

Xi Chen

List of Publications by Year in descending order

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140
papers

6,509
citations

87723

38
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69108

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141
all docs

141
docs citations

141
times ranked

2120
citing authors

#	ARTICLE	IF	CITATIONS
1	Shortcuts to Adiabaticity. <i>Advances in Atomic, Molecular and Optical Physics</i> , 2013, 62, 117-169.	2.3	536
2	Fast Optimal Frictionless Atom Cooling in Harmonic Traps: Shortcut to Adiabaticity. <i>Physical Review Letters</i> , 2010, 104, 063002.	2.9	534
3	Shortcut to Adiabatic Passage in Two- and Three-Level Atoms. <i>Physical Review Letters</i> , 2010, 105, 123003.	2.9	485
4	Lewis-Riesenfeld invariants and transitionless quantum driving. <i>Physical Review A</i> , 2011, 83, .	1.0	300
5	Optimally robust shortcuts to population inversion in two-level quantum systems. <i>New Journal of Physics</i> , 2012, 14, 093040.	1.2	287
6	Multiple Schrödinger Pictures and Dynamics in Shortcuts to Adiabaticity. <i>Physical Review Letters</i> , 2012, 109, 100403.	2.9	204
7	Engineering of fast population transfer in three-level systems. <i>Physical Review A</i> , 2012, 86, .	1.0	194
8	Fast atomic transport without vibrational heating. <i>Physical Review A</i> , 2011, 83, .	1.0	190
9	Experimental realization of stimulated Raman shortcut-to-adiabatic passage with cold atoms. <i>Nature Communications</i> , 2016, 7, 12479.	5.8	168
10	Optimal trajectories for efficient atomic transport without final excitation. <i>Physical Review A</i> , 2011, 84, .	1.0	119
11	Frictionless dynamics of Bose-Einstein condensates under fast trap variations. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2009, 42, 241001.	0.6	118
12	Transient energy excitation in shortcuts to adiabaticity for the time-dependent harmonic oscillator. <i>Physical Review A</i> , 2010, 82, .	1.0	111
13	Shortcuts to adiabaticity for non-Hermitian systems. <i>Physical Review A</i> , 2011, 84, .	1.0	99
14	Transitionless quantum drivings for the harmonic oscillator. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2010, 43, 085509.	0.6	95
15	Shortcuts to adiabaticity in three-level systems using Lie transforms. <i>Physical Review A</i> , 2014, 89, .	1.0	95
16	Tunable lateral displacement and spin beam splitter for ballistic electrons in two-dimensional magnetic-electric nanostructures. <i>Physical Review B</i> , 2008, 77, .	1.1	84
17	Lateral shift of the transmitted light beam through a left-handed slab. <i>Physical Review E</i> , 2004, 69, 066617.	0.8	82
18	Fast transport of Bose-Einstein condensates. <i>New Journal of Physics</i> , 2012, 14, 013031.	1.2	80

