, 072002.	2.9	31
45	Quantification of non-Markovian effects in the Fenna-Matthews-Olson complex. <i>Physical Review E</i> , 2013, 88, 062719.	2.1	30
46	Photoinduced Vibrations Drive Ultrafast Structural Distortion in Lead Halide Perovskite. <i>Journal of the American Chemical Society</i> , 2020, 142, 16569-16578.	13.7	30
47	Exact Results for One-Dimensional Disordered Bosons with Strong Repulsion. <i>Physical Review Letters</i> , 2005, 94, 060402.	7.8	28
48	Ultracold bosons in lattices with binary disorder. <i>Physical Review A</i> , 2008, 77, .	2.5	26
49	The role of discrete molecular modes in the coherent exciton dynamics in FMO. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2012, 45, 154009.	1.5	26
50	Competition between relaxation and external driving in the dissipative Landau-Zener problem. <i>Chemical Physics</i> , 2010, 375, 234-242.	1.9	25
51	Impact of Vibrational Coherence on the Quantum Yield at a Conical Intersection. <i>Journal of Physical Chemistry Letters</i> , 2016, 7, 3491-3496.	4.6	25
52	Spin-boson dynamics beyond conventional perturbation theories. <i>Physical Review B</i> , 2007, 76, .	3.2	24
53	Iterative path integral summation for nonequilibrium quantum transport. <i>Physica Status Solidi (B): Basic Research</i> , 2013, 250, 2298-2314.	1.5	23
54	Spectroscopy of a driven solid-state qubit coupled to a structured environment. <i>European Physical Journal B</i> , 2005, 45, 405-417.	1.5	22

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55	Dynamical bistability in the driven circuit QED. Europhysics Letters, 2010, 89, 17008.	2.0	22
56	Quasienergy description of the driven Jaynes-Cummings model. Physical Review B, 2010, 82, .	3.2	22
57	Nonequilibrium Quantum Phase Transition in a Hybrid Atom-Optomechanical System. Physical Review Letters, 2018, 120, 063605.	7.8	20
58	Phonon-induced decoherence and dissipation in donor-based charge qubits. European Physical Journal B, 2006, 53, 91-98.	1.5	19
59	Crossover from coherent to incoherent quantum dynamics due to sub-Ohmic dephasing. Physical Review B, 2013, 87, .	3.2	19
60	Current-induced nonadiabatic spin torques and domain-wall motion with spin relaxation in a ferromagnetic metallic wire. Physical Review B, 2007, 76, .	3.2	18
61	Cooling a Magnetic Nanoisland by Spin-Polarized Currents. Physical Review Letters, 2014, 113, 076602.	7.8	18
62	Origin of poor doping efficiency in solution processed organic semiconductors. Chemical Science, 2018, 9, 4468-4476.	7.4	18
63	Enhanced quantum efficiency of light-harvesting in a biomolecular quantum "steam engine". Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 2693-2694.	7.1	16
64	Bosonic Continuum Theory of One-Dimensional Lattice Anyons. Physical Review Letters, 2021, 126, 163201.	7.8	16
65	Quantum steps in hysteresis loops. Physics Letters, Section A: General, Atomic and Solid State Physics, 1998, 239, 233-238.	2.1	15
66	Tracking an electronic wave packet in the vicinity of a conical intersection. Journal of Chemical Physics, 2017, 147, 074101.	3.0	15
67	Ultrafast Energy Transfer in Excitonically Coupled Molecules Induced by a Nonlocal Peierls Phonon. Journal of Physical Chemistry Letters, 2019, 10, 1206-1211.	4.6	15
68	Efficient tool to calculate two-dimensional optical spectra for photoactive molecular complexes. Physical Review E, 2015, 92, 042708.	2.1	14
69	Charge Transfer through Redox Molecular Junctions in Nonequilibrated Solvents. Journal of Physical Chemistry Letters, 2020, 11, 1729-1737.	4.6	14
70	Vortex Majorana braiding in a finite time. Physical Review Research, 2020, 2, .	3.6	14
71	Controlled creation of quantum skyrmions. Physical Review Research, 2022, 4, .	3.6	14
72	Organic π -Conjugated Copolymers as Molecular Charge Qubits. Physical Review Letters, 2013, 111, 016802.	7.8	13

