Andrey Kolovsky

List of Publications by Year
in descending order

113	2,102	279798 23	276875 41
papers	citations	h-index	g-index

113	113	113	1177
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Resonant transport of bosonic carriers through a quantum device. Physical Review A, 2022, 105, .	2.5	4
2	Bistability and chaos-assisted tunneling in dissipative quantum systems. Physical Review E, 2022, 106, .	2.1	0
3	Resonant transmission of fermionic carriers: Comparison between solid-state physics and quantum optics approaches. Physical Review B, 2021, 104, .	3.2	2
4	Decay of symmetry-protected quantum states. Physical Review A, 2020, 102, .	2.5	1
5	Open Fermi-Hubbard model: Landauer's versus master equation approaches. Physical Review B, 2020, 102, .	3.2	4
6	Quantum entanglement and the Born-Markov approximation for an open quantum system. Physical Review E, 2020, 101, 062116.	2.1	12
7	Chaotic and regular dynamics in the three-site Bose-Hubbard model. AIP Conference Proceedings, 2020, , .	0.4	2
8	Open Bose-Hubbard chain: Pseudoclassical approach. Physical Review E, 2020, 101, 012208.	2.1	13
9	Probing quantum chaos in many-body quantum systems by the induced dissipation. Physical Review A, 2019, 100, .	2.5	11
10	Evaporative Cooling and Selfâ€Thermalization in an Open System of Interacting Fermions. Annalen Der Physik, 2019, 531, 1900231.	2.4	3
11	Quantum State of the Fermionic Carriers in a Transport Channel Connecting Particle Reservoirs. Condensed Matter, 2019, 4, 85.	1.8	3
12	Topological flat Wannier-Stark bands. Physical Review B, 2018, 97, .	3.2	31
13	Landauer-BÃ¼ttiker equation for bosonic carriers. Physical Review A, 2018, 98, .	2.5	17
14	Topological phase transitions in tilted optical lattices. Physical Review A, 2018, 98, .	2.5	14
15	NOON state of Bose atoms in the double-well potential via an excited-state quantum phase transition. Physical Review A, 2018, 97, .	2.5	19
16	Dynamical thermalization in isolated quantum dots and black holes. Europhysics Letters, 2017, 117, 10003.	2.0	17
17	Bogoliubov depletion of the fragmented condensate in the bosonic flux ladder. Physical Review A, 2017, 95, .	2.5	15
18	Microscopic models of source and sink for atomtronics. Physical Review A, 2017, 96, .	2.5	12

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19	Treating Many-Body Quantum Systems by Means of Classical Mechanics. Springer Proceedings in Physics, 2017, , 37-48.	0.2	1
20	Boseâ€“Hubbard Hamiltonian: Quantum chaos approach. International Journal of Modern Physics B, 2016, 30, 1630009.	2.0	25
21	Quantum phase transitions in two-dimensional tilted optical lattices. Physical Review A, 2016, 93, .	2.5	6
22	Mott-insulator state of cold atoms in tilted optical lattices: Doublon dynamics and multilevel Landau-Zener tunneling. Physical Review A, 2016, 94, .	2.5	8
23	Wannier-Stark states in double-periodic lattices. I. One-dimensional lattices. Physical Review A, 2015, 91, .	2.5	9
24	Wannier-Stark states in double-periodic lattices. II. Two-dimensional lattices. Physical Review A, 2015, 91, .	2.5	6
25	Master equation approach to conductivity of bosonic and fermionic carriers in oneâ€•and twoâ€•dimensional lattices. Annalen Der Physik, 2014, 526, 102-111.	2.4	0
26	Quantum particle in a parabolic lattice in the presence of a gauge field. Physical Review A, 2014, 89, .	2.5	12
27	Induced tunneling and localization for a quantum particle in tilted two-dimensional lattices. Physical Review B, 2014, 89, .	3.2	5
28	Landau-Stark states in finite lattices and edge-induced Bloch oscillations. Europhysics Letters, 2014, 106, 50001.	2.0	3
29	Escape dynamics of a Bose-Hubbard dimer out of a trap. Physical Review A, 2014, 89, .	2.5	7
30	Landauâ€“Zener tunnelling in 2D periodic structures in the presence of a gauge field: II. Electric breakdown. Journal of Physics B: Atomic, Molecular and Optical Physics, 2013, 46, 145302.	1.5	6
31	Landauâ€“Zener tunnelling in 2D periodic structures in the presence of a gauge field: I. Tunnelling rates. Journal of Physics B: Atomic, Molecular and Optical Physics, 2013, 46, 145301.	1.5	4
32	Wannier-Stark states and Bloch oscillations in the honeycomb lattice. Physical Review A, 2013, 87, .	2.5	24
33	Energetically constrained co-tunneling of cold atoms. New Journal of Physics, 2012, 14, 075002.	2.9	11
34	Cyclotron-Bloch dynamics of a quantum particle in a two-dimensional lattice. II. Arbitrary electric field directions. Physical Review E, 2012, 86, 041146.	2.1	9
35	Nucleation in Finite Topological Systems During Continuous Metastable Quantum Phase Transitions. Physical Review Letters, 2012, 108, 250402.	7.8	26
36	Driven Harper model. Physical Review B, 2012, 86, .	3.2	21

