

Antun Balaz

List of Publications by Year in descending order

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60
papers

1,353
citations

361413

20
h-index

345221

36
g-index

64
all docs

64
docs citations

64
times ranked

825
citing authors

#	ARTICLE	IF	CITATIONS
1	AEDGE: Atomic Experiment for Dark Matter and Gravity Exploration in Space. EPJ Quantum Technology, 2020, 7, .	6.3	190
2	C programs for solving the time-dependent Grossâ€Pitaevskii equation in a fully anisotropic trap. Computer Physics Communications, 2012, 183, 2021-2025.	7.5	168
3	Fortran and C programs for the time-dependent dipolar Grossâ€Pitaevskii equation in an anisotropic trap. Computer Physics Communications, 2015, 195, 117-128.	7.5	94
4	Hybrid OpenMP/MPI programs for solving the time-dependent Grossâ€Pitaevskii equation in a fully anisotropic trap. Computer Physics Communications, 2016, 200, 411-417.	7.5	61
5	Faraday waves in binary nonmiscible Bose-Einstein condensates. Physical Review A, 2012, 85, .	2.5	57
6	Nonlinear Bose-Einstein-condensate dynamics induced by a harmonic modulation of the s -wave scattering length. Physical Review A, 2011, 84, .	2.5	56
7	OpenMP Fortran and C programs for solving the time-dependent Grossâ€Pitaevskii equation in an anisotropic trap. Computer Physics Communications, 2016, 204, 209-213.	7.5	52
8	CUDA programs for solving the time-dependent dipolar Grossâ€Pitaevskii equation in an anisotropic trap. Computer Physics Communications, 2016, 200, 406-410.	7.5	51
9	OpenMP, OpenMP/MPI, and CUDA/MPI C programs for solving the time-dependent dipolar Grossâ€Pitaevskii equation. Computer Physics Communications, 2016, 209, 190-196.	7.5	39
10	Dipolar Bose-Einstein condensates in weak anisotropic disorder. Physical Review A, 2013, 88, .	2.5	37
11	Geometric resonances in Boseâ€Einstein condensates with two- and three-body interactions. Journal of Physics B: Atomic, Molecular and Optical Physics, 2013, 46, 065303.	1.5	37
12	Faraday waves in collisionally inhomogeneous Bose-Einstein condensates. Physical Review A, 2014, 89, .	2.5	35
13	OpenMP GNU and Intel Fortran programs for solving the time-dependent Grossâ€Pitaevskii equation. Computer Physics Communications, 2017, 220, 503-506.	7.5	30
14	Systematically Accelerated Convergence of Path Integrals. Physical Review Letters, 2005, 94, 180403.	7.8	25
15	Development of Grid e-Infrastructure in South-Eastern Europe. Journal of Grid Computing, 2011, 9, 135-154.	3.9	24
16	A nonlinear model of the dynamics of radial dislocations in microtubules. Applied Mathematics and Computation, 2014, 237, 227-237.	2.2	24
17	Interplay of coherent and dissipative dynamics in condensates of light. New Journal of Physics, 2018, 20, 055014.	2.9	23
18	C and Fortran OpenMP programs for rotating Boseâ€Einstein condensates. Computer Physics Communications, 2019, 240, 74-82.	7.5	22

#	ARTICLE	IF	CITATIONS
19	Recursive Schrödinger equation approach to faster converging path integrals. Physical Review E, 2009, 79, 036701.	2.1	21
20	Ultra-fast converging path-integral approach for rotating ideal Bose-Einstein condensates. Physics Letters, Section A: General, Atomic and Solid State Physics, 2010, 374, 1539-1549.	2.1	21
21	Dissipative two-mode Tavis-Cummings model with time-delayed feedback control. Physical Review A, 2015, 92, .	2.5	20
22	Spin-1 spin-orbit- and Rabi-coupled Bose-Einstein condensate solver. Computer Physics Communications, 2021, 259, 107657.	7.5	20
23	Generalization of Euler's summation formula to path integrals. Physics Letters, Section A: General, Atomic and Solid State Physics, 2005, 344, 84-90.	2.1	19
24	Systematic speedup of path integrals of a generic N-fold discretized theory. Physical Review B, 2005, 72, .	3.2	18
25	Fast convergence of path integrals for many-body systems. Physics Letters, Section A: General, Atomic and Solid State Physics, 2008, 372, 3341-3349.	2.1	18
26	Shell-shaped Bose-Einstein condensates based on dual-species mixtures. Physical Review A, 2022, 106, .	2.5	16
27	Properties of quantum systems via diagonalization of transition amplitudes. II. Systematic improvements of short-time propagation. Physical Review E, 2009, 80, 066706.	2.1	14
28	Asymptotic properties of path integral ideals. Physical Review E, 2005, 72, 036128.	2.1	12
29	Parametric and geometric resonances of collective oscillation modes in Bose-Einstein condensates. Physica Scripta, 2012, T149, 014003.	2.5	11
30	Analytical and numerical study of dirty bosons in a quasi-one-dimensional harmonic trap. New Journal of Physics, 2016, 18, 063003.	2.9	11
31	Excitation spectra of a Bose-Einstein condensate with an angular spin-orbit coupling. Physical Review A, 2016, 94, .	2.5	11
32	Fast converging path integrals for time-dependent potentials: I. Recursive calculation of short-time expansion of the propagator. Journal of Statistical Mechanics: Theory and Experiment, 2011, 2011, P03004.	2.3	10
33	Fast converging path integrals for time-dependent potentials: II. Generalization to many-body systems and real-time formalism. Journal of Statistical Mechanics: Theory and Experiment, 2011, 2011, P03005.	2.3	9
34	Jaggedness of path integral trajectories. Physics Letters, Section A: General, Atomic and Solid State Physics, 2005, 345, 258-264.	2.1	8
35	Faraday and resonant waves in binary collisionally-inhomogeneous Bose-Einstein condensates. Journal of Physics B: Atomic, Molecular and Optical Physics, 2016, 49, 165303.	1.5	8
36	Conditions for order and chaos in the dynamics of a trapped Bose-Einstein condensate in coordinate and energy space. European Physical Journal D, 2016, 70, 1.	1.3	8

