Shui Ying Xiang

List of Publications by Year
in descending order

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		172386	276775
106	2,406	29	41
papers	citations	h-index	g-index

106	106	106	853
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	An All-MRR-Based Photonic Spiking Neural Network for Spike Sequence Learning. Photonics, 2022, 9, 120.	0.9	5
2	Engineering-oriented bridge multiple-damage detection with damage integrity using modified faster region-based convolutional neural network. Multimedia Tools and Applications, 2022, 81, 18279-18304.	2.6	8
3	Intelligent Crack Detection and Quantification in the Concrete Bridge: A Deep Learning-Assisted Image Processing Approach. Advances in Civil Engineering, 2022, 2022, 1-15.	0.4	5
4	Multilayer Photonic Spiking Neural Networks: Generalized Supervised Learning Algorithm and Network Optimization. Photonics, 2022, 9, 217.	0.9	2
5	Experimental implementation of spike-based neuromorphic XOR operation based on polarization-mode competition in a single VCSOA. Applied Optics, 2022, 61, 5823.	0.9	1
6	Experimental demonstration of photonic spike-timing-dependent plasticity based on a VCSOA. Science China Information Sciences, 2022, 65, .	2.7	4
7	Spiking VGG7: Deep Convolutional Spiking Neural Network with Direct Training for Object Recognition. Electronics (Switzerland), 2022, 11, 2097.	1.8	10
8	Computing Primitive of Fully VCSEL-Based All-Optical Spiking Neural Network for Supervised Learning and Pattern Classification. IEEE Transactions on Neural Networks and Learning Systems, 2021, 32, 2494-2505.	7.2	60
9	Training a Multi-Layer Photonic Spiking Neural Network With Modified Supervised Learning Algorithm Based on Photonic STDP. IEEE Journal of Selected Topics in Quantum Electronics, 2021, 27, 1-9.	1.9	28
10	Enhanced Prediction Performance of a Neuromorphic Reservoir Computing System Using a Semiconductor Nanolaser With Double Phase Conjugate Feedbacks. Journal of Lightwave Technology, 2021, 39, 129-135.	2.7	16
11	A modified supervised learning rule for training a photonic spiking neural network to recognize digital patterns. Science China Information Sciences, 2021, 64, 1.	2.7	1
12	A review: Photonics devices, architectures, and algorithms for optical neural computing. Journal of Semiconductors, 2021, 42, 023105.	2.0	48
13	Delay-weight plasticity-based supervised learning in optical spiking neural networks. Photonics Research, 2021, 9, B119.	3.4	18
14	All-optical neuromorphic binary convolution with a spiking VCSEL neuron for image gradient magnitudes. Photonics Research, 2021, 9, B201.	3.4	35
15	Recent progress of integrated circuits and optoelectronic chips. Science China Information Sciences, 2021, 64, 1.	2.7	56
16	Experimental demonstration of pyramidal neuron-like dynamics dominated by dendritic action potentials based on a VCSEL for all-optical XOR classification task. Photonics Research, 2021, 9, 1055.	3.4	14
17	Spiking dynamics and synchronization properties of optical neurons based on VCSEL-SAs. Nonlinear Dynamics, 2021, 105, 2665-2675.	2.7	6
18	All-optical Sudoku solver with photonic spiking neural network. Optics Communications, 2021, 495, 127068.	1.0	2

