Xi Chen

List of Publications by Year
in descending order

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		87723	69108
140	6,509	38	77
papers	citations	h-index	g-index

141	141	141	2120
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Machine-Learning-Assisted Quantum Control in a Random Environment. Physical Review Applied, 2022, 17, .	1.5	9
2	Digitized-counterdiabatic quantum approximate optimization algorithm. Physical Review Research, 2022, 4, .	1.3	29
3	Active learning for the optimal design of multinomial classification in physics. Physical Review Research, 2022, 4, .	1.3	3
4	Experimentally realizing efficient quantum control with reinforcement learning. Science China: Physics, Mechanics and Astronomy, 2022, 65, 1.	2.0	12
5	Connection between Inverse Engineering and Optimal Control in Shortcuts to Adiabaticity. Entropy, 2021, 23, 84.	1.1	13
6	Fast-forward scaling of atom-molecule conversion in Bose-Einstein condensates. Physical Review A, 2021, 103, .	1.0	8
7	Toward pricing financial derivatives with an IBM quantum computer. Physical Review Research, 2021, 3, .	1.3	31
8	Implementation of a Hybrid Classical-Quantum Annealing Algorithm for Logistic Network Design. SN Computer Science, 2021, 2, 1.	2.3	16
9	Shortcuts to Adiabaticity in Digitized Adiabatic Quantum Computing. Physical Review Applied, 2021, 15, .	1.5	53
10	Speeding up quantum perceptron via shortcuts to adiabaticity. Scientific Reports, 2021, 11, 5783.	1.6	14
11	Phase-Adaptive Dynamical Decoupling Methods for Robust Spin-Spin Dynamics in Trapped Ions. Physical Review Applied, 2021, 15, .	1.5	3
12	Breaking adiabatic quantum control with deep learning. Physical Review A, 2021, 103, .	1.0	25
13	Experimental implementation of precisely tailored light-matter interaction via inverse engineering. Npj Quantum Information, 2021, 7, .	2.8	4
14	Digitized adiabatic quantum factorization. Physical Review A, 2021, 104, .	1.0	14
15	Effective scaling approach to frictionless quantum quenches in trapped Bose gases. Physical Review A, 2021, 104, .	1.0	1
16	Entangled quantum memristors. Physical Review A, 2021, 104, .	1.0	7
17	Coupled density-spin Boseâ€“Einstein condensates dynamics and collapse in systems with quintic nonlinearity. Communications in Nonlinear Science and Numerical Simulation, 2020, 82, 105045.	1.7	3
18	Quantum computing cryptography: Finding cryptographic Boolean functions with quantum annealing by a 2000 qubit D-wave quantum computer. Physics Letters, Section A: General, Atomic and Solid State Physics, 2020, 384, 126214.	0.9	16

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19	Dephasing-Protected Scalable Holonomic Quantum Computation on a Rabi Lattice. Physical Review Applied, 2020, 14, .	1.5	12
20	Shortcuts to adiabaticity for an interacting Boseâ€“Einstein condensate via exact solutions of the generalized Ermakov equation. Chaos, 2020, 30, 053131.	1.0	11
21	Robust Detection of High-Frequency Signals at the Nanoscale. Physical Review Applied, 2020, 14, .	1.5	8
22	Robust control of unstable nonlinear quantum systems. Physical Review A, 2020, 102, .	1.0	10
23	Digital Quantum Simulation of Nonadiabatic Geometric Gates via Shortcuts to Adiabaticity. Entropy, 2020, 22, 1175.	1.1	3
24	Bright solitons in a spin-tensor-momentum-coupled Bose-Einstein condensate. Physical Review A, 2020, 101, .	1.0	19
25	Quantum Advantage in Cryptography with a Low-Connectivity Quantum Annealer. Physical Review Applied, 2020, 13, .	1.5	3
26	Smooth bang-bang shortcuts to adiabaticity for atomic transport in a moving harmonic trap. Physical Review A, 2020, 101, .	1.0	10
27	Shortcuts to Adiabaticity for Optical Beam Propagation in Nonlinear Gradient Refractive-Index Media. Entropy, 2020, 22, 673.	1.1	5
28	Retrieving Quantum Information with Active Learning. Physical Review Letters, 2020, 124, 140504.	2.9	14
29	Effects of coherence on quantum speed limits and shortcuts to adiabaticity in many-particle systems. Physical Review Research, 2020, 2, .	1.3	21
30	Hermitian and non-Hermitian shortcuts to adiabaticity for fast creation of maximum coherence and beam splitting. Journal of the European Optical Society-Rapid Publications, 2020, 16, .	0.9	2
31	Time-optimal variational control of a bright matter-wave soliton. Physical Review A, 2020, 102, .	1.0	4
32	Robust stimulated Raman exact passage using shaped pulses. Physical Review A, 2019, 100, .	1.0	20
33	Quantized Single-Ion-Channel Hodgkin-Huxley Model for Quantum Neurons. Physical Review Applied, 2019, 12, .	1.5	6
34	Shortcuts to adiabaticity in optical waveguides. Europhysics Letters, 2019, 127, 34001.	0.7	28
35	Experimental Implementation of a Quantum Autoencoder via Quantum Adders. Advanced Quantum Technologies, 2019, 2, 1800065.	1.8	22
36	Invariant-based optimal composite stimulated Raman exact passage. Journal of Physics B: Atomic, Molecular and Optical Physics, 2019, 52, 235501.	0.6	9

