Krzysztof Sacha

List of Publications by Year
in descending order

117 papers	3,186 citations	147801 31 h-index	175258 52 g-index
122 all docs	122 docs citations	122 times ranked	1874 citing authors

#	Article	IF	Citations
1	Time crystals: a review. Reports on Progress in Physics, 2018, 81, 016401.	20.1	322
2	Modeling spontaneous breaking of time-translation symmetry. Physical Review A, 2015, 91, .	2.5	241
3	Routes Towards Anderson-Like Localization of Bose-Einstein Condensates in Disordered Optical Lattices. Physical Review Letters, 2005, 95, 170411.	7.8	214
4	Symphony on strong field approximation. Reports on Progress in Physics, 2019, 82, 116001.	20.1	123
5	How to strengthen or weaken the HRV dependence on heart rate â€" Description of the method and its perspectives. International Journal of Cardiology, 2013, 168, 1660-1663.	1.7	81
6	Self-localized impurities embedded in a one-dimensional Bose-Einstein condensate and their quantum fluctuations. Physical Review A, 2006, 73, .	2.5	77
7	Pathways to double ionization of atoms in strong fields. Physical Review A, 2001, 63, .	2.5	60
8	Images of the dark soliton in a depleted condensate. Journal of Physics B: Atomic, Molecular and Optical Physics, 2003, 36, 1217-1229.	1.5	60
9	Time-Resolved Quantum Dynamics of Double Ionization in Strong Laser Fields. Physical Review Letters, 2007, 98, 203002.	7.8	60
10	Time crystals: Analysis of experimental conditions. Physical Review A, 2018, 98, .	2.5	54
11	Heart rate impact on the reproducibility of heart rate variability analysis. International Journal of Cardiology, 2013, 168, 4257-4259.	1.7	51
12	Dynamical quantum phase transitions in discrete time crystals. Physical Review A, 2018, 97, .	2.5	51
13	Disorder-Induced Order in Two-Component Bose-Einstein Condensates. Physical Review Letters, 2008, 100, 030403.	7.8	49
14	Time Crystal Platform: From Quasicrystal Structures in Time to Systems with Exotic Interactions. Physical Review Letters, 2018, 120, 140401.	7.8	49
15	Depletion of the dark soliton: The anomalous mode of the Bogoliubov theory. Physical Review A, 2002, 66, .	2.5	46
16	Discrete time quasicrystals. Physical Review B, 2019, 99, .	3.2	46
17	Anderson Localization of Solitons. Physical Review Letters, 2009, 103, 210402.	7.8	45
18	Anderson localization and Mott insulator phase in the time domain. Scientific Reports, 2015, 5, 10787.	3.3	44

#	Article	IF	Citations
19	Time Crystal Behavior of Excited Eigenstates. Physical Review Letters, 2017, 119, 250602.	7.8	44
20	All-optical dissipative discrete time crystals. Nature Communications, 2022, 13, 848.	12.8	44
21	Quantum Measurements of Time. Physical Review Letters, 2020, 124, 110402.	7.8	41
22	Many-Body Matter-Wave Dark Soliton. Physical Review Letters, 2014, 112, 040402.	7.8	40
23	Time Crystals. Springer Series on Atomic, Optical, and Plasma Physics, 2020, , .	0.2	40
24	Lieb-Liniger model: Emergence of dark solitons in the course of measurements of particle positions. Physical Review A, 2015, 92, .	2.5	38
25	Topological time crystals. New Journal of Physics, 2019, 21, 052003.	2.9	38
26	Many-body localization caused by temporal disorder. Physical Review B, 2017, 96, .	3.2	36
27	How to select patients who will not benefit from ICD therapy by using heart rate and its variability?. International Journal of Cardiology, 2013, 168, 1655-1658.	1.7	35
28	Quantum depletion of an excited condensate. Physical Review A, 2002, 66, .	2.5	33
29	Nonsequential triple ionization in strong fields. Physical Review A, 2001, 64, .	2.5	32
30	Fractional time crystals. Physical Review A, 2019, 99, .	2.5	32
31	Anderson localization in the time domain. Physical Review A, 2016, 94, .	2.5	31
32	Critical fluctuations of an attractive Bose gas in a double-well potential. Europhysics Letters, 2008, 83, 64007.	2.0	30
33	Many-body Anderson localization in one-dimensional systems. New Journal of Physics, 2013, 15, 045021.	2.9	28
34	Gender differences in the interaction between heart rate and its variability â€" How to use it to improve the prognostic power of heart rate variability. International Journal of Cardiology, 2014, 171, e42-e45.	1.7	28
35	Three-Dimensional Localized-Delocalized Anderson Transition in the Time Domain. Physical Review Letters, 2017, 119, 230404.	7.8	28
36	N-conserving Bogoliubov vacuum of a two-component Boseâ€"Einstein condensate: density fluctuations close to a phase-separation condition. Journal of Physics A: Mathematical and Theoretical, 2008, 41, 145005.	2.1	27