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19	Guided modes in graphene waveguides. <i>Applied Physics Letters</i> , 2009, 94, 212105.	1.5	75
20	Improving shortcuts to adiabaticity by iterative interaction pictures. <i>Physical Review A</i> , 2013, 87, .	1.0	75
21	Fast and robust population transfer in two-level quantum systems with dephasing noise and/or systematic frequency errors. <i>Physical Review A</i> , 2013, 88, .	1.0	73
22	Shortcut to adiabatic population transfer in quantum three-level systems: Effective two-level problems and feasible counterdiabatic driving. <i>Physical Review A</i> , 2016, 94, .	1.0	71
23	Engineering of fast mode conversion in multimode waveguides. <i>Optics Letters</i> , 2012, 37, 5118.	1.7	70
24	Design of electron wave filters in monolayer graphene by tunable transmission gap. <i>Applied Physics Letters</i> , 2009, 94, 262102.	1.5	69
25	Electronic band gap and transport in Fibonacci quasi-periodic graphene superlattice. <i>Applied Physics Letters</i> , 2011, 99, 182108.	1.5	68
26	Giant bistable lateral shift owing to surface-plasmon excitation in Kretschmann configuration with a Kerr nonlinear dielectric. <i>Optics Letters</i> , 2008, 33, 1249.	1.7	65
27	Fast and Robust Spin Manipulation in a Quantum Dot by Electric Fields. <i>Physical Review Letters</i> , 2012, 109, 206602.	2.9	65
28	Fast transitionless expansion of cold atoms in optical Gaussian-beam traps. <i>Physical Review A</i> , 2012, 85, .	1.0	64
29	Electronic analogy of the Goos-Hänchen effect: a review. <i>Journal of Optics (United Kingdom)</i> , 2013, 15, 033001.	1.0	64
30	Goos-Hänchen-like shifts for Dirac fermions in monolayer graphene barrier. <i>European Physical Journal B</i> , 2011, 79, 203-208.	0.6	55
31	Short and robust directional couplers designed by shortcuts to adiabaticity. <i>Optics Express</i> , 2014, 22, 18849.	1.7	53
32	Shortcuts to Adiabaticity in Digitized Adiabatic Quantum Computing. <i>Physical Review Applied</i> , 2021, 15, .	1.5	53
33	Collapse of spin-orbit-coupled Bose-Einstein condensates. <i>Physical Review A</i> , 2015, 91, .	1.0	52
34	Robust zero-averaged wave-number gap inside gapped graphene superlattices. <i>Journal of Applied Physics</i> , 2011, 109, .	1.1	51
35	An efficient nonlinear Feshbach engine. <i>New Journal of Physics</i> , 2018, 20, 015005.	1.2	49
36	Vibrational Mode Multiplexing of Ultracold Atoms. <i>Physical Review Letters</i> , 2013, 111, 213001.	2.9	45

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37	Giant bistable shifts for one-dimensional nonlinear photonic crystals. <i>Physical Review A</i> , 2007, 75, .	1.0	44
38	Nonlinear quantum Rabi model in trapped ions. <i>Physical Review A</i> , 2018, 97, .	1.0	39
39	Large and negative lateral displacement in an active dielectric slab configuration. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2007, 361, 178-181.	0.9	38
40	Fast and robust control of two interacting spins. <i>Physical Review A</i> , 2018, 97, .	1.0	38
41	Novel displacement in transmission through a two-dimensional semiconductor barrier. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2006, 354, 161-165.	0.9	36
42	Tunable lateral shift and polarization beam splitting of the transmitted light beam through electro-optic crystals. <i>Journal of Applied Physics</i> , 2008, 104, .	1.1	35
43	Fast shuttling of a trapped ion in the presence of noise. <i>Physical Review A</i> , 2014, 89, .	1.0	33
44	Pulse design without the rotating-wave approximation. <i>Physical Review A</i> , 2015, 92, .	1.0	33
45	Transmission gap, Bragg-like reflection, and Goos-Hänchen shifts near the Dirac point inside a negative-zero-positive index metamaterial slab. <i>Physical Review A</i> , 2009, 80, .	1.0	32
46	Graphene-assisted resonant transmission and enhanced Goos-Hänchen shift in a frustrated total internal reflection configuration. <i>Optics Letters</i> , 2016, 41, 4468.	1.7	32
47	Toward pricing financial derivatives with an IBM quantum computer. <i>Physical Review Research</i> , 2021, 3, .	1.3	31
48	Enhanced precision bound of low-temperature quantum thermometry via dynamical control. <i>Communications Physics</i> , 2019, 2, .	2.0	30
49	Bistable and negative lateral shifts of the reflected light beam from Kretschmann configuration with nonlinear left-handed metamaterials. <i>Applied Physics B: Lasers and Optics</i> , 2010, 101, 283-289.	1.1	29
50	Hamiltonian design to prepare arbitrary states of four-level systems. <i>Physical Review A</i> , 2018, 97, .	1.0	29
51	Goos-Hänchen and Imbert-Fedorov shifts at gradient metasurfaces. <i>Optics Express</i> , 2019, 27, 11902.	1.7	29
52	Digitized-counterdiabatic quantum approximate optimization algorithm. <i>Physical Review Research</i> , 2022, 4, .	1.3	29
53	Controllable Goos-Hänchen shifts and spin beam splitter for ballistic electrons in a parabolic quantum well under a uniform magnetic field. <i>Physical Review B</i> , 2011, 83, .	1.1	28
54	Analysis of optical directional couplers using shortcuts to adiabaticity. <i>Optics Express</i> , 2016, 24, 18322.	1.7	28