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37	Spin Entangled State Transfer in Quantum Dot Arrays: Coherent Adiabatic and Speedâ€Up Protocols. Advanced Quantum Technologies, 2019, 2, 1900048.	1.8	13
38	Enhanced precision bound of low-temperature quantum thermometry via dynamical control. Communications Physics, 2019, 2, .	2.0	30
39	Inverse engineering of shortcut pulses for high fidelity initialization on qubits closely spaced in frequency. Optics Express, 2019, 27, 8267.	1.7	13
40	Goos-HÃnchen and Imbert-Fedorov shifts at gradient metasurfaces. Optics Express, 2019, 27, 11902.	1.7	29
41	Robust arbitrary ratio power splitter by fast quasi-adiabatic elimination in optical waveguides. Optics Express, 2019, 27, 37622.	1.7	15
42	An efficient nonlinear Feshbach engine. New Journal of Physics, 2018, 20, 015005.	1.2	49
43	Nonlinear quantum Rabi model in trapped ions. Physical Review A, 2018, 97, .	1.0	39
44	Inverse engineering for fast transport and spin control of spin-orbit-coupled Bose-Einstein condensates in moving harmonic traps. Physical Review A, 2018, 97, .	1.0	18
45	Hamiltonian design to prepare arbitrary states of four-level systems. Physical Review A, 2018, 97, .	1.0	29
46	Compact beam splitters in coupled waveguides using shortcuts to adiabaticity. Journal of Optics (United Kingdom), 2018, 20, 045804.	1.0	12
47	Qubit gates with simultaneous transport in double quantum dots. New Journal of Physics, 2018, 20, 113029.	1.2	26
48	Fast long-range charge transfer in quantum dot arrays. Nanotechnology, 2018, 29, 505201.	1.3	13
49	Fast and robust control of two interacting spins. Physical Review A, 2018, 97, .	1.0	38
50	Fast creation and transfer of coherence in triple quantum dots by using shortcuts to adiabaticity. Optics Express, 2018, 26, 31137.	1.7	7
51	Switchable particle statistics with an embedding quantum simulator. Physical Review A, 2017, 95, .	1.0	4
52	Trigonometric protocols for shortcuts to adiabatic transport of cold atoms in anharmonic traps. Physics Letters, Section A: General, Atomic and Solid State Physics, 2017, 381, 3272-3275.	0.9	5
53	Reverse engineering protocols for controlling spin dynamics. Scientific Reports, 2017, 7, 15814.	1.6	19
54	Shortcut to adiabatic population transfer in quantum three-level systems: Effective two-level problems and feasible counterdiabatic driving. Physical Review A, 2016, 94, .	1.0	71