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37	OpenMP solver for rotating spin-1 spin-orbit- and Rabi-coupled Bose-Einstein condensates. Computer Physics Communications, 2021, 264, 107926.	7.5	8
38	Efficient calculation of energy spectra using path integrals. Physics Letters, Section A: General, Atomic and Solid State Physics, 2006, 360, 205-209.	2.1	7
39	Time-of-flight expansion of trapped dipolar Fermi gases: From the collisionless to the hydrodynamic regime. Physical Review A, 2017, 95, .	2.5	7
40	Energy estimators and calculation of energy expectation values in the path integral formalism. Physics Letters, Section A: General, Atomic and Solid State Physics, 2006, 360, 217-223.	2.1	6
41	Ground state of an ultracold Fermi gas of tilted dipoles in elongated traps. New Journal of Physics, 2018, 20, 093016.	2.9	6
42	Faraday and Resonant Waves in Dipolar Cigar-Shaped Bose-Einstein Condensates. Symmetry, 2019, 11, 1090.	2.2	6
43	SPEEDUP Code for Calculation of Transition Amplitudes via the Effective Action Approach. Communications in Computational Physics, 2012, 11, 739-755.	1.7	5
44	Stability of quantum degenerate Fermi gases of tilted polar molecules. Physical Review Research, 2019, 1, .	3.6	4
45	Consequences of increased longevity for wealth, fertility, and population growth. Physica A: Statistical Mechanics and Its Applications, 2008, 387, 543-550.	2.6	3
46	Computation of asteroid proper elements on the Grid. Serbian Astronomical Journal, 2009, , 75-86.	0.6	3
47	Dynamics of weakly interacting bosons in optical lattices with flux. Physical Review A, 2018, 98, .	2.5	3
48	Scaling exponents and phase separation in a nonlinear network model inspired by the gravitational accretion. Physica D: Nonlinear Phenomena, 2013, 255, 52-57.	2.8	1
49	Publisher's Note: Faraday waves in collisionally inhomogeneous Bose-Einstein condensates [Phys. Rev. A 89, 023609 (2014)]. Physical Review A, 2014, 90, .	2.5	1
50	An Analysis of FFTW and FFTE Performance. Modeling and Optimization in Science and Technologies, 2014, , 163-170.	0.7	1
51	SEE-GRID eInfrastructure for Regional eScience. , 2011, , 91-103.		1
52	E-Infrastructures for International Cooperation. , 2014, , 380-430.		1
53	E-Infrastructures for International Cooperation. , 0, , 141-193.		1
54	Dyons in non-Abelian Born-Infeld theory. Physical Review D, 2002, 65, .	4.7	0

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55	The Use of Path Integral Ideals: Deriving the Euler Summation Formula for Path Integrals. AIP Conference Proceedings, 2006, , .	0.4	0
56	Accelerated path integral calculations for many-body systems. Journal of Physics: Conference Series, 2008, 128, 012048.	0.4	0
57	Energy levels and expectation values via accelerated path integral Monte Carlo. Journal of Physics: Conference Series, 2008, 128, 012062.	0.4	0
58	Fragmentation of a Bose-Einstein Condensate Through Periodic Modulation of the Scattering Length. Advances in Dynamics, Patterns, Cognition, 2014, , 119-129.	0.3	0
59	Dyons in Nonabelian Born-Infeld Theory. Lecture Notes in Physics, 2003, , 363-366.	0.7	0
60	VI-SEEM DREAMCLIMATE Service. Scalable Computing, 2018, 19, 215-221.	1.0	0