Atsushi Uchida

List of Publications by Year
in descending order

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Version: 2024-02-01

114	4,023	117625	123424
papers	citations	34 h-index	61 g-index

132	132	132	1646
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Experimental demonstration of adaptive model selection based on reinforcement learning in photonic reservoir computing. Nonlinear Theory and Its Applications IEICE, 2022, 13, 123-138.	0.6	0
2	Adaptive decision making using a chaotic semiconductor laser for multi-armed bandit problem with time-varying hit probabilities. Nonlinear Theory and Its Applications IEICE, 2022, 13, 112-122.	0.6	3
3	Photonic reinforcement learning based on optoelectronic reservoir computing. Scientific Reports, 2022, 12, 3720.	3.3	7
4	Photonic accelerator based on optical chaos. , 2022, , .		0
5	Photonic Computing Highlighting Ultimate Nature of Light: Decision Making by Photonics. Ieice Ess Fundamentals Review, 2022, 15, 310-317.	0.1	0
6	Decision making for large-scale multi-armed bandit problems using bias control of chaotic temporal waveforms in semiconductor lasers. Scientific Reports, 2022, 12, 8073.	3.3	7
7	Photonic decision making for solving competitive multi-armed bandit problem using semiconductor laser networks. Nonlinear Theory and Its Applications IEICE, 2022, 13, 582-597.	0.6	2
8	Performance Improvement of Delay-Based Photonic Reservoir Computing. Natural Computing Series, 2021, , 377-396.	2.2	1
9	Fast dynamics of low-frequency fluctuations in a quantum-dot laser with optical feedback. Optics Express, 2021, 29, 17962.	3.4	5
10	High-entropy chaos generation using semiconductor lasers subject to intensity-modulated optical injection for certified physical random number generation. Optics Letters, 2021, 46, 3384.	3.3	15
11	Entropy rate of chaos in an optically injected semiconductor laser for physical random number generation. Optics Express, 2021, 29, 2442.	3.4	17
12	Photonic Artificial Intelligence Using Complex Photonics: Reservoir Computing and Decision Making. , 2021, , .		0
13	Photonic neural field on a silicon chip: large-scale, high-speed neuro-inspired computing and sensing. Optica, 2021, 8, 1388.	9.3	28
14	Decision Making Photonics: Solving Bandit Problems Using Photons. IEEE Journal of Selected Topics in Quantum Electronics, 2020, 26, 1-10.	2.9	14
15	Reservoir Computing Using Multiple Lasers With Feedback on a Photonic Integrated Circuit. IEEE Journal of Selected Topics in Quantum Electronics, 2020, 26, 1-9.	2.9	65
16	Lotkaâ€“Volterra Competition Mechanism Embedded in a Decision-Making Method. Journal of the Physical Society of Japan, 2020, 89, 014801.	1.6	4
17	Reservoir computing and decision making using laser dynamics for photonic accelerator. Japanese Journal of Applied Physics, 2020, 59, 040601.	1.5	6
18	Adaptive model selection in photonic reservoir computing by reinforcement learning. Scientific Reports, 2020, 10, 10062.	3.3	7

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19	Dynamic channel selection in wireless communications via a multi-armed bandit algorithm using laser chaos time series. Scientific Reports, 2020, 10, 1574.	3.3	39
20	Entropy evaluation of white chaos generated by optical heterodyne for certifying physical random number generators. Optics Express, 2020, 28, 3686.	3.4	16
21	Using multidimensional speckle dynamics for high-speed, large-scale, parallel photonic computing. Optics Express, 2020, 28, 30349.	3.4	32
22	Laser network decision making by lag synchronization of chaos in a ring configuration. Optics Express, 2020, 28, 40112.	3.4	33
23	On-chip photonic decision maker using spontaneous mode switching in a ring laser. Scientific Reports, 2019, 9, 9429.	3.3	22
24	Generative adversarial network based on chaotic time series. Scientific Reports, 2019, 9, 12963.	3.3	13
25	Novel frontier of photonics for data processingâ€"Photonic accelerator. APL Photonics, 2019, 4, 090901.	5.7	127
26	Photonic reservoir computing based on nonlinear wave dynamics at microscale. Scientific Reports, 2019, 9, 19078.	3.3	29
27	Numerical study on dynamics-dependent synchronization in mutually-coupled lasers with asymmetric feedback. Nonlinear Theory and Its Applications IEICE, 2019, 10, 60-73.	0.6	0
28	Decision making for the multi-armed bandit problem using lag synchronization of chaos in mutually coupled semiconductor lasers. Optics Express, 2019, 27, 26989.	3.4	25
29	Implementation of optical feedback modulation in photonic reservoir computing. , 2019, , .		0
30	Decision making using lag synchronization of chaos in mutually-coupled semiconductor lasers. , 2019, , .		0
31	Progress in Fast Physical Random Number Generation with Complex Photonics. The Review of Laser Engineering, 2019, 47, 310.	0.0	1
32	Scalable photonic reinforcement learning by time-division multiplexing of laser chaos. Scientific Reports, 2018, 8, 10890.	3.3	46
33	Memory Effect on Adaptive Decision Making with a Chaotic Semiconductor Laser. Complexity, 2018, 2018, 1-8.	1.6	16
34	Impact of input mask signals on delay-based photonic reservoir computing with semiconductor lasers. Optics Express, 2018, 26, 5777.	3.4	101
35	Effect of bandwidth limitation of optical noise injection on common-signal-induced synchronization in multi-mode semiconductor lasers. Optics Express, 2018, 26, 13521.	3.4	7
36	Compact reservoir computing with a photonic integrated circuit. Optics Express, 2018, 26, 29424.	3.4	96