#	Article	IF	Citations
19	Polarization Multiplexing Reservoir Computing Based on a VCSEL With Polarized Optical Feedback. IEEE Journal of Selected Topics in Quantum Electronics, 2020, 26, 1-9.	1.9	47
20	Real-time optical spike-timing dependent plasticity in a single VCSEL with dual-polarized pulsed optical injection. Science China Information Sciences, 2020, 63, 1.	2.7	8
21	High-Speed Neuromorphic Reservoir Computing Based on a Semiconductor Nanolaser With Optical Feedback Under Electrical Modulation. IEEE Journal of Selected Topics in Quantum Electronics, 2020, 26, 1-7.	1.9	21
22	Enhanced memory capacity of a neuromorphic reservoir computing system based on a VCSEL with double optical feedbacks. Science China Information Sciences, 2020, 63, 1.	2.7	8
23	Photonic Associative Learning Neural Network Based on VCSELs and STDP. Journal of Lightwave Technology, 2020, 38, 4691-4698.	2.7	8
24	The Winner-Take-All Mechanism for All-Optical Systems of Pattern Recognition and Max-Pooling Operation. Journal of Lightwave Technology, 2020, 38, 5071-5077.	2.7	16
25	Spike Sequence Learning in a Photonic Spiking Neural Network Consisting of VCSELs-SA With Supervised Training. IEEE Journal of Selected Topics in Quantum Electronics, 2020, 26, 1-9.	1.9	29
26	Zero-lag chaos synchronization properties in a hierarchical tree-type network consisting of mutually coupled semiconductor lasers. Nonlinear Dynamics, 2020, 99, 2893-2906.	2.7	9
27	Experimental investigation of the time-delay signature of chaotic output and dual-channel physical random bit generation in 1550â€‰â€‰nm mutually coupled VCSELs with common FBG filtered feedback. Applied Optics, 2020, 59, 4583.	0.9	7
28	Photonic spiking neural network based on excitable VCSELs-SA for sound azimuth detection. Optics Express, 2020, 28, 1561.	1.7	22
29	Time-delay signature concealment of chaos and ultrafast decision making in mutually coupled semiconductor lasers with a phase-modulated Sagnac loop. Optics Express, 2020, 28, 1665.	1.7	36
30	Hardware Architecture and Algorithm Co-design for Multi-Layer Photonic Neuromorphic Network with Excitable VCSELs-SA. , 2020, , .		2
31	All-optical neuromorphic XOR operation with inhibitory dynamics of a single photonic spiking neuron based on a VCSEL-SA. Optics Letters, 2020, 45, 1104.	1.7	56
32	Generation of multi-channel chaotic signals with time delay signature concealment and ultrafast photonic decision making based on a globally-coupled semiconductor laser network. Photonics Research, 2020, 8, 1792.	3.4	26
33	Neuromorphic Reservoir Computing System Using a Semiconductor Nanolaser with Double Phase Conjugate Feedbacks. , 2020, , .		0
34	Image edge detection with a photonic spiking VCSEL-neuron. Optics Express, 2020, 28, 37526.	1.7	13
35	2.24-Tb/s Physical Random Bit Generation With Minimal Post-Processing Based on Chaotic Semiconductor Lasers Network. Journal of Lightwave Technology, 2019, 37, 3987-3993.	2.7	30
36	Multi-user image encryption algorithm based on synchronized random bits generator in semiconductor lasers network. Multimedia Tools and Applications, 2019, 78, 26181-26201.	2.6	5

