

Frank Grossmann

List of Publications by Year in descending order

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89
papers

2,894
citations

236925

25
h-index

175258

52
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93
all docs

93
docs citations

93
times ranked

1533
citing authors

#	ARTICLE	IF	CITATIONS
1	Quantum approach to the thermalization of the toppling pencil interacting with a finite bath. <i>Physical Review A</i> , 2022, 105, .	2.5	2
2	Coherent state based solutions of the time-dependent Schrödinger equation: hierarchy of approximations to the variational principle. <i>International Reviews in Physical Chemistry</i> , 2021, 40, 81-125.	2.3	27
3	Schrödinger-Cat States in Landau-Zener-Stueckelberg-Majorana Interferometry: A Multiple Davydov Ansatz Approach. <i>Journal of Physical Chemistry B</i> , 2021, 125, 3184-3196.	2.6	17
4	Exact variational dynamics of the multimode Bose-Hubbard model based on coherent states. <i>Physical Review A</i> , 2021, 103, .	2.5	5
5	Stabilization of adiabatic population transfer by strong coupling to a phonon bath. <i>Physical Review A</i> , 2020, 102, .	2.5	7
6	Apoptosis of moving nonorthogonal basis functions in many-particle quantum dynamics. <i>Physical Review B</i> , 2020, 101, .	3.2	26
7	On the Husimi Version of the Classical Limit of Quantum Correlation Functions. <i>Condensed Matter</i> , 2020, 5, 3.	1.8	4
8	Exact open quantum system dynamics: Optimal frequency vs time representation of bath correlations. <i>Journal of Chemical Physics</i> , 2019, 150, 234105.	3.0	19
9	Davydov-Ansatz for Landau-Zener-Stueckelberg-Majorana transitions in an environment: Tuning the survival probability via number state excitation. <i>Journal of Chemical Physics</i> , 2019, 150, 234109.	3.0	18
10	Simplified approach to the mixed time-averaging semiclassical initial value representation for the calculation of dense vibrational spectra. <i>Journal of Chemical Physics</i> , 2018, 148, 114107.	3.0	32
11	Time-Dependent Quantum Theory. <i>The New Synthese Historical Library</i> , 2018, , 19-84.	0.1	0
12	Field-Matter Coupling and Two-Level Systems. <i>The New Synthese Historical Library</i> , 2018, , 87-112.	0.1	0
13	Molecules in Strong Laser Fields. <i>The New Synthese Historical Library</i> , 2018, , 173-256.	0.1	0
14	Theoretical Femtosecond Physics. <i>Graduate Texts in Physics</i> , 2018, , .	0.2	14
15	Atoms in Strong Laser Fields. <i>Graduate Texts in Physics</i> , 2018, , 113-172.	0.2	0
16	Including temperature in a wavefunction description of the dynamics of the quantum Rabi model. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2018, 51, 014001.	2.1	7
17	The Davydov D1.5 Ansatz for the quantum Rabi model. <i>Physica Scripta</i> , 2018, 93, 074001.	2.5	17
18	Herman-Kluk propagator is free from zero-point energy leakage. <i>Chemical Physics</i> , 2018, 515, 231-235.	1.9	27

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19	Polaron dynamics with off-diagonal coupling: beyond the Ehrenfest approximation. <i>Physical Chemistry Chemical Physics</i> , 2017, 19, 1655-1668.	2.8	41
20	Application of the mixed time-averaging semiclassical initial value representation method to complex molecular spectra. <i>Journal of Chemical Physics</i> , 2017, 147, 164110.	3.0	30
21	Dynamics of interacting bosons using the Herman-Kluk semiclassical initial value representation. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2016, 49, 165303.	2.1	15
22	A semiclassical hybrid approach to linear response functions for infrared spectroscopy. <i>Physica Scripta</i> , 2016, 91, 044004.	2.5	7
23	Mixed semiclassical initial value representation time-averaging propagator for spectroscopic calculations. <i>Journal of Chemical Physics</i> , 2016, 144, 094102.	3.0	40
24	Electron Pumping under Non-Markovian Dissipation: The Role of the Self-Consistent Field. <i>Journal of the Physical Society of Japan</i> , 2016, 85, 034803.	1.6	2
25	Generalization of the Davydov Ansatz by squeezing. <i>Chemical Physics</i> , 2016, 481, 99-107.	1.9	11
26	Quantum effects in intermediate-temperature dipole-dipole correlation-functions in the presence of an environment. <i>Journal of Chemical Physics</i> , 2014, 141, 144305.	3.0	6
27	Interference nature of quantum breather oscillation. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2014, 47, 165102.	2.1	2
28	Theoretical Femtosecond Physics. <i>Graduate Texts in Physics</i> , 2013, , .	0.2	16
29	Obtaining Maxwell's equations heuristically. <i>American Journal of Physics</i> , 2013, 81, 120-123.	0.7	9
30	Discrete transparent boundary conditions for the time-dependent Schrödinger equation: an explicit formulation. <i>Physica Scripta</i> , 2013, 88, 065014.	2.5	0
31	Molecules in Strong Laser Fields. <i>Graduate Texts in Physics</i> , 2013, , 137-210.	0.2	2
32	An analytical approach to high harmonic generation. <i>New Journal of Physics</i> , 2012, 14, 093050.	2.9	15
33	Semiclassical Hybrid Approach to Condensed Phase Molecular Dynamics: Application to the Kr_{17} Cluster. <i>Journal of Physical Chemistry A</i> , 2012, 116, 11199-11210.	2.5	19
34	Dominant-interaction Hamiltonians for high-order-harmonic generation in laser-assisted collisions. <i>Physical Review A</i> , 2012, 85, .	2.5	17
35	Spectra of harmonium in a magnetic field using an initial value representation of the semiclassical propagator. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2011, 44, 445309.	2.1	10
36	Optimization of electron pumping by harmonic mixing. <i>Physical Review B</i> , 2011, 83, .	3.2	5