#	Article	IF	Citations
37	Anderson localization of a Rydberg electron along a classical orbit. Physical Review A, 2017, 95, .	2.5	27
38	Quantum model for double ionization of atoms in strong laser fields. Physical Review A, 2008, 78, .	2.5	26
39	Creating big time crystals with ultracold atoms. New Journal of Physics, 2020, 22, 085004.	2.9	26
40	Dynamical quantum phase transitions in systems with broken continuous time and space translation symmetries. Physical Review A, 2018, 98, .	2.5	25
41	Simple method for excitation of a Bose-Einstein condensate. Physical Review A, 2001, 65, .	2.5	24
42	Mean field loops versus quantum anti-crossing nets in trapped Bose-Einstein condensates. European Physical Journal D, 2002, 21, 251-254.	1.3	24
43	Images of a Boseâ€“Einstein condensate: diagonal dynamical Bogoliubov vacuum. Journal of Physics B: Atomic, Molecular and Optical Physics, 2006, 39, 57-68.	1.5	24
44	Single-shot simulations of dynamics of quantum dark solitons. Physical Review A, 2016, 94, .	2.5	24
45	Analysis of localization phenomena in weakly interacting disordered lattice gases. New Journal of Physics, 2006, 8, 230-230.	2.9	22
46	Disorder-induced phase control in superfluid Fermi-Bose mixtures. Europhysics Letters, 2009, 86, 26004.	2.0	22
47	Simulation of non-Abelian lattice gauge fields with a single-component gas. Europhysics Letters, 2014, 107, 26006.	2.0	22
48	Localization in random fractal lattices. Physical Review B, 2017, 95, .	3.2	21
49	Wannier threshold law for two-electron escape in the presence of an external electric field. Europhysics Letters, 2001, 56, 651-657.	2.0	20
50	Frustration and time-reversal symmetry breaking for Fermi and Bose-Fermi systems. Physical Review A, 2012, 85, .	2.5	20
51	Phase diagram and optimal control for n-tupling discrete time crystal. New Journal of Physics, 2020, 22, 095001.	2.9	20
52	Bogoliubov theory of a Bose-Einstein condensate in the particle representation. Physical Review A, 2003, 67, .	2.5	18
53	Nonsequential double ionization of molecules. Physical Review A, 2005, 71, .	2.5	18
54	Phase effects in double ionization by strong short pulses. Chemical Physics, 2010, 370, 168-174.	1.9	18