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55	Shortcuts to adiabaticity in optical waveguides. <i>Europhysics Letters</i> , 2019, 127, 34001.	0.7	28
56	Fast and optimal transport of atoms with nonharmonic traps. <i>Physical Review A</i> , 2015, 92, .	1.0	27
57	Guided modes near the Dirac point in negative-zero-positive index metamaterial waveguide. <i>Optics Express</i> , 2010, 18, 12779.	1.7	26
58	Qubit gates with simultaneous transport in double quantum dots. <i>New Journal of Physics</i> , 2018, 20, 113029.	1.2	26
59	Breaking adiabatic quantum control with deep learning. <i>Physical Review A</i> , 2021, 103, .	1.0	25
60	Goos-Hänchen shifts in frustrated total internal reflection studied with wave-packet propagation. <i>Physical Review A</i> , 2009, 80, .	1.0	24
61	Giant negative and positive lateral shifts in graphene superlattices. <i>European Physical Journal B</i> , 2013, 86, 1.	0.6	23
62	Shortcut to adiabatic control of soliton matter waves by tunable interaction. <i>Scientific Reports</i> , 2016, 6, 38258.	1.6	22
63	Experimental Implementation of a Quantum Autoencoder via Quantum Adders. <i>Advanced Quantum Technologies</i> , 2019, 2, 1800065.	1.8	22
64	Effects of coherence on quantum speed limits and shortcuts to adiabaticity in many-particle systems. <i>Physical Review Research</i> , 2020, 2, .	1.3	21
65	Incoherently coupled vector dipole soliton pairs in nonlocal media. <i>Optics Communications</i> , 2009, 282, 4805-4809.	1.0	20
66	Engineering fast and stable splitting of matter waves. <i>Physical Review A</i> , 2013, 87, .	1.0	20
67	Optimal shortcuts for atomic transport in anharmonic traps. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2016, 49, 125503.	0.6	20
68	Transient Particle Energies in Shortcuts to Adiabatic Expansions of Harmonic Traps. <i>Journal of Physical Chemistry A</i> , 2016, 120, 2962-2969.	1.1	20
69	Robust stimulated Raman exact passage using shaped pulses. <i>Physical Review A</i> , 2019, 100, .	1.0	20
70	Time-optimal quantum control of nonlinear two-level systems. <i>Physical Review A</i> , 2016, 94, .	1.0	19
71	Reverse engineering protocols for controlling spin dynamics. <i>Scientific Reports</i> , 2017, 7, 15814.	1.6	19
72	Bright solitons in a spin-tensor-momentum-coupled Bose-Einstein condensate. <i>Physical Review A</i> , 2020, 101, .	1.0	19

