

Takuya Hirano

List of Publications by Year in descending order

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77
papers

2,172
citations

361045
20
h-index

223531
46
g-index

77
all docs

77
docs citations

77
times ranked

1699
citing authors

#	ARTICLE	IF	CITATIONS
1	Novel Optical Trap of Atoms with a Doughnut Beam. Physical Review Letters, 1997, 78, 4713-4716.	2.9	798
2	Controlling phase separation of binary Bose-Einstein condensates via mixed-spin-channel Feshbach resonance. Physical Review A, 2010, 82, .	1.0	169
3	Wavelength division multiplexing of continuous variable quantum key distribution and 18.3 Tbit/s data channels. Communications Physics, 2019, 2, .	2.0	108
4	QAM Quantum Noise Stream Cipher Transmission Over 100 km With Continuous Variable Quantum Key Distribution. IEEE Journal of Quantum Electronics, 2017, 53, 1-16.	1.0	87
5	Practical Limitation for Continuous-Variable Quantum Cryptography using Coherent States. Physical Review Letters, 2004, 92, 117901.	2.9	61
6	Security of quantum cryptography using balanced homodyne detection. Physical Review A, 2003, 67, .	1.0	60
7	Photon antibunching in pulsed squeezed light generated via parametric amplification. Physical Review Letters, 1993, 71, 1164-1167.	2.9	56
8	Efficient-phase-encoding protocols for continuous-variable quantum key distribution using coherent states and postselection. Physical Review A, 2006, 74, .	1.0	47
9	Observation of Dipole-Induced Spin Texture in an Rb Bose-Einstein Condensate. Physical Review Letters, 2014, 112, 185301.	2.9	44
10	Spin-dependent inelastic collisions in spin-2 Bose-Einstein condensates. Physical Review A, 2009, 80, .	1.0	42
11	Spin-echo-based magnetometry with spinor Bose-Einstein condensates. Physical Review A, 2013, 88, .	1.0	38
12	Implementation of continuous-variable quantum key distribution with discrete modulation. Quantum Science and Technology, 2017, 2, 024010.	2.6	38
13	Pulse-resolved measurement of quadrature phase amplitudes of squeezed pulse trains at a repetition rate of 76 MHz. Optics Letters, 2008, 33, 1458.	1.7	35
14	Observation of quadrature squeezing in a $\chi^{(2)}$ nonlinear waveguide using a temporally shaped local oscillator pulse. Optics Express, 2008, 16, 10650.	1.7	35
15	Broadband squeezing of light by pulse excitation. Optics Letters, 1990, 15, 1153.	1.7	34
16	Observation of squeezed light at 1535 nm using a pulsed homodyne detector. Optics Letters, 2007, 32, 1698.	1.7	30
17	Pulsed Propagation of Polariton Luminescence. Physical Review Letters, 1988, 61, 1226-1228.	2.9	28
18	Efficient homodyne measurement of picosecond squeezed pulses with pulse shaping technique. Optics Letters, 2011, 36, 4653.	1.7	23