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37	Simulating cyclotron-Bloch dynamics of a charged particle in a 2D lattice by means of cold atoms in driven quasi-1D optical lattices. Frontiers of Physics, 2012, 7, 3-7.	5.0	5
38	Creating artificial magnetic fields for cold atoms by photon-assisted tunneling. Europhysics Letters, 2011, 93, 20003.	2.0	144
39	Cyclotron-Bloch dynamics of a quantum particle in a two-dimensional lattice. Physical Review E, 2011, 83, 041123.	2.1	16
40	Hall conductivity beyond the linear response regime. Europhysics Letters, 2011, 96, 50002.	2.0	8
41	Bright solitons and self-trapping with a Bose-Einstein condensate of atoms in driven tilted optical lattices. Physical Review A, 2010, 82, .	2.5	17
42	Bose-Einstein condensates on tilted lattices: Coherent, chaotic, and subdiffusive dynamics. Physical Review A, 2010, 81, .	2.5	36
43	Bloch oscillations of Bose-Einstein condensates: Quantum counterpart of dynamical instability. Physical Review A, 2009, 80, .	2.5	47
44	Conductivity with cold atoms in optical lattices. Journal of Statistical Mechanics: Theory and Experiment, 2009, 2009, P02018.	2.3	5
45	Effect of the lattice alignment on Bloch oscillations of a Bose-Einstein condensate in a square optical lattice. European Physical Journal D, 2008, 47, 421-425.	1.3	1
46	Interplay between Anderson and Stark Localization in 2D Lattices. Physical Review Letters, 2008, 101, 190602.	7.8	11
47	Atomic current in optical lattices: Reexamination of the Esaki-Tsu equation. Physical Review A, 2008, 77, .	2.5	12
48	Semiclassical analysis of the Bogoliubov spectrum in the Bose-Hubbard model. Physical Review E, 2007, 76, 026207.	2.1	8
49	Semiclassical Quantization of the Bogoliubov Spectrum. Physical Review Letters, 2007, 99, 020401.	7.8	34
50	Emergence of superfluid transport in a dynamical system of ultra-cold atoms. European Physical Journal D, 2007, 41, 331-336.	1.3	13
51	Transport of cold atoms in optical lattices. European Physical Journal: Special Topics, 2007, 151, 103-112.	2.6	1
52	Quantum Chaos, Transport, and Controlâ€"in Quantum Optics. Advances in Atomic, Molecular and Optical Physics, 2006, 53, 33-73.	2.3	23
53	Dipole and Bloch oscillations of cold atoms in a parabolic lattice. Laser Physics, 2006, 16, 367-370.	1.2	12
54	Persistent current of atoms in a ring optical lattice. New Journal of Physics, 2006, 8, 197-197.	2.9	19