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55	Shortcut to adiabatic control of soliton matter waves by tunable interaction. Scientific Reports, 2016, 6, 38258.	1.6	22
56	Optimal shortcuts for atomic transport in anharmonic traps. Journal of Physics B: Atomic, Molecular and Optical Physics, 2016, 49, 125503.	0.6	20
57	Analysis of optical directional couplers using shortcuts to adiabaticity. Optics Express, 2016, 24, 18322.	1.7	28
58	Time-optimal quantum control of nonlinear two-level systems. Physical Review A, 2016, 94, .	1.0	19
59	Fast control of topological vortex formation in Bose-Einstein condensates by counterdiabatic driving. Physical Review A, 2016, 93, .	1.0	13
60	Experimental realization of stimulated Raman shortcut-to-adiabatic passage with cold atoms. Nature Communications, 2016, 7, 12479.	5.8	168
61	Transient Particle Energies in Shortcuts to Adiabatic Expansions of Harmonic Traps. Journal of Physical Chemistry A, 2016, 120, 2962-2969.	1.1	20
62	Graphene-assisted resonant transmission and enhanced Goosâ€“HÃnchen shift in a frustrated total internal reflection configuration. Optics Letters, 2016, 41, 4468.	1.7	32
63	Time and spatial parity operations with trapped ions. Physical Review A, 2015, 92, .	1.0	5
64	Fast and optimal transport of atoms with nonharmonic traps. Physical Review A, 2015, 92, .	1.0	27
65	Pulse design without the rotating-wave approximation. Physical Review A, 2015, 92, .	1.0	33
66	Quantum state engineering of spin-orbit-coupled ultracold atoms in a Morse potential. Physical Review A, 2015, 91, .	1.0	11
67	Collapse of spin-orbit-coupled Bose-Einstein condensates. Physical Review A, 2015, 91, .	1.0	52
68	Tunable delay time and Hartman effect in graphene magnetic barriers. Journal of Applied Physics, 2015, 117, 164307.	1.1	12
69	Electronic Transport in Asymmetric Graphene Superlattice with Internal Potential Well. Journal of the Physical Society of Japan, 2015, 84, 064702.	0.7	2
70	Optimal transport of two ions under slow spring-constant drifts. Physica Scripta, 2015, 90, 074038.	1.2	11
71	Short and robust directional couplers designed by shortcuts to adiabaticity. Optics Express, 2014, 22, 18849.	1.7	53
72	Short-length and robust polarization rotators in periodically poled lithium niobate via shortcuts to adiabaticity. Optics Express, 2014, 22, 24169.	1.7	16

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73	Fast transitionless expansions of Gaussian anharmonic traps for cold atoms: Bang-singular-bang control. Physical Review A, 2014, 89, .	1.0	17
74	Delay time and Hartman effect in strain engineered graphene. Journal of Applied Physics, 2014, 115, 173703.	1.1	17
75	Fast shuttling of a trapped ion in the presence of noise. Physical Review A, 2014, 89, .	1.0	33
76	Shortcuts to adiabaticity in three-level systems using Lie transforms. Physical Review A, 2014, 89, .	1.0	95
77	Counter-diabatic driving for fast spin control in a two-electron double quantum dot. Scientific Reports, 2014, 4, 6258.	1.6	15
78	Shortcuts to Adiabaticity. Advances in Atomic, Molecular and Optical Physics, 2013, 62, 117-169.	2.3	536
79	Giant negative and positive lateral shifts in graphene superlattices. European Physical Journal B, 2013, 86, 1.	0.6	23
80	Electronic analogy of the Goosâ€“HÃnchen effect: a review. Journal of Optics (United Kingdom), 2013, 15, 033001.	1.0	64
81	Engineering fast and stable splitting of matter waves. Physical Review A, 2013, 87, .	1.0	20
82	Double-periodic quasi-periodic graphene superlattice: non-Bragg band gap and electronic transport. Journal Physics D: Applied Physics, 2013, 46, 015306.	1.3	12
83	Fast and robust population transfer in two-level quantum systems with dephasing noise and/or systematic frequency errors. Physical Review A, 2013, 88, .	1.0	73
84	Vibrational Mode Multiplexing of Ultracold Atoms. Physical Review Letters, 2013, 111, 213001.	2.9	45
85	Improving shortcuts to adiabaticity by iterative interaction pictures. Physical Review A, 2013, 87, .	1.0	75
86	Fast transport of Boseâ€“Einstein condensates. New Journal of Physics, 2012, 14, 013031.	1.2	80
87	Engineering of fast mode conversion in multimode waveguides. Optics Letters, 2012, 37, 5118.	1.7	70
88	Energy flux and Goosâ€“HÃnchen shift in frustrated total internal reflection. Optics Letters, 2012, 37, 1526.	1.7	16
89	Fast transitionless expansion of cold atoms in optical Gaussian-beam traps. Physical Review A, 2012, 85, .	1.0	64
90	Fast and Robust Spin Manipulation in a Quantum Dot by Electric Fields. Physical Review Letters, 2012, 109, 206602.	2.9	65