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19	3 dB squeezing by single-pass parametric amplification in a periodically poled KTiOPO ₄ crystal. Optics Letters, 2005, 30, 1722.	1.7	22
20	Experimental generation of broadband quadrature entanglement using laser pulses. Physical Review A, 2007, 76, .	1.0	20
21	Generation of weak sub-Poissonian light by a high-efficiency light-emitting diode. IEEE Journal of Quantum Electronics, 1995, 31, 2236-2240.	1.0	18
22	Wide-band suppression of photon-number fluctuations in a high-speed light-emitting diode driven by a constant-current source. Applied Physics Letters, 1998, 72, 284-286.	1.5	18
23	Security of continuous-variable quantum cryptography using coherent states: Decline of postselection advantage. Physical Review A, 2005, 72, .	1.0	17
24	Probing the two-photon phase coherence of parametrically down-converted photons by a local oscillator. Physical Review A, 1994, 50, R3605-R3608.	1.0	16
25	Ramsey Interferometry Using the Zeeman Sublevels in a Spin-2 Bose Gas. Journal of the Physical Society of Japan, 2013, 82, 094002.	0.7	16
26	Bouncing motion and penetration dynamics in multicomponent Bose-Einstein condensates. Physical Review A, 2016, 93, .	1.0	16
27	Observation of the collective Coulomb blockade effect in a constant-current-driven high-speed light-emitting diode. Journal of the Optical Society of America B: Optical Physics, 1997, 14, 1295.	0.9	15
28	Quantum key distribution with a single photon from a squeezed coherent state. Physical Review A, 2003, 67, .	1.0	15
29	Dynamics of Quadruply Quantized Vortices in ⁸⁷ Rb Bose-Einstein Condensates Confined in Magnetic and Optical Traps. Journal of the Physical Society of Japan, 2010, 79, 034004.	0.7	15
30	Nonequilibrium dynamics induced by miscible-immiscible transition in binary Bose-Einstein condensates. New Journal of Physics, 2016, 18, 073029.	1.2	15
31	3 dB Wideband Squeezing in Photon Number Fluctuations from a Light Emitting Diode. Japanese Journal of Applied Physics, 1997, 36, 6350-6352.	0.8	14
32	Control and Detection of the Larmor Precession of ^{87}Rb Bose-Einstein Condensates by Ramsey Interferometry and Spin-Echo. Applied Physics Express, 2013, 6, 052801.	1.1	14
33	Control of spin current in a Bose gas by periodic application of π pulses. Physical Review A, 2014, 90, .	1.0	14
34	Photon antibunching by destructive two-photon interference. Physical Review A, 1996, 53, 3621-3624.	1.0	13
35	Faraday patterns generated by Rabi oscillation in a binary Bose-Einstein condensate. Physical Review A, 2019, 100, .	1.0	12
36	Compensation of gravity on cold atoms by a linear optical potential. Physical Review Research, 2020, 2, .	1.3	11

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37	Collision dynamics between stretched states of spin-2 ^{87}Rb Bose-Einstein condensates. Applied Physics B: Lasers and Optics, 2008, 93, 403-407.	1.1	10
38	Experimental realization of spatially separated entanglement with continuous variables using laser pulse trains. Scientific Reports, 2015, 5, 13029.	1.6	10
39	Ground-state phases of a mixture of spin-1 and spin-2 Bose-Einstein condensates. Physical Review A, 2018, 97, .	1.0	10
40	Coexistence of Continuous Variable Quantum Key Distribution and 7Å–12.5 Gbit/s Classical Channels. , 2018, , .		10
41	Wideband squeezing in photon number fluctuations from a high-speed light-emitting diode. Optics Express, 2000, 7, 215.	1.7	9
42	Suppression of relative flow by multiple domains in two-component Bose-Einstein condensates. Physical Review A, 2015, 92, .	1.0	9
43	Spinor dynamics in a mixture of spin-1 and spin-2 Bose-Einstein condensates. Physical Review A, 2018, 97, .	1.0	9
44	Pulsed Homodyne Detection of Squeezed Light at Telecommunication Wavelength. Japanese Journal of Applied Physics, 2006, 45, L821-L823.	0.8	8
45	Joint Propagation of Continuous Variable Quantum Key Distribution and 24.5×18 Gbaud PM-16QAM Channels. , 2018, , .		7
46	Interaction modulation in a long-lived Bose-Einstein condensate by rf coupling. Physical Review A, 2019, 99, .	1.0	7
47	Synchronization of a chaotic laser pulsation with its prerecorded history. Physical Review E, 1996, 54, 4476-4479.	0.8	6
48	Secret key rate of a continuous-variable quantum-key-distribution scheme when the detection process is inaccessible to eavesdroppers. Physical Review A, 2018, 98, .	1.0	6
49	Pulse-resolved measurement of continuous-variable Einstein-Podolsky-Rosen entanglement with shaped local oscillators. Optics Express, 2019, 27, 17610.	1.7	6
50	Sensitive spatially resolved magnetometry using a Bose-condensed gas with a bright probe. Physical Review A, 2021, 104, .	1.0	6
51	Investigating statistical properties of light from high efficiency light emitting diodes. Progress in Crystal Growth and Characterization of Materials, 1996, 33, 339-342.	1.8	5
52	Secure Transmission using QAM Quantum Noise Stream Cipher with Continuous Variable QKD. , 2018, , .		5
53	Two-photon correlation of squeezed pulse train. Optics Communications, 1994, 105, 214-218.	1.0	4
54	Collective Excitation of Bose-Einstein Condensates Induced by Evaporative Cooling. Journal of the Physical Society of Japan, 2012, 81, 074002.	0.7	4