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55	Atomic Current across an Optical Lattice. Physical Review Letters, 2006, 96, 050404.	7.8	54
56	Nonlinearity-induced destruction of resonant tunneling in the Wannier-Stark problem. Physical Review A, 2005, 72, .	2.5	46
57	Quantum chaos in the Bose-Hubbard model. Europhysics Letters, 2004, 68, 632-638.	2.0	90
58	Bloch oscillations in the Mott-insulator regime. Physical Review A, 2004, 70, .	2.5	18
59	Multiparticle quantum chaos in tilted optical lattices. Journal of Modern Optics, 2004, 51, 999-1003.	1.3	0
60	BLOCH OSCILLATIONS OF COLD ATOMS IN OPTICAL LATTICES. International Journal of Modern Physics B, 2004, 18, 1235-1260.	2.0	43
61	Interference of cold atoms released from an optical lattice. Europhysics Letters, 2004, 68, 330-336.	2.0	7
62	Multiparticle quantum chaos in tilted optical lattices. Journal of Modern Optics, 2004, 51, 999-1003.	1.3	0
63	Bloch oscillations of cold atoms in two-dimensional optical lattices. Physical Review A, 2003, 67, .	2.5	54
64	Interaction-Induced Decoherence of Atomic Bloch Oscillations. Physical Review Letters, 2003, 91, 253002.	7.8	114
65	New Bloch Period for Interacting Cold Atoms in 1D Optical Lattices. Physical Review Letters, 2003, 90, 213002.	7.8	38
66	Floquet-Bloch operator for the Bose-Hubbard model with static field. Physical Review E, 2003, 68, 056213.	2.1	51
67	Quantum diffusion in a biased kicked Harper system. Physical Review E, 2003, 68, 046202.	2.1	5
68	Branched classical and quantum flow in two-dimensional Wannier-Stark systems. Physical Review A, 2002, 66, .	2.5	5
69	Damped Bloch oscillations of cold atoms in optical lattices. Physical Review A, 2002, 66, .	2.5	23
70	Wannier-Stark resonances in semiconductor superlattices. Physical Review B, 2002, 65, .	3.2	20
71	Bloch oscillations of atoms in a near-resonant standing laser wave. Journal of Optics B: Quantum and Semiclassical Optics, 2002, 4, 218-221.	1.4	4
72	Wannierâ€“Stark resonances in optical and semiconductor superlattices. Physics Reports, 2002, 366, 103-182.	25.6	275

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73	About universality of lifetime statistics in quantum chaotic scattering. Physica E: Low-Dimensional Systems and Nanostructures, 2001, 9, 478-483.	2.7	5
74	Wannier-Stark States of a Quantum Particle in 2D Lattices. Physical Review Letters, 2001, 86, 3116-3119.	7.8	18
75	A quantum cable car for Wannierâ€“Stark ladders. Physics Letters, Section A: General, Atomic and Solid State Physics, 2000, 276, 167-174.	2.1	2
76	Resonant tunnelling of Wannier-Stark states. Journal of Optics B: Quantum and Semiclassical Optics, 2000, 2, 694-703.	1.4	11
77	Induced transitions between Wannier ladders. Journal of Optics B: Quantum and Semiclassical Optics, 2000, 2, 612-617.	1.4	9
78	Fractal stabilization of Wannier-Stark resonances. Europhysics Letters, 2000, 51, 255-260.	2.0	8
79	Wannier-Stark ladders in driven optical lattices. Physical Review A, 2000, 61, .	2.5	12
80	Bloch Particle in the Presence of dc and ac Fields: Statistics of the Wigner Delay Time. Physical Review Letters, 1999, 82, 1534-1537.	7.8	29
81	Lifetime statistics for a Bloch particle in ac and dc fields. Physical Review E, 1999, 60, 247-258.	2.1	15
82	Perturbation theory for Wannier resonance states affected by ac field. Physics Letters, Section A: General, Atomic and Solid State Physics, 1999, 258, 383-393.	2.1	6
83	Lifetime of Wannier-Stark States. Physical Review Letters, 1999, 83, 891-894.	7.8	37
84	Bloch particle in the presence of dc and ac fields. Physics Letters, Section A: General, Atomic and Solid State Physics, 1998, 249, 483-488.	2.1	10
85	Diffusion on a chaotic attractor. Physica D: Nonlinear Phenomena, 1998, 116, 283-288.	2.8	13
86	Relativistic chaos for an electron in a standing microwave field. Europhysics Letters, 1998, 41, 257-260.	2.0	1
87	Chaotic Wannier-Bloch resonance states. Physical Review E, 1998, 58, 6835-6838.	2.1	7
88	Bragg scattering of an atomic beam by a standing laser wave with time-periodic amplitude modulation. Physical Review A, 1998, 57, 3763-3769.	2.5	3
89	Spectral statistics for the evolution operator of a quantum particle showing chaotic diffusion of the coordinate. Physical Review E, 1997, 56, 2261-2264.	2.1	10
90	Adiabatic scattering of atoms by a standing laser wave. Physical Review A, 1997, 55, 4433-4437.	2.5	8