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91	Optimally robust shortcuts to population inversion in two-level quantum systems. New Journal of Physics, 2012, 14, 093040.	1.2	287
92	Engineering of fast population transfer in three-level systems. Physical Review A, 2012, 86, .	1.0	194
93	Multiple SchrÃ¶dinger Pictures and Dynamics in Shortcuts to Adiabaticity. Physical Review Letters, 2012, 109, 100403.	2.9	204
94	Robust zero-averaged wave-number gap inside gapped graphene superlattices. Journal of Applied Physics, 2011, 109, .	1.1	51
95	Controllable Goos-HÃnchen shifts and spin beam splitter for ballistic electrons in a parabolic quantum well under a uniform magnetic field. Physical Review B, 2011, 83, .	1.1	28
96	Lewis-Riesenfeld invariants and transitionless quantum driving. Physical Review A, 2011, 83, .	1.0	300
97	Goos-HÃnchen-like shifts for Dirac fermions in monolayer graphene barrier. European Physical Journal B, 2011, 79, 203-208.	0.6	55
98	Optimal trajectories for efficient atomic transport without final excitation. Physical Review A, 2011, 84, .	1.0	119
99	Shortcuts to adiabaticity for non-Hermitian systems. Physical Review A, 2011, 84, .	1.0	99
100	Fast atomic transport without vibrational heating. Physical Review A, 2011, 83, .	1.0	190
101	Electronic band gap and transport in Fibonacci quasi-periodic graphene superlattice. Applied Physics Letters, 2011, 99, 182108.	1.5	68
102	Response to â€œComment on â€˜Guided modes in graphene waveguidesâ€™â€•[Appl. Phys. Lett. 96, 186101 (2010)]. Applied Physics Letters, 2010, 96, 186102.	1.5	7
103	Transient energy excitation in shortcuts to adiabaticity for the time-dependent harmonic oscillator. Physical Review A, 2010, 82, .	1.0	111
104	Transitionless quantum drivings for the harmonic oscillator. Journal of Physics B: Atomic, Molecular and Optical Physics, 2010, 43, 085509.	0.6	95
105	Bistable and negative lateral shifts of the reflected light beam from Kretschmann configuration with nonlinear left-handed metamaterials. Applied Physics B: Lasers and Optics, 2010, 101, 283-289.	1.1	29
106	Fast Optimal Frictionless Atom Cooling in Harmonic Traps: Shortcut to Adiabaticity. Physical Review Letters, 2010, 104, 063002.	2.9	534
107	Guided modes near the Dirac point in negative-zero-positive index metamaterial waveguide. Optics Express, 2010, 18, 12779.	1.7	26
108	Nonlinear surface waves near the Dirac point in negativeâ€“zeroâ€“positive index metamaterial. Journal of Optics (United Kingdom), 2010, 12, 085201.	1.0	8