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37	Synchronized Laser Chaos Communication: Statistical Investigation of an Experimental System. IEEE Journal of Quantum Electronics, 2017, 53, 1-10.	1.9	18
38	Dynamics Versus Feedback Delay Time in Photonic Integrated Circuits: Mapping the Short Cavity Regime. IEEE Photonics Journal, 2017, 9, 1-12.	2.0	11
39	Common-Signal-Induced Synchronization in Semiconductor Lasers With Broadband Optical Noise Signal. IEEE Journal of Selected Topics in Quantum Electronics, 2017, 23, 1-10.	2.9	10
40	Random Number Generation From Intermittent Optical Chaos. IEEE Journal of Selected Topics in Quantum Electronics, 2017, 23, 1-8.	2.9	11
41	Physical implementation of oblivious transfer using optical correlated randomness. Scientific Reports, 2017, 7, 8444.	3.3	5
42	Recommendations and illustrations for the evaluation of photonic random number generators. APL Photonics, 2017, 2, .	5.7	49
43	Dynamics-dependent synchronization in on-chip coupled semiconductor lasers. Physical Review E, 2017, 96, 032216.	2.1	9
44	Ultrafast photonic reinforcement learning based on laser chaos. Scientific Reports, 2017, 7, 8772.	3.3	79
45	Spontaneous exchange of leader-laggard relationship in mutually coupled synchronized semiconductor lasers. Physical Review E, 2017, 95, 052212.	2.1	19
46	Common-signal-induced synchronization in photonic integrated circuits and its application to secure key distribution. Optics Express, 2017, 25, 26029.	3.4	32
47	Real-time fast physical random number generator with a photonic integrated circuit. Optics Express, 2017, 25, 6511.	3.4	60
48	Performance Improvement of Optical Reservoir Computing Based on Complex Transient Dynamics of a Laser with Time-Delayed Feedback. The Review of Laser Engineering, 2017, 45, 148.	0.0	0
49	Photonic integrated circuits unveil crisis-induced intermittency. Optics Express, 2016, 24, 22198.	3.4	22
50	Laser dynamical reservoir computing with consistency: an approach of a chaos mask signal. Optics Express, 2016, 24, 8679.	3.4	155
51	Complexity and bandwidth enhancement in unidirectionally coupled semiconductor lasers with time-delayed optical feedback. Physical Review E, 2016, 93, 032206.	2.1	24
52	Cycles of self-pulsations in a photonic integrated circuit. Physical Review E, 2015, 92, 062905.	2.1	11
53	Tb/s physical random bit generation with bandwidth-enhanced chaos in three-cascaded semiconductor lasers. Optics Express, 2015, 23, 1470.	3.4	130
54	Inphase and Antiphase Dynamics of Spatially-Resolved Light Intensities Emitted by a Chaotic Broad-Area Semiconductor Laser. IEEE Journal of Selected Topics in Quantum Electronics, 2015, 21, 522-530.	2.9	14