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91	Chaotic diffusion and ballistic transport of ultra-cooled atoms in a time-modulated standing laser wave. Physics Letters, Section A: General, Atomic and Solid State Physics, 1997, 231, 144-148.	2.1	0
92	Dynamical localization for a kicked atom in two standing waves. Physics Letters, Section A: General, Atomic and Solid State Physics, 1996, 222, 47-49.	2.1	12
93	Condition of Correspondence between Quantum and Classical Dynamics for a Chaotic System. Physical Review Letters, 1996, 76, 340-343.	7.8	28
94	Quantum coherence, evolution of the Wigner function, and transition from quantum to classical dynamics for a chaotic system. Chaos, 1996, 6, 534-542.	2.5	22
95	Gradient force and chaotic acceleration of a dipole molecule in a standing wave. Physical Review A, 1995, 51, 4005-4009.	2.5	6
96	Reply to the Comment by J. C. Flores. Europhysics Letters, 1995, 29, 655-655.	2.0	5
97	Quantum chaos: double resonance model and its physical applications. , 1995, , 461-469.		1
98	A Remark on the Problem of Quantum-Classical Correspondence in the Case of Chaotic Dynamics. Europhysics Letters, 1994, 27, 79-84.	2.0	20
99	Quasienergy-band structure of a periodically driven system with translational symmetry. Physical Review E, 1994, 50, 910-916.	2.1	8
100	Number of degrees of freedom for a thermostat. Physical Review E, 1994, 50, 3569-3576.	2.1	22
101	Quantum modifications of classical diffusion in coordinate space for chaotic systems. Physical Review E, 1994, 49, 70-78.	2.1	18
102	Steady-state regime for the rotational dynamics of a molecule at the condition of quantum chaos. Physical Review A, 1993, 48, 3072-3081.	2.5	6
103	Regular and chaotic dynamics of a molecule affected by an external resonance field. Physics Letters, Section A: General, Atomic and Solid State Physics, 1991, 157, 474-480.	2.1	8
104	Dynamic orientation of molecules by an external periodic field. Optics Communications, 1991, 82, 466-472.	2.1	1
105	Stationary response of a multilevel quantum system in the regime of quantum chaos. Physics Letters, Section A: General, Atomic and Solid State Physics, 1990, 148, 72-77.	2.1	2
106	Quantum chaos and peculiarities of diffusion in Wigner representation. Physica A: Statistical Mechanics and Its Applications, 1988, 152, 273-286.	2.6	8
107	A quantum nonlinear resonance with account of relaxation processes. Physica A: Statistical Mechanics and Its Applications, 1987, 141, 602-612.	2.6	2
108	Renormalization method for the quantum system of interacting resonances. Physics Letters, Section A: General, Atomic and Solid State Physics, 1987, 125, 188-192.	2.1	11

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109	Dynamics of classically chaotic quantum systems in Wigner representation. Physica D: Nonlinear Phenomena, 1985, 17, 183-197.	2.8	13
110	A non-linear resonance in a system of surface-state electrons bound to the helium surface. Physics Letters, Section A: General, Atomic and Solid State Physics, 1984, 105, 483-486.	2.1	4
111	Structure and stability of the quasi-energy spectrum of two interacting quantum nonlinear resonances. Physics Letters, Section A: General, Atomic and Solid State Physics, 1983, 95, 15-18.	2.1	19
112	Correlation function behavior in quantum systems which are classically chaotic. Physica D: Nonlinear Phenomena, 1983, 8, 117-141.	2.8	25
113	On the spectrum of the system of interacting quantum nonlinear resonances. Physics Letters, Section A: General, Atomic and Solid State Physics, 1982, 87, 152-156.	2.1	35