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37	Semiclassical dynamics of open quantum systems: Comparing the finite with the infinite perspective. <i>Chemical Physics</i> , 2010, 375, 227-233.	1.9	14
38	Coherent and incoherent effects on the imaging and scattering process in transmission electron microscopy and off-axis electron holography. <i>Ultramicroscopy</i> , 2010, 110, 1397-1403.	1.9	4
39	Semiclassical formulation of non-Markovian quantum Brownian motion. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2010, 42, 388-393.	2.7	1
40	Semiclassical non-Markovian Brownian motion in anharmonic potentials. <i>Chemical Physics</i> , 2010, 370, 34-41.	1.9	8
41	Reliability of soft-core approximations in theoretical studies of molecules in intense laser fields. <i>Physical Review A</i> , 2010, 81, .	2.5	16
42	Trajectory Based Non-Markovian Dissipative Tunneling. <i>Physical Review Letters</i> , 2010, 105, 230405.	7.8	18
43	Investigating quantum transport with an initial value representation of the semiclassical propagator. <i>Physical Review E</i> , 2009, 80, 031101.	2.1	6
44	Steering a molecule into dissociation via vibrational excitation. <i>New Journal of Physics</i> , 2009, 11, 083014.	2.9	14
45	A finite-difference implementation of the Caldeiraâ€™Leggett master equation. <i>Journal of Chemical Physics</i> , 2009, 130, 034105.	3.0	12
46	Decoherence and dissipation in a molecular system coupled to an environment: An application of semiclassical hybrid dynamics. <i>Journal of Chemical Physics</i> , 2009, 130, 244107.	3.0	26
47	Theoretical Femtosecond Physics. <i>Springer Series on Atomic, Optical, and Plasma Physics</i> , 2008, , .	0.2	31
48	Dissociation and ionization of small molecules steered by external noise. <i>New Journal of Physics</i> , 2008, 10, 013020.	2.9	5
49	Non-Markovian Dissipative Semiclassical Dynamics. <i>Physical Review Letters</i> , 2008, 100, 230402.	7.8	63
50	Time-Dependent Semiclassical Mechanics. <i>Advances in Chemical Physics</i> , 2007, , 191-304.	0.3	48
51	Electronâ€™nuclear correlations in mixed quantumâ€™classical calculations of laser-induced ionization and dissociation. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2007, 364, 417-420.	2.1	3
52	A semiclassical hybrid approach to many particle quantum dynamics. <i>Journal of Chemical Physics</i> , 2006, 125, 014111.	3.0	51
53	Transmission probabilities for periodically driven barriers. <i>Chemical Physics</i> , 2006, 322, 144-150.	1.9	3
54	Nonadiabatic dynamics of ethylene in femtosecond laser pulses. <i>Physical Review A</i> , 2005, 72, .	2.5	18