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55	Secret-Key Distribution Based on Bounded Observability. Proceedings of the IEEE, 2015, 103, 1762-1780.	21.3	15
56	Reservoir Computing: Novel Optical Computing Using Laser Dynamics. The Review of Laser Engineering, 2015, 43, 365.	0.0	0
57	Numerical Analysis of Antiphase Dynamics of Spatiotemporal Chaos in a Broad-Area Semiconductor Laser. The Review of Laser Engineering, 2015, 43, 393.	0.0	0
58	Estimation of the Lyapunov Exponent Using Transient of Generalized Synchronization in Semiconductor Lasers with Optical Feedback. The Review of Laser Engineering, 2015, 43, 387.	0.0	0
59	Fast physical random bit generation with photonic integrated circuits with different external cavity lengths for chaos generation. Optics Express, 2014, 22, 11727.	3.4	53
60	Finite-time Lyapunov exponents in time-delayed nonlinear dynamical systems. Physical Review E, 2014, 89, 032918.	2.1	17
61	Multiple basins of consistency in noise-driven dynamical system. Nonlinear Theory and Its Applications IEICE, 2014, 5, 436-444.	0.6	0
62	Secure key distribution using correlated randomness in optical devices. IEICE Proceeding Series, 2014, 1, 336-339.	0.0	0
63	Spontaneous exchange of leader-laggard relationship in mutually-coupled semiconductor lasers. IEICE Proceeding Series, 2014, 1, 399-402.	0.0	0
64	Noise Effects on Generalized Chaos Synchronization in Semiconductor Lasers. IEICE Proceeding Series, 2014, 2, 413-416.	0.0	0
65	Nonlinear dynamics in a photonic integrated circuit for fast chaos generation. IEICE Proceeding Series, 2014, 1, 134-137.	0.0	0
66	Finite-time Lyapunov exponents in nonlinear dynamical systems with time-delayed feedback. IEICE Proceeding Series, 2014, 1, 276-279.	0.0	0
67	Estimation of maximum Lyapunov exponent using generalized synchronization in semiconductor lasers with optical feedback. IEICE Proceeding Series, 2014, 2, 405-408.	0.0	0
68	Random number generation with a photonic integrated circuit for fast chaos generation. IEICE Proceeding Series, 2014, 1, 138-141.	0.0	0
69	Fast random number generation with bandwidth-enhanced chaos and post-processing. IEICE Proceeding Series, 2014, 1, 142-145.	0.0	0
70	Experiment on secure key distribution using correlated random phenomenon in semiconductor lasers. IEICE Proceeding Series, 2014, 1, 340-343.	0.0	0
71	Performance of Random Number Generators Using Noise-Based Superluminescent Diode and Chaos-Based Semiconductor Lasers. IEEE Journal of Selected Topics in Quantum Electronics, 2013, 19, 0600309-0600309.	2.9	51
72	Complexity and frequency bandwidth in unidirectionally-coupled semiconductor lasers with optical feedback. , 2013, , .		0

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73	Information-theoretic secure key distribution based on common random-signal induced synchronization in unidirectionally-coupled cascades of semiconductor lasers. Optics Express, 2013, 21, 17869.	3.4	60
74	Experiment on synchronization of semiconductor lasers by common injection of constant-amplitude random-phase light. Optics Express, 2012, 20, 11813.	3.4	60
75	Secure Key Distribution Using Correlated Randomness in Lasers Driven by Common Random Light. Physical Review Letters, 2012, 108, 070602.	7.8	119
76	Generalized synchronization and complexity in unidirectionally coupled dynamical systems. Nonlinear Theory and Its Applications IEICE, 2012, 3, 143-154.	0.6	3
77	Nonlinear dynamics and chaos synchronization in Mackey-Glass electronic circuits with multiple time-delayed feedback. Nonlinear Theory and Its Applications IEICE, 2012, 3, 155-164.	0.6	10
78	Noise amplification by chaotic dynamics in a delayed feedback laser system and its application to nondeterministic random bit generation. Chaos, 2012, 22, 047513.	2.5	26
79	Consistency and complexity in coupled semiconductor lasers with time-delayed optical feedback. Physical Review E, 2012, 86, 066202.	2.1	39
80	Estimation of entropy rate in a fast physical random-bit generator using a chaotic semiconductor laser with intrinsic noise. Physical Review E, 2012, 85, 016211.	2.1	38
81	Fast Random Number Generation With Bandwidth-Enhanced Chaotic Semiconductor Lasers at 8$,imes,$50 Gb/s. IEEE Photonics Technology Letters, 2012, 24, 1042-1044.	2.5	68
82	Theory of fast nondeterministic physical random-bit generation with chaotic lasers. Physical Review E, 2012, 85, 046215.	2.1	34
83	Fast nondeterministic random-bit generation using on-chip chaos lasers. Physical Review A, 2011, 83, .	2.5	88
84	Chaos laser chips with delayed optical feedback using a passive ring waveguide. Optics Express, 2011, 19, 5713.	3.4	59
85	Random optical pulse generation with bistable semiconductor ring lasers. Optics Express, 2011, 19, 7439.	3.4	34
86	Complexity Analysis in A Semiconductor Laser with Time-Delayed Optical Feedback. The Review of Laser Engineering, 2011, 39, 543-549.	0.0	2
87	Review on Ultra-Fast Physical Random Number Generators Based on Optical Random Phenomena. The Review of Laser Engineering, 2011, 39, 508-514.	0.0	2
88	Reliability and synchronization in a delay-coupled neuronal network with synaptic plasticity. Physical Review E, 2011, 83, 061915.	2.1	16
89	Fast random bit generation with bandwidth-enhanced chaos in semiconductor lasers. Optics Express, 2010, 18, 5512.	3.4	168
90	Experimental evaluation of fast random bit sequence generation using chaotic semiconductor lasers. , 2009, , .		0