#	Article	IF	Citations
55	Comment on â€œQuantum Time Crystals and Interacting Gauge Theories in Atomic Bose-Einstein Condensatesâ€• Physical Review Letters, 2020, 124, 178901.	7.8	18
56	Proper phase imprinting method for a dark soliton excitation in a superfluid Fermi mixture. Physical Review A, 2014, 90, .	2.5	17
57	Method for collective excitation of a Bose-Einstein condensate. Physical Review A, 2001, 63, .	2.5	16
58	Bose-Einstein-condensate heating by atomic losses. Physical Review A, 2003, 68, .	2.5	16
59	Classical threshold behaviour in a (1+1)-dimensional model for double ionization in strong fields. Journal of Physics B: Atomic, Molecular and Optical Physics, 2006, 39, 3865-3871.	1.5	16
60	Changes of the topological charge of vortices. Journal of Physics A, 2003, 36, 2339-2345.	1.6	15
61	Matter-wave analog of an optical random laser. Physical Review A, 2011, 84, .	2.5	15
62	Chaotic Rydberg Atoms with Broken Time-Reversal Symmetry. Physical Review Letters, 1999, 83, 2922-2925.	7.8	14
63	Self-localization of a small number of Bose particles in a superfluid Fermi system. Physical Review A, 2010, 82, .	2.5	14
64	Quantum dark solitons in a Bose gas confined in a hard-wall box. Physical Review A, 2017, 96, .	2.5	14
65	Lack of a genuine time crystal in a chiral soliton model. Physical Review Research, 2020, 2, .	3.6	14
66	Comment on â€œQuantum Entangled Dark Solitons Formed by Ultracold Atoms in Optical Latticesâ€• Physical Review Letters, 2010, 105, 018903; author reply 018904.	7.8	13
67	Classical Analysis of Correlated Multiple Ionization in Strong Fields. Physica Scripta, 2001, T90, 185.	2.5	12
68	Bose-Einstein condensate in a double well potential in the vicinity of a critical point. Laser Physics, 2010, 20, 671-677.	1.2	12
69	Dark soliton in a disorder potential. Physical Review A, 2012, 85, .	2.5	12
70	Resonance overlap criterion for H atom ionization by circularly polarized microwave fields. Physical Review A, 1997, 55, 568-576.	2.5	11
71	H-atom ionization by elliptically polarized microwave fields: The overlap criterion. Physical Review A, 1997, 56, 719-728.	2.5	11
72	Six-dimensional time-space crystalline structures. Physical Review B, 2021, 103, .	3.2	11

#	Article	IF	Citations
73	Controlling nonspreading wavepackets. European Physical Journal D, 1998, 1, 231-234.	1.3	10
74	Short-term deceleration capacity reveals higher reproducibility than spectral heart rate variability indices during self-monitoring at home. International Journal of Cardiology, 2011, 152, 271-272.	1.7	10
75	Condensed matter physics in big discrete time crystals. AAPPS Bulletin, 2022, 32, 1.	6.1	10
76	Quasiclassical dynamics of resonantly driven Rydberg states. European Physical Journal D, 1999, 5, 145-157.	1.3	9
77	Collective excitation of trapped degenerate Fermi gases. Journal of Physics B: Atomic, Molecular and Optical Physics, 2002, 35, L153-L159.	1.5	9
78	Solitons in coupled atomicâ€“molecular Boseâ€“Einstein condensates. Journal of Physics B: Atomic, Molecular and Optical Physics, 2007, 40, 1103-1116.	1.5	9
79	Second-order quantum phase transition of a homogeneous Bose gas with attractive interactions. Physical Review A, 2008, 78, .	2.5	9
80	Suppression of correlated electron escape in double ionization in strong laser fields. Physical Review A, 2008, 77, .	2.5	9
81	H-atom ionization by elliptically polarized microwave fields: Three-dimensional analysis. Physical Review A, 1998, 58, 488-497.	2.5	8
82	H atom in elliptically polarized microwaves:â€‚Semiclassical versus quantum resonant dynamics. Physical Review A, 1998, 58, 3974-3982.	2.5	8
83	Breaking Time Reversal Symmetry in Chaotic Driven Rydberg Atoms. Annals of Physics, 2000, 283, 141-172.	2.8	8
84	Stirring a BoseÂEinstein condensate. Journal of Physics B: Atomic, Molecular and Optical Physics, 2002, 35, 4051-4057.	1.5	8
85	Artificial magnetic field induced by an evanescent wave. Scientific Reports, 2015, 5, 7672.	3.3	8
86	Quantum particle-number fluctuations in a two-component Bose gas in a double-well potential. Physical Review A, 2011, 84, .	2.5	7
87	Simulation of frustrated classical<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi>X</mml:mi><mml:mi>Y</mml:mi></mml:mrow></mml:math>models with ultracold atoms in three-dimensional triangular optical lattices. Physical Review A, 2013, 87, .	2.5	7
88	Inseparable Time-Crystal Geometries on the MÃ¶bius Strip. Physical Review Letters, 2021, 127, 263003.	7.8	7
89	Controlled preparation of phases in two-dimensional time crystals. Physical Review Research, 2021, 3, .	3.6	7
90	A decade of time crystals: Quo vadis?. Europhysics Letters, 2022, 139, 10001.	2.0	7