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55	Long-time and unitary properties of semiclassical initial value representations. <i>Journal of Chemical Physics</i> , 2004, 120, 26-30.	3.0	39
56	Wave packet approach to periodically driven scattering. <i>Physical Review B</i> , 2004, 70, .	3.2	8
57	Manifestation of electrode surface states in molecular conduction. <i>Macromolecular Symposia</i> , 2004, 212, 103-112.	0.7	1
58	Conductance Properties of Stilbenoid Molecules. <i>ChemPhysChem</i> , 2003, 4, 1252-1256.	2.1	15
59	Mixed classical-quantum approach to excitation, ionization, and fragmentation of H ₂ in intense laser fields. <i>Physical Review A</i> , 2003, 67, .	2.5	26
60	Conductance of a molecular junction mediated by unconventional metal-induced gap states. <i>Europhysics Letters</i> , 2003, 62, 90-96.	2.0	23
61	Electronic transport through occupied and unoccupied states of an organic molecule on Au: Experiment and theory. <i>Physical Review B</i> , 2002, 65, .	3.2	32
62	Comment on "Semiclassical approximations in phase space with coherent states". <i>Journal of Physics A</i> , 2002, 35, 9489-9492.	1.6	37
63	Optimal control of a molecular cis-trans isomerization model. <i>Europhysics Letters</i> , 2002, 60, 201-206.	2.0	32
64	Conductance Calculations for Real Systems on the Nanoscale. <i>ChemPhysChem</i> , 2002, 3, 650.	2.1	7
65	Conductance Calculations for Real Systems on the Nanoscale. <i>ChemPhysChem</i> , 2002, 3, 733-733.	2.1	0
66	Fullerene based devices for molecular electronics. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2002, 12, 749-752.	2.7	18
67	The Role of Contacts in Molecular Electronics. , 2002, , 133-149.		20
68	Inelastic resonant tunneling with wavepackets. <i>Chemical Physics</i> , 2001, 268, 347-353.	1.9	6
69	Laser- and collision-induced nonadiabatic wave-packet dynamics in sodium molecules. <i>Annalen Der Physik</i> , 2000, 9, 785-793.	2.4	3
70	Semiclassical Real-Time Tunneling by Multiple Spawning of Classical Trajectories. <i>Physical Review Letters</i> , 2000, 85, 903-907.	7.8	36
71	Semiclassical wave-packet propagation on potential surfaces coupled by ultrashort laser pulses. <i>Physical Review A</i> , 1999, 60, 1791-1796.	2.5	42
72	Hydrogen wavefunction in intense laser fields: A unitary integrator for a high performance parallel computer. <i>Computer Physics Communications</i> , 1999, 120, 33-40.	7.5	3

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73	Partitioning dynamic and thermal factors in quantum rate calculations: a coherent state approach. <i>Physical Chemistry Chemical Physics</i> , 1999, 1, 1333-1342.	2.8	4
74	From the coherent state path integral to a semiclassical initial value representation of the quantum mechanical propagator. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1998, 243, 243-248.	2.1	62
75	Semiclassical coherent-state path integrals for scattering. <i>Physical Review A</i> , 1998, 57, 3256-3261.	2.5	27
76	Spacetime structures in simple quantum systems. <i>Journal of Physics A</i> , 1997, 30, L277-L283.	1.6	64
77	Semiclassical approach to the hydrogen-exchange reaction Reactive and transition-state dynamics. <i>Journal of the Chemical Society, Faraday Transactions</i> , 1997, 93, 781-789.	1.7	51
78	Harmonic inversion of semiclassical short time signals. <i>Chemical Physics Letters</i> , 1997, 279, 355-360.	2.6	19
79	Time-dependent semiclassical calculation of resonance lifetimes. <i>Chemical Physics Letters</i> , 1996, 262, 470-476.	2.6	54
80	A semiclassical correlation function approach to barrier tunneling. <i>Chemical Physics Letters</i> , 1995, 241, 45-50.	2.6	73
81	A semiclassical approach to dissipation in quantum mechanics. <i>Journal of Chemical Physics</i> , 1995, 103, 3696-3704.	3.0	23
82	ac-Driven quantum decay. <i>Chemical Physics</i> , 1993, 170, 295-301.	1.9	10
83	Localization and tunneling in periodically driven bistable systems. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1993, 194, 173-182.	2.6	19
84	Coherent transport in a periodically driven bistable system. <i>Journal of Statistical Physics</i> , 1993, 70, 229-245.	1.2	59
85	Resonantly Enhanced Quantum Decay. <i>Europhysics Letters</i> , 1992, 18, 1-6.	2.0	9
86	Localization in a Driven Two-Level Dynamics. <i>Europhysics Letters</i> , 1992, 18, 571-576.	2.0	267
87	Coherent destruction of tunneling. <i>Physical Review Letters</i> , 1991, 67, 516-519.	7.8	942
88	Suppression of tunneling in periodically driven bistable systems. <i>Physica B: Condensed Matter</i> , 1991, 175, 293-296.	2.7	49
89	Non-Markovian Vibrational Relaxation Dynamics at Surfaces. <i>Journal of Chemical Physics</i> , 0, , .	3.0	4