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73	Voltage-tunable lateral shifts of ballistic electrons in semiconductor quantum slabs. <i>Journal of Applied Physics</i> , 2009, 105, .	1.1	18
74	Inverse engineering for fast transport and spin control of spin-orbit-coupled Bose-Einstein condensates in moving harmonic traps. <i>Physical Review A</i> , 2018, 97, .	1.0	18
75	Fast transitionless expansions of Gaussian anharmonic traps for cold atoms: Bang-singular-bang control. <i>Physical Review A</i> , 2014, 89, .	1.0	17
76	Delay time and Hartman effect in strain engineered graphene. <i>Journal of Applied Physics</i> , 2014, 115, 173703.	1.1	17
77	Energy flux and Goos-Hänchen shift in frustrated total internal reflection. <i>Optics Letters</i> , 2012, 37, 1526.	1.7	16
78	Short-length and robust polarization rotators in periodically poled lithium niobate via shortcuts to adiabaticity. <i>Optics Express</i> , 2014, 22, 24169.	1.7	16
79	Quantum computing cryptography: Finding cryptographic Boolean functions with quantum annealing by a 2000 qubit D-wave quantum computer. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2020, 384, 126214.	0.9	16
80	Implementation of a Hybrid Classical-Quantum Annealing Algorithm for Logistic Network Design. <i>SN Computer Science</i> , 2021, 2, 1.	2.3	16
81	Giant and negative bistable shifts for one-dimensional photonic crystal containing a nonlinear metamaterial defect. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2008, 372, 6797-6800.	0.9	15
82	Counter-diabatic driving for fast spin control in a two-electron double quantum dot. <i>Scientific Reports</i> , 2014, 4, 6258.	1.6	15
83	Robust arbitrary ratio power splitter by fast quasi-adiabatic elimination in optical waveguides. <i>Optics Express</i> , 2019, 27, 37622.	1.7	15
84	Retrieving Quantum Information with Active Learning. <i>Physical Review Letters</i> , 2020, 124, 140504.	2.9	14
85	Speeding up quantum perceptron via shortcuts to adiabaticity. <i>Scientific Reports</i> , 2021, 11, 5783.	1.6	14
86	Digitized adiabatic quantum factorization. <i>Physical Review A</i> , 2021, 104, .	1.0	14
87	Superluminal traversal time and interference between multiple finite wave packets. <i>Europhysics Letters</i> , 2008, 82, 30009.	0.7	13
88	Fast control of topological vortex formation in Bose-Einstein condensates by counterdiabatic driving. <i>Physical Review A</i> , 2016, 93, .	1.0	13
89	Fast long-range charge transfer in quantum dot arrays. <i>Nanotechnology</i> , 2018, 29, 505201.	1.3	13
90	Spin Entangled State Transfer in Quantum Dot Arrays: Coherent Adiabatic and Speed-Up Protocols. <i>Advanced Quantum Technologies</i> , 2019, 2, 1900048.	1.8	13

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91	Connection between Inverse Engineering and Optimal Control in Shortcuts to Adiabaticity. <i>Entropy</i> , 2021, 23, 84.	1.1	13
92	Inverse engineering of shortcut pulses for high fidelity initialization on qubits closely spaced in frequency. <i>Optics Express</i> , 2019, 27, 8267.	1.7	13
93	Negative group delay for Dirac particles traveling through a potential well. <i>Physical Review A</i> , 2003, 68, .	1.0	12
94	Atom cooling by nonadiabatic expansion. <i>Physical Review A</i> , 2009, 80, .	1.0	12
95	Double-periodic quasi-periodic graphene superlattice: non-Bragg band gap and electronic transport. <i>Journal Physics D: Applied Physics</i> , 2013, 46, 015306.	1.3	12
96	Tunable delay time and Hartman effect in graphene magnetic barriers. <i>Journal of Applied Physics</i> , 2015, 117, 164307.	1.1	12
97	Compact beam splitters in coupled waveguides using shortcuts to adiabaticity. <i>Journal of Optics (United Kingdom)</i> , 2018, 20, 045804.	1.0	12
98	Dephasing-Protected Scalable Holonomic Quantum Computation on a Rabi Lattice. <i>Physical Review Applied</i> , 2020, 14, .	1.5	12
99	Experimentally realizing efficient quantum control with reinforcement learning. <i>Science China: Physics, Mechanics and Astronomy</i> , 2022, 65, 1.	2.0	12
100	Quantum state engineering of spin-orbit-coupled ultracold atoms in a Morse potential. <i>Physical Review A</i> , 2015, 91, .	1.0	11
101	Optimal transport of two ions under slow spring-constant drifts. <i>Physica Scripta</i> , 2015, 90, 074038.	1.2	11
102	Shortcuts to adiabaticity for an interacting Bose-Einstein condensate via exact solutions of the generalized Ermakov equation. <i>Chaos</i> , 2020, 30, 053131.	1.0	11
103	Negative and positive lateral shifts: a result of beam reshaping caused by interference. <i>Journal of Optics</i> , 2009, 11, 085004.	1.5	10
104	Robust control of unstable nonlinear quantum systems. <i>Physical Review A</i> , 2020, 102, .	1.0	10
105	Smooth bang-bang shortcuts to adiabaticity for atomic transport in a moving harmonic trap. <i>Physical Review A</i> , 2020, 101, .	1.0	10
106	Invariant-based optimal composite stimulated Raman exact passage. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2019, 52, 235501.	0.6	9
107	Machine-Learning-Assisted Quantum Control in a Random Environment. <i>Physical Review Applied</i> , 2022, 17, .	1.5	9
108	The reflection and transmission group delay times in an asymmetric single quantum barrier. <i>European Physical Journal B</i> , 2005, 46, 433-440.	0.6	8