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91	Chaotic polarization dynamics and chaos synchronization in VCSELs. , 2009, , .		0
92	Synchronization of chaos in mutually coupled vertical-cavity surface-emitting lasers with time delay. , 2009, , .		3
93	Leader-laggard relationship of chaos synchronization in mutually coupled vertical-cavity surface-emitting lasers with time delay. Physical Review E, 2009, 79, 026210.	2.1	35
94	Synchronization of chaotic semiconductor lasers by optical injection with random phase modulation. Optical and Quantum Electronics, 2009, 41, 137-149.	3.3	6
95	Fast physical random bit generator based on chaotic semiconductor lasers: Application to quantum cryptography. , 2009, , .		0
96	Differential-phase-shift quantum key distribution experiment using fast physical random bit generator with chaotic semiconductor lasers. Optics Express, 2009, 17, 9053.	3.4	41
97	Synchronization by injection of common chaotic signal in semiconductor lasers with optical feedback. Optics Express, 2009, 17, 10025.	3.4	38
98	Synchronization of bandwidth-enhanced chaos in semiconductor lasers with optical feedback and injection. Optics Express, 2009, 17, 19536.	3.4	60
99	Efficient physical random bit generation with lasers. , 2009, , .		0
100	Characteristics of Fast Physical Random Bit Generation Using Chaotic Semiconductor Lasers. IEEE Journal of Quantum Electronics, 2009, 45, 1367-1379.	1.9	65
101	Fast physical random bit generation with chaotic semiconductor lasers. Nature Photonics, 2008, 2, 728-732.	31.4	808
102	Local conditional Lyapunov exponent characterization of consistency of dynamical response of the driven Lorenz system. Physical Review E, 2008, 78, 036203.	2.1	24
103	Numerical Analysis on Chaos Synchronization in Semiconductor Lasers Subject to a Common Drive Signal. IEEJ Transactions on Electronics, Information and Systems, 2008, 128, 768-774.	0.2	0
104	Separation of mixed chaotic signals in microchip lasers by independent component analysis. , 2007, , .		0
105	Synchronization of chaos in mutually coupled VCSELs: numerical study. , 2007, , .		0
106	Consistency in Lasers. The Review of Laser Engineering, 2007, 35, 38-42.	0.0	1
107	Common-chaotic-signal induced synchronization in semiconductor lasers. Optics Express, 2007, 15, 3974.	3.4	68
108	Analysis of fractal dimension of light scattering in polyhedral mirror-ball structures. , 2007, , .		0

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109	Chaotic dynamics and synchronization in microchip solid-state lasers with optoelectronic feedback. Physical Review E, 2006, 74, 066206.	2.1	6
110	Synchronization and communication with chaotic laser systems. Progress in Optics, 2005, , 203-341.	0.6	59
111	Generalized Synchronization of Spatiotemporal Chaos in a Liquid Crystal Spatial Light Modulator. Physical Review Letters, 2004, 93, 084101.	7.8	44
112	Consistency of Nonlinear System Response to Complex Drive Signals. Physical Review Letters, 2004, 93, 244102.	7.8	144
113	Generalized Synchronization of Chaos in Identical Systems with Hidden Degrees of Freedom. Physical Review Letters, 2003, 91, 174101.	7.8	54
114	Recent Progress in Quantum Optics. Secure Communications Using Laser Chaos.. The Review of Laser Engineering, 2000, 28, 682-689.	0.0	0