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37	Cluster synchronization in mutually-coupled semiconductor laser networks with different topologies. Optics Communications, 2019, 445, 262-267.	1.0	9
38	STDP-Based Unsupervised Spike Pattern Learning in a Photonic Spiking Neural Network With VCSELs and VCSOAs. IEEE Journal of Selected Topics in Quantum Electronics, 2019, 25, 1-9.	1.9	100
39	Concealment of Time Delay Signature of Chaotic Semiconductor Nanolasers With Double Chaotic Optical Injections. IEEE Journal of Quantum Electronics, 2019, 55, 1-7.	1.0	20
40	Time-delay signature concealment and physical random bits generation in mutually coupled semiconductor lasers with FBG filtered injection. Optics Express, 2019, 27, 8446.	1.7	29
41	Four-channels reservoir computing based on polarization dynamics in mutually coupled VCSELs system. Optics Express, 2019, 27, 23293.	1.7	42
42	Common-injection-induced isolated desynchronization in delay-coupled VCSELs networks with variable-polarization optical feedback. Optics Letters, 2019, 44, 3845.	1.7	5
43	Photonic Generation of Neuron-Like Dynamics Using VCSELs Subject to Double Polarized Optical Injection. Journal of Lightwave Technology, 2018, 36, 4227-4234.	2.7	44
44	Information-Theory-Based Complexity Quantifier for Chaotic Semiconductor Laser With Double Time Delays. IEEE Journal of Quantum Electronics, 2018, 54, 1-8.	1.0	6
45	A novel image encryption algorithm based on synchronized random bit generated in cascade-coupled chaotic semiconductor ring lasers. Optics and Lasers in Engineering, 2018, 102, 170-180.	2.0	36
46	Polarization-resolved and polarization- multiplexed spike encoding properties in photonic neuron based on VCSEL-SA. Scientific Reports, 2018, 8, 16095.	1.6	20
47	Numerical Implementation of Wavelength-Dependent Photonic Spike Timing Dependent Plasticity Based on VCSOA. IEEE Journal of Quantum Electronics, 2018, 54, 1-7.	1.0	32
48	Cluster synchronization in symmetric VCSELs networks with variable-polarization optical feedback. Optics Express, 2018, 26, 10754.	1.7	14
49	Zero-lag intensity correlation properties in small ring laser network with heterogeneous delays. Journal of the Optical Society of America B: Optical Physics, 2018, 35, 287.	0.9	6
50	Spike encoding and storage properties in mutually coupled vertical-cavity surface-emitting lasers subject to optical pulse injection. Applied Optics, 2018, 57, 1731.	0.9	26
51	Photonic frequency sextupling scheme based on two intensity modulators and a Sagnac loop. Microwave and Optical Technology Letters, 2017, 59, 853-857.	0.9	1
52	Cascadable Neuron-Like Spiking Dynamics in Coupled VCSELs Subject to Orthogonally Polarized Optical Pulse Injection. IEEE Journal of Selected Topics in Quantum Electronics, 2017, 23, 1-7.	1.9	47
53	The Role of Master Laser with Feedback in Time-Delay Signature Suppression of Semiconductor Laser Subject to Chaotic Optical Injection. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2017, 27, 1750169.	0.7	2
54	Complexity-enhanced polarization-resolved chaos in a ring network of mutually coupled vertical-cavity surface-emitting lasers with multiple delays. Applied Optics, 2017, 56, 6728.	0.9	13