#	Article	IF	Citations
91	Pathways to non-sequential multiple ionization in strong laser fields. Journal of Physics B: Atomic, Molecular and Optical Physics, 2003, 36, 3923-3935.	1.5	6
92	Breakdown of Anderson localization of interacting quantum bright solitons in a disorder potential. Physical Review A, 2012, 86, .	2.5	6
93	Condensate Phase Microscopy. Physical Review Letters, 2014, 112, 045302.	7.8	6
94	Dissipative discrete time crystals in a pump-modulated Kerr microcavity. Communications Physics, 2022, 5, .	5.3	6
95	Driven Rydberg Atoms Reveal Quartic Level Repulsion. Physical Review Letters, 2001, 86, 2269-2272.	7.8	5
96	Inert states of spin-5 and spin-6 Boseâ€“Einstein condensates. Journal of Physics A: Mathematical and Theoretical, 2012, 45, 045103.	2.1	5
97	Emergence of dark soliton signatures in a one-dimensional unpolarized attractive Fermi gas on a ring. Physical Review A, 2018, 98, .	2.5	5
98	Discrete time crystals in Bose-Einstein condensates and the symmetry-breaking edge in a simple two-mode theory. Physical Review A, 2021, 104, .	2.5	5
99	Resonant dynamics of the H atom in an elliptically polarized microwave field. Physical Review A, 1999, 59, 1707-1710.	2.5	4
100	Time crystals enter the real world of condensed matter. Physics World, 2020, 33, 42-46.	0.0	4
101	Anderson complexes: Bound states of atoms due to Anderson localization. Physical Review A, 2021, 103, .	2.5	4
102	Quantum Bright Soliton in a Disorder Potential. Acta Physica Polonica A, 2009, 116, 772-778.	0.5	4
103	Measurement of a one-dimensional matter-wave quantum breather. Physical Review A, 2020, 102, .	2.5	3
104	Cold Atomic Gases in Optical Lattices with Disorder. Acta Physica Polonica A, 2006, 109, 89-99.	0.5	3
105	Non-resonant driving of an H atom with broken time-reversal symmetry. Journal of Physics B: Atomic, Molecular and Optical Physics, 2000, 33, 2617-2622.	1.5	2
106	Matter-wave interference versus spontaneous pattern formation in spinor Bose-Einstein condensates. Physical Review A, 2013, 88, .	2.5	2
107	Topologically Protected Quantization of Work. Physical Review Letters, 2019, 123, 020601.	7.8	2
108	Determination of Chern numbers with a phase-retrieval algorithm. Physical Review A, 2019, 99, .	2.5	2

#	Article	IF	Citations
109	Discrete Time Crystals and Related Phenomena. Springer Series on Atomic, Optical, and Plasma Physics, 2020, , 39-172.	0.2	2
110	Nonsequential Double Ionization of Atoms in Strong Laser Pulses. Acta Physica Polonica A, 2007, 112, 699-706.	0.5	2
111	Images of a Bose-Einstein condensate in position and momentum space. Laser Physics, 2006, 16, 1710-1713.	1.2	1
112	Time crystal minimizes its energy by performing Sisyphus motion. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 18755-18756.	7.1	1
113	Condensed Matter Physics in the Time Dimension. Springer Series on Atomic, Optical, and Plasma Physics, 2020, , 173-235.	0.2	1
114	N-particle Bogoliubov vacuum state. Laser Physics, 2006, 16, 1134-1139.	1.2	0
115	Momentum distributions after double ionization. Chaos, 2008, 18, 041110.	2.5	0
116	Classical Analysis of Correlated Multiple Ionization in Strong Fields. , 2001, , .		0
117	Creating big time crystals with ultracold atoms. , 2019, , .		0