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109	Shortcut to Adiabatic Passage in Two- and Three-Level Atoms. Physical Review Letters, 2010, 105, 123003.	2.9	485
110	Shortcut to adiabaticity in harmonic traps. The Journal of Atomic and Molecular Sciences, 2010, 1, 1-17.	0.1	1
111	Atom cooling by nonadiabatic expansion. Physical Review A, 2009, 80, .	1.0	12
112	Negative and positive lateral shifts: a result of beam reshaping caused by interference. Journal of Optics, 2009, 11, 085004.	1.5	10
113	Incoherently coupled vector dipole soliton pairs in nonlocal media. Optics Communications, 2009, 282, 4805-4809.	1.0	20
114	Voltage-tunable group delay of an electron wave packet through a single quantum potential well. Physica E: Low-Dimensional Systems and Nanostructures, 2009, 41, 399-402.	1.3	2
115	Frictionless dynamics of Boseâ€“Einstein condensates under fast trap variations. Journal of Physics B: Atomic, Molecular and Optical Physics, 2009, 42, 241001.	0.6	118
116	Goos-HÃnchen shifts in frustrated total internal reflection studied with wave-packet propagation. Physical Review A, 2009, 80, .	1.0	24
117	Transmission gap, Bragg-like reflection, and Goos-HÃnchen shifts near the Dirac point inside a negative-zero-positive index metamaterial slab. Physical Review A, 2009, 80, .	1.0	32
118	Voltage-tunable lateral shifts of ballistic electrons in semiconductor quantum slabs. Journal of Applied Physics, 2009, 105, .	1.1	18
119	Design of electron wave filters in monolayer graphene by tunable transmission gap. Applied Physics Letters, 2009, 94, 262102.	1.5	69
120	Guided modes in graphene waveguides. Applied Physics Letters, 2009, 94, 212105.	1.5	75
121	Giant and negative bistable shifts for one-dimensional photonic crystal containing a nonlinear metamaterial defect. Physics Letters, Section A: General, Atomic and Solid State Physics, 2008, 372, 6797-6800.	0.9	15
122	Delay time of electron wave packet through a two-dimensional semiconductor heterostructure. European Physical Journal B, 2008, 62, 453-457.	0.6	7
123	Tunable lateral shift and polarization beam splitting of the transmitted light beam through electro-optic crystals. Journal of Applied Physics, 2008, 104, .	1.1	35
124	Tunable lateral displacement and spin beam splitter for ballistic electrons in two-dimensional magnetic-electric nanostructures. Physical Review B, 2008, 77, .	1.1	84
125	Anomalous bistable shift for a one-dimensional photonic crystal doped with a subwavelength layer and a nonlinear layer. Europhysics Letters, 2008, 81, 64003.	0.7	4
126	Giant bistable lateral shift owing to surface-plasmon excitation in Kretschmann configuration with a Kerr nonlinear dielectric. Optics Letters, 2008, 33, 1249.	1.7	65

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127	Non-geometrical effects on Gaussian beams transmitting through a thin dielectric slab. Chinese Physics B, 2008, 17, 1758-1768.	0.7	3
128	Superluminal traversal time and interference between multiple finite wave packets. Europhysics Letters, 2008, 82, 30009.	0.7	13
129	Large Positive and Negative Lateral Displacements from Total Internal Reflection Configuration with a Weakly Absorbing Dielectric Film. Chinese Physics Letters, 2007, 24, 1926-1929.	1.3	3
130	Giant bistable shifts for one-dimensional nonlinear photonic crystals. Physical Review A, 2007, 75, .	1.0	44
131	Large and negative lateral displacement in an active dielectric slab configuration. Physics Letters, Section A: General, Atomic and Solid State Physics, 2007, 361, 178-181.	0.9	38
132	Controllable negative and positive group delay in transmission through a single quantum well at finite magnetic fields. Physics Letters, Section A: General, Atomic and Solid State Physics, 2007, 364, 76-80.	0.9	2
133	Lateral displacement and its mechanism in asymmetric layered configuration. Journal of Modern Optics, 2006, 53, 2153-2165.	0.6	1
134	Experimental observation of negative lateral displacements of microwave beams transmitting through dielectric slabs. Optics Communications, 2006, 259, 470-473.	1.0	6
135	Novel displacement in transmission through a two-dimensional semiconductor barrier. Physics Letters, Section A: General, Atomic and Solid State Physics, 2006, 354, 161-165.	0.9	36
136	The reflection and transmission group delay times in an asymmetric single quantum barrier. European Physical Journal B, 2005, 46, 433-440.	0.6	8
137	Lateral shift of the transmitted light beam through a left-handed slab. Physical Review E, 2004, 69, 066617.	0.8	82
138	Negative group delay for Dirac particles traveling through a potential well. Physical Review A, 2003, 68, .	1.0	12
139	Traversal time for Dirac particles through a potential barrier. Annalen Der Physik, 2002, 11, 916-925.	0.9	7
140	Propagation of Electron Waves in Monolayer Graphene and Optical Simulations with Negative-Zero-Positive Index Metamaterials. , 0, , .		1