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73	Role of impurity clusters for the current-driven motion of magnetic skyrmions. <i>Physical Review B</i> , 2021, 103, .	3.2	13
74	Correlated sequential tunneling through a double barrier for interacting one-dimensional electrons. <i>Physical Review B</i> , 2005, 72, .	3.2	12
75	Nanoscale atomic waveguides with suspended carbon nanotubes. <i>Applied Physics B: Lasers and Optics</i> , 2005, 81, 1075-1080.	2.2	12
76	Charge qubit entanglement in double quantum dots. <i>Europhysics Letters</i> , 2006, 76, 905-911.	2.0	12
77	Nonequilibrium Response of Nanosystems Coupled to Driven Quantum Baths. <i>Journal of Physical Chemistry Letters</i> , 2016, 7, 2015-2019.	4.6	12
78	Implications of a temperature-dependent magnetic anisotropy for superparamagnetic switching. <i>Journal of Magnetism and Magnetic Materials</i> , 2018, 447, 96-100.	2.3	12
79	Enhancing nanomechanical squeezing by atomic interactions in a hybrid atom-optomechanical system. <i>Physical Review A</i> , 2018, 98, .	2.5	12
80	Dynamics of a quantum two-state system in a linearly driven quantum bath. <i>Physical Review A</i> , 2016, 94, .	2.5	11
81	Quantum mechanical response to a driven Caldeira-Leggett bath. <i>Physical Review E</i> , 2018, 98, 012122.	2.1	11
82	Does electronic coherence enhance anticorrelated pigment vibrations under realistic conditions?. <i>Journal of Chemical Physics</i> , 2019, 151, 114115.	3.0	11
83	Winding Up Quantum Spin Helices: How Avoided Level Crossings Exile Classical Topological Protection. <i>Physical Review Letters</i> , 2019, 122, 097204.	7.8	11
84	Rashba-induced chirality switching of domain walls and suppression of the Walker breakdown. <i>Physical Review B</i> , 2014, 90, .	3.2	10
85	Spin-boson dynamics: A unified approach from weak to strong coupling. <i>Europhysics Letters</i> , 2007, 80, 40005.	2.0	9
86	Nonequilibrium Rashba field driven domain wall motion in ferromagnetic nanowires. <i>Physical Review B</i> , 2013, 87, .	3.2	9
87	Hydration shell effects in the relaxation dynamics of photoexcited Fe-II complexes in water. <i>Journal of Chemical Physics</i> , 2014, 141, 044304.	3.0	9
88	Spin vibronics in interacting nonmagnetic molecular nanojunctions. <i>Physical Review B</i> , 2015, 92, .	3.2	9
89	Second quantization of Leinaas-Myrheim anyons in one dimension and their relation to the Lieb-Liniger model. <i>Physical Review B</i> , 2017, 96, .	3.2	9
90	Signature of the geometric phase in the wave packet dynamics on hypersurfaces. <i>Chemical Physics</i> , 2018, 515, 21-27.	1.9	9

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91	Intramolecular vibrations enhance the quantum efficiency of excitonic energy transfer. <i>Photosynthesis Research</i> , 2020, 144, 137-145.	2.9	9
92	Non-equilibrium quantum dynamics of the magnetic Anderson model. <i>New Journal of Physics</i> , 2012, 14, 073049.	2.9	8
93	Nonequilibrium quantum solvation with a time-dependent Onsager cavity. <i>Journal of Chemical Physics</i> , 2018, 148, 164301.	3.0	7
94	Nonequilibrium quantum fluctuation relations for harmonic systems in nonthermal environments. <i>New Journal of Physics</i> , 2013, 15, 105008.	2.9	6
95	Tuning the order of the nonequilibrium quantum phase transition in a hybrid atom-optomechanical system. <i>New Journal of Physics</i> , 2019, 21, 113037.	2.9	6
96	Rotating edge-field driven processing of chiral spin textures in racetrack devices. <i>Scientific Reports</i> , 2020, 10, 20400.	3.3	6
97	Steering of the Skyrmion Hall Angle by Gate Voltages. <i>Physical Review Letters</i> , 2020, 124, 207202.	7.8	6
98	Controlling decoherence of a two-level atom in a lossy cavity. <i>Journal of Modern Optics</i> , 2000, 47, 2905-2919.	1.3	6
99	Qubit state detection using the quantum Duffing oscillator. <i>Physical Review B</i> , 2011, 84, .	3.2	5
100	Quantum noise properties of multiphoton transitions in driven nonlinear resonators. <i>New Journal of Physics</i> , 2012, 14, 093024.	2.9	5
101	Probing chirality fluctuations in molecules by nonlinear optical spectroscopy. <i>Journal of Chemical Physics</i> , 2014, 141, 234305.	3.0	5
102	Photon-Assisted Confinement-Induced Resonances for Ultracold Atoms. <i>Physical Review Letters</i> , 2014, 112, 233201.	7.8	5
103	Temperature and non-linear response of cantilever-type mechanical oscillators used in atomic force microscopes with interferometric detection. <i>Applied Physics Letters</i> , 2015, 106, .	3.3	5
104	Stueckelberg Oscillations in a Two-State Two-Path Model of a Conical Intersection. <i>Annalen Der Physik</i> , 2017, 529, 1600147.	2.4	5
105	Dissociation and localization dynamics of charge transfer excitons at a donor-acceptor interface. <i>Chemical Physics</i> , 2020, 528, 110525.	1.9	5
106	Ultrafast Charge Transfer and Relaxation at a Donor-Acceptor Interface. <i>Journal of Physical Chemistry B</i> , 2021, 125, 8869-8875.	2.6	5
107	Nonlocal spin torques in Rashba quantum wires with steep magnetic textures. <i>Physical Review B</i> , 2015, 92, .	3.2	4
108	Focus on nonequilibrium fluctuation relations: from classical to quantum. <i>New Journal of Physics</i> , 2015, 17, 020201.	2.9	4

