Erik Torrontegui

List of Publications by Year
in descending order

41 papers	3,102 citations	331670 21 h-index	265206 42 g-index
42 all docs	42 docs citations	42 times ranked	1353 citing authors

#	Article	IF	Citations
1	Shortcuts to adiabaticity: Concepts, methods, and applications. Reviews of Modern Physics, 2019, 91, .	45.6	583
2	Shortcuts to Adiabaticity. Advances in Atomic, Molecular and Optical Physics, 2013, 62, 117-169.	2.3	536
3	Lewis-Riesenfeld invariants and transitionless quantum driving. Physical Review A, 2011, 83, .	2.5	300
4	Multiple SchrÃ¶dinger Pictures and Dynamics in Shortcuts to Adiabaticity. Physical Review Letters, 2012, 109, 100403.	7.8	204
5	Fast atomic transport without vibrational heating. Physical Review A, 2011, 83, .	2.5	190
6	Optimal trajectories for efficient atomic transport without final excitation. Physical Review A, 2011, 84, .	2.5	119
7	Shortcuts to adiabaticity for non-Hermitian systems. Physical Review A, 2011, 84, .	2.5	99
8	Shortcuts to adiabaticity: Fast-forward approach. Physical Review A, 2012, 86, .	2.5	98
9	Shortcuts to adiabaticity in three-level systems using Lie transforms. Physical Review A, 2014, 89, .	2.5	95
10	Hamiltonian engineering via invariants and dynamical algebra. Physical Review A, 2014, 89, .	2.5	83
11	Fast transport of Boseâ€“Einstein condensates. New Journal of Physics, 2012, 14, 013031.	2.9	80
12	Unitary quantum perceptron as efficient universal approximator. Europhysics Letters, 2019, 125, 30004.	2.0	73
13	Fast transitionless expansion of cold atoms in optical Gaussian-beam traps. Physical Review A, 2012, 85, .	2.5	64
14	Energy consumption for shortcuts to adiabaticity. Physical Review A, 2017, 96, .	2.5	51
15	Large Quantum Delocalization of a Levitated Nanoparticle Using Optimal Control: Applications for Force Sensing and Entangling via Weak Forces. Physical Review Letters, 2021, 127, 023601.	7.8	48
16	Vibrational Mode Multiplexing of Ultracold Atoms. Physical Review Letters, 2013, 111, 213001.	7.8	45
17	Fast generation of spin-squeezed states in bosonic Josephson junctions. Physical Review A, 2012, 86, .	2.5	43
18	Noise resistant quantum control using dynamical invariants. New Journal of Physics, 2018, 20, 025006.	2.9	43

#	Article	IF	Citations
19	Fast transport of two ions in an anharmonic trap. Physical Review A, 2013, 88, .	2.5	41
20	Detecting quantum backflow by the density of a Bose-Einstein condensate. Physical Review A, 2013, 87, .	2.5	28
21	Invariant-Based Inverse Engineering of Crane Control Parameters. Physical Review Applied, 2017, 8, .	3.8	22
22	Enhanced observability of quantum postexponential decay using distant detectors. Physical Review A, 2009, 80, .	2.5	21
23	Quest for absolute zero in the presence of external noise. Physical Review E, 2013, 88, 032103.	2.1	21
24	Shortcut to adiabaticity in internal bosonic Josephson junctions. Physical Review A, 2013, 88, .	2.5	21
25	Explanation and observability of diffraction in time. Physical Review A, 2011, 83, .	2.5	20
26	Engineering fast and stable splitting of matter waves. Physical Review A, 2013, 87, .	2.5	20
27	Quantum Decay at Long Times. Advances in Quantum Chemistry, 2010, 60, 485-535.	0.8	19
28	Quantum Control of Frequency-Tunable Transmon Superconducting Qubits. Physical Review Applied, 2020, 14, .	3.8	16
29	Speeding up quantum perceptron via shortcuts to adiabaticity. Scientific Reports, 2021, 11, 5783.	3.3	14
30	Action-noise-assisted quantum control. Physical Review A, 2017, 96, .	2.5	13
31	Invariant-based inverse engineering of time-dependent, coupled harmonic oscillators. Physical Review A, 2020, 102, .	2.5	12
32	Modulated Continuous Wave Control for Energy-Efficient Electron-Nuclear Spin Coupling. Physical Review Letters, 2019, 122, 010407.	7.8	11
33	Activated and non-activated dephasing in a spin bath. New Journal of Physics, 2016, 18, 093001.	2.9	10
34	Single-atom heat engine as a sensitive thermal probe. New Journal of Physics, 2020, 22, 093020.	2.9	10
35	Cold-atom dynamics in crossed-laser-beam waveguides. Physical Review A, 2010, 82, .	2.5	8
36	Simulation of quantum collinear chemical reactions with ultracold atoms. Journal of Physics B: Atomic, Molecular and Optical Physics, 2011, 44, 195302.	1.5	8

#	Article	IF	Citations
37	Ultra-fast two-qubit ion gate using sequences of resonant pulses. New Journal of Physics, 2020, 22, 103024.	2.9	8
38	Ultraviolet Laser Pulses with Multigigahertz Repetition Rate and Multiwatt Average Power for Fast Trapped-Ion Entanglement Operations. Physical Review Applied, 2021, 15, .	3.8	6
39	Transient non-confining potentials for speeding up a single ion heat pump. New Journal of Physics, 2018, 20, 105001.	2.9	4
40	Classical picture of postexponential decay. Physical Review A, 2010, 81, .	2.5	3
41	Shortcuts to quantum adiabatic processes. Journal of Physics: Conference Series, 2011, 306, 012022.	0.4	2