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55	Dissipation-Assisted Coherence Formation in a Spinor Quantum Gas. <i>Physical Review Letters</i> , 2019, 122, 245301.	2.9	4
56	Stable generation of quadrature entanglement using a ring interferometer. <i>Physical Review A</i> , 2009, 79, .	1.0	3
57	Effect of cascaded nonlinear phase shift on pulsed second-harmonic generation using periodically poled waveguide: a comparison of experimental and numerical results. <i>Japanese Journal of Applied Physics</i> , 2021, 60, 052001.	0.8	3
58	Synchronization of a laser system to a modulation signal artificially constructed from its strange attractor. <i>Physical Review E</i> , 1997, 56, 6564-6568.	0.8	2
59	Practical implementation of continuous-variable quantum key distribution. , 2006, 6244, 175.		2
60	Observation of strong continuous-variable Einstein-Podolsky-Rosen entanglement using shaped local oscillators. , 2016, , .		2
61	Quantum lock-in detection of a vector light shift. <i>Physical Review A</i> , 2021, 103, .	1.0	2
62	Spectroscopic properties of cold rubidium atoms in a magneto-optic trap. <i>Progress in Crystal Growth and Characterization of Materials</i> , 1996, 33, 413-417.	1.8	1
63	Free-space continuous-variable Quantum Cryptography. , 2007, , .		1
64	Transporting continuous quantum variables of individual light pulses. <i>Optics Express</i> , 2011, 19, 1360.	1.7	1
65	Temporal Characteristics of Pulsed Squeezing in a Nonlinear Optical Waveguide. <i>Japanese Journal of Applied Physics</i> , 2013, 52, 048001.	0.8	1
66	Continuous operation of four-state continuous-variable quantum key distribution system. , 2016, , .		1
67	Cold Atom Magnetometers. <i>Lecture Notes in Physics</i> , 2016, , 111-133.	0.3	1
68	Notes on a Continuous-Variable Quantum Key Distribution Scheme. <i>Journal of the Physical Society of Japan</i> , 2017, 86, 094001.	0.7	1
69	Challenges in Parallel Operation of Quantum Key Distribution and Data Transmission. , 2019, , .		1
70	Improved waveguide-based ultraviolet light generation and pulsed squeezing at 795 nm. <i>Optics Express</i> , 2022, 30, 26120.	1.7	1
71	Sub-Poissonian photon-states generated by light-emitting-diodes: Coulomb blockade of pump events and Stark-effect blockade of emission events. <i>Materials Science and Engineering B: Solid-State Materials for Advanced Technology</i> , 1997, 48, 26-33.	1.7	0
72	Controlling excess noise using acousto-optic modulator for quantum cryptography with continuous variables. , 2007, , .		0

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73	Time-resolved pulsed homodyne detector and its application to measurement of pulsed squeezed states. , 2009, , .		0
74	Pulsed homodyne detection of quadrature entanglement at telecommunication wavelength. , 2009, , .		0
75	Generation of physical random numbers by using homodyne detection. , 2016, , .		0
76	Time-Domain Measurement of Continuous-Variable Entanglement Using Temporally Shaped Local Oscillator Pulses. , 2018, , .		0
77	Feeling of Expectation and Uneasy about Competitive Research Funds. Trends in the Sciences, 2002, 7, 56-59.	0.0	0