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109	Driven Bose-Hubbard model with a parametrically modulated harmonic trap. <i>Physical Review A</i> , 2017, 95, .	2.5	4
110	Unique Signatures of Topological Phases in Two-Dimensional THz Spectroscopy. <i>Physical Review Letters</i> , 2022, 129, .	7.8	4
111	Interaction-Induced Harmonic Frequency Mixing in Quantum Dots. <i>Physical Review Letters</i> , 2008, 101, 036806.	7.8	3
112	Quantum Coherence and Entanglement in Photosynthetic Light-Harvesting Complexes. <i>Semiconductors and Semimetals</i> , 2010, , 39-75.	0.7	3
113	Spectroscopic Signatures of the Dynamical Hydrophobic Solvation Shell Formation. <i>Journal of Physical Chemistry B</i> , 2019, 123, 2106-2113.	2.6	3
114	Bath-induced decoherence in finite-size Majorana wires at non-zero temperature. <i>New Journal of Physics</i> , 2022, 24, 013033.	2.9	3
115	Quantum Coherence in Photosynthetic Exciton Dynamics. <i>Journal of Physics: Conference Series</i> , 2012, 376, 012025.	0.4	2
116	Exploiting the magnetomechanical interaction for cooling magnetic molecular junctions by spin-polarized currents. <i>New Journal of Physics</i> , 2016, 18, 023026.	2.9	2
117	Dissipative dynamics of a quantum two-state system in presence of nonequilibrium quantum noise. <i>European Physical Journal B</i> , 2016, 89, 1.	1.5	2
118	Linear photoabsorption spectra and vertical excitation energies of microsolvated DNA nucleobases in aqueous solution. <i>Journal of Theoretical and Computational Chemistry</i> , 2017, 16, 1750028.	1.8	2
119	Antiresonant quantum transport in ac-driven molecular nanojunctions. <i>Physical Review B</i> , 2018, 97, .	3.2	2
120	Lack of long-lived quantum coherence in the photosynthetic energy transfer. <i>EPJ Web of Conferences</i> , 2019, 205, 09035.	0.3	2
121	Time-Resolved Probing of the Nonequilibrium Structural Solvation Dynamics by the Time-Dependent Stokes Shift. <i>Journal of Physical Chemistry B</i> , 2020, 124, 5717-5722.	2.6	2
122	Luttinger correlations and resonant tunneling in carbon nanotube intramolecular dots. <i>Chemical Physics</i> , 2002, 281, 477-487.	1.9	1
123	Molecular architectures based on π -conjugated block copolymers for global quantum computation. <i>Journal of Physics: Conference Series</i> , 2009, 167, 012061.	0.4	1
124	Haigerloch Cave Survived the War. <i>Physics Today</i> , 2001, 54, 93-94.	0.3	0
125	Correlated sequential tunneling in Tomonaga-Luttinger liquid quantum dots. <i>Physica Status Solidi (B): Basic Research</i> , 2005, 242, 218-225.	1.5	0
126	Time-dependent transport through a correlated quantum dot with magnetic impurity. <i>Journal of Physics: Conference Series</i> , 2010, 245, 012021.	0.4	0

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127	Two-dimensional photon echoes reveal non-Markovian energy transfer in an excitonic dimer. <i>Physical Review E</i> , 2016, 94, 052146.	2.1	0
128	Nonequilibrium Quantum Dynamics of Current-Driven Magnetic Domain Walls and Skyrmions. <i>Nanoscience and Technology</i> , 2018, , 325-342.	1.5	0
129	Dragging of Magnetic Domain Walls by Interlayer Exchange. <i>Physica Status Solidi (B): Basic Research</i> , 2019, 256, 1800621.	1.5	0
130	Evidence and implications for exciton dissociation in lead halide perovskites. <i>EPJ Web of Conferences</i> , 2019, 205, 06018.	0.3	0
131	Nonequilibrium Quantum Dynamics of Biomolecular Excitons. <i>NATO Science for Peace and Security Series C: Environmental Security</i> , 2014, , 61-78.	0.2	0
132	Transport through Intrinsic Quantum Dots in Interacting Carbon Nanotubes. , 2006, , 229-249.		0