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109	Nonlinear surface waves near the Dirac point in negative-“zero”-positive index metamaterial. Journal of Optics (United Kingdom), 2010, 12, 085201.	1.0	8
110	Robust Detection of High-Frequency Signals at the Nanoscale. Physical Review Applied, 2020, 14, .	1.5	8
111	Fast-forward scaling of atom-molecule conversion in Bose-Einstein condensates. Physical Review A, 2021, 103, .	1.0	8
112	Traversal time for Dirac particles through a potential barrier. Annalen Der Physik, 2002, 11, 916-925.	0.9	7
113	Delay time of electron wave packet through a two-dimensional semiconductor heterostructure. European Physical Journal B, 2008, 62, 453-457.	0.6	7
114	Response to “Comment on “Guided modes in graphene waveguides”” [Appl. Phys. Lett. 96, 186101 (2010)]. Applied Physics Letters, 2010, 96, 186102.	1.3	7
115	Fast creation and transfer of coherence in triple quantum dots by using shortcuts to adiabaticity. Optics Express, 2018, 26, 31137.	1.7	7
116	Entangled quantum memristors. Physical Review A, 2021, 104, .	1.0	7
117	Experimental observation of negative lateral displacements of microwave beams transmitting through dielectric slabs. Optics Communications, 2006, 259, 470-473.	1.0	6
118	Quantized Single-Ion-Channel Hodgkin-Huxley Model for Quantum Neurons. Physical Review Applied, 2019, 12, .	1.5	6
119	Time and spatial parity operations with trapped ions. Physical Review A, 2015, 92, .	1.0	5
120	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
121	Shortcuts to Adiabaticity for Optical Beam Propagation in Nonlinear Gradient Refractive-Index Media. Entropy, 2020, 22, 673.	1.1	5
122	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
123	Switchable particle statistics with an embedding quantum simulator. Physical Review A, 2017, 95, .	1.0	4
124	Experimental implementation of precisely tailored light-matter interaction via inverse engineering. Npj Quantum Information, 2021, 7, .	2.8	4
125	Time-optimal variational control of a bright matter-wave soliton. Physical Review A, 2020, 102, .	1.0	4
126	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

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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	Coupled density-spin Bose-Einstein condensates dynamics and collapse in systems with quintic nonlinearity. Communications in Nonlinear Science and Numerical Simulation, 2020, 82, 105045.	1.7	3
129	Digital Quantum Simulation of Nonadiabatic Geometric Gates via Shortcuts to Adiabaticity. Entropy, 2020, 22, 1175.	1.1	3
130	Quantum Advantage in Cryptography with a Low-Connectivity Quantum Annealer. Physical Review Applied, 2020, 13, .	1.5	3
131	Phase-Adaptive Dynamical Decoupling Methods for Robust Spin-Spin Dynamics in Trapped Ions. Physical Review Applied, 2021, 15, .	1.5	3
132	Active learning for the optimal design of multinomial classification in physics. Physical Review Research, 2022, 4, .	1.3	3
133	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
134	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
135	Electronic Transport in Asymmetric Graphene Superlattice with Internal Potential Well. Journal of the Physical Society of Japan, 2015, 84, 064702.	0.7	2
136	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
137	Lateral displacement and its mechanism in asymmetric layered configuration. Journal of Modern Optics, 2006, 53, 2153-2165.	0.6	1
138	Propagation of Electron Waves in Monolayer Graphene and Optical Simulations with Negative-Zero-Positive Index Metamaterials. , 0, , .		1
139	Shortcut to adiabaticity in harmonic traps. The Journal of Atomic and Molecular Sciences, 2010, 1, 1-17.	0.1	1
140	Effective scaling approach to frictionless quantum quenches in trapped Bose gases. Physical Review A, 2021, 104, .	1.0	1