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55	Emulation of Spiking Response and Spiking Frequency Property in VCSEL-Based Photonic Neuron. IEEE Photonics Journal, 2016, 8, 1-9.	1.0	32
56	Suppression of Chaos Time Delay Signature in a Ring Network Consisting of Three Semiconductor Lasers Coupled With Heterogeneous Delays. Journal of Lightwave Technology, 2016, 34, 4221-4227.	2.7	46
57	Polarization and dynamical properties of VCSELs-based photonic neuron subject to optical pulse injection. Proceedings of SPIE, 2016, , .	0.8	1
58	Synchronization Regime of Star-Type Laser Network With Heterogeneous Coupling Delays. IEEE Photonics Technology Letters, 2016, 28, 1988-1991.	1.3	23
59	Effect of Gain Nonlinearity on Time Delay Signature of Chaos in External-Cavity Semiconductor Lasers. IEEE Journal of Quantum Electronics, 2016, 52, 1-7.	1.0	13
60	An Analog Photonic Link With Compensation of Dispersion-Induced Power Fading. IEEE Photonics Technology Letters, 2015, 27, 1301-1304.	1.3	20
61	Photonic Microwave Generation With Frequency Octupling Based on a DP-QPSK Modulator. IEEE Photonics Technology Letters, 2015, 27, 2260-2263.	1.3	21
62	Compensation of the Dispersion-Induced Power Fading in an Analog Photonic Link Based on PMâ€“IM Conversion in a Sagnac Loop. Journal of Lightwave Technology, 2015, 33, 2899-2904.	2.7	47
63	Fast physical and pseudo random number generation based on a nonlinear optoelectronic oscillator. Modern Physics Letters B, 2015, 29, 1550142.	1.0	9
64	Linearization of an intensity-modulated analog photonic link using an FBG and a dispersive fiber. Optics Communications, 2015, 338, 1-6.	1.0	12
65	Simultaneous unidirectional and bidirectional chaos-based optical communication using hybrid coupling semiconductor lasers. Science China Information Sciences, 2014, 57, 1-11.	2.7	3
66	Influence of statistical distribution properties on ultrafast random-number generation using chaotic semiconductor lasers. Optik, 2014, 125, 3555-3558.	1.4	5
67	Phase-modulated dual-path feedback for time delay signature suppression from intensity and phase chaos in semiconductor laser. Optics Communications, 2014, 324, 38-46.	1.0	46
68	Microwave Generation With Photonic Frequency Sextupling Based on Cascaded Modulators. IEEE Photonics Technology Letters, 2014, 26, 1199-1202.	1.3	43
69	Simulation of Multi-bit Extraction for Fast Random Bit Generation Using a Chaotic Laser. IEEE Photonics Technology Letters, 2014, 26, 1886-1889.	1.3	13
70	An efficient photonic mixer with frequency doubling based on a dual-parallel MZM. Optics Communications, 2014, 321, 11-15.	1.0	46
71	Conceal Time Delay Signature of Chaos in Semiconductor Lasers With Dual-Path Injection. IEEE Photonics Technology Letters, 2013, 25, 1398-1401.	1.3	26
72	Photonic Frequency Measurement and Signal Separation for Pulsed/CW Microwave Signals. IEEE Photonics Technology Letters, 2013, 25, 500-503.	1.3	21

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73	Hybrid chaos-based communication system consisting of three chaotic semiconductor ring lasers. Applied Optics, 2013, 52, 1523.	0.9	34
74	Enhanced Two-Channel Optical Chaotic Communication Using Isochronous Synchronization. IEEE Journal of Selected Topics in Quantum Electronics, 2013, 19, 0600109-0600109.	1.9	31
75	Chaotic unpredictability properties of small network mutually-coupled laser diodes. Optics Communications, 2013, 311, 294-300.	1.0	12
76	Bandwidth and unpredictability properties of semiconductor ring lasers with chaotic optical injection. Optics and Laser Technology, 2013, 53, 45-50.	2.2	10
77	Synchronization Properties of a Cascaded System Consisting of Two External-Cavity Semiconductor Lasers Mutually Coupled via an Intermediate Laser. IEEE Journal of Selected Topics in Quantum Electronics, 2013, 19, 1500108-1500108.	1.9	7
78	Influence of Variable-Polarization Optical Feedback on Polarization Switching Properties of Mutually Coupled VCSELs. IEEE Journal of Selected Topics in Quantum Electronics, 2013, 19, 1700108-1700108.	1.9	12
79	Chaotic optical cryptographic communication using a three-semiconductor-laser scheme. Journal of the Optical Society of America B: Optical Physics, 2012, 29, 101.	0.9	33
80	Wideband Unpredictability-Enhanced Chaotic Semiconductor Lasers With Dual-Chaotic Optical Injections. IEEE Journal of Quantum Electronics, 2012, 48, 1069-1076.	1.0	80
81	Randomness-Enhanced Chaotic Source With Dual-Path Injection From a Single Master Laser. IEEE Photonics Technology Letters, 2012, 24, 1753-1756.	1.3	18
82	Message Encoding/Decoding Using Unpredictability-Enhanced Chaotic VCSELs. IEEE Photonics Technology Letters, 2012, 24, 1267-1269.	1.3	17
83	Bidirectional Dual-Channel Communication Based on Polarization-Division-Multiplexed Chaos Synchronization in Mutually Coupled VCSELs. IEEE Photonics Technology Letters, 2012, 24, 1094-1096.	1.3	57
84	High Bit Rate Fiber-Optic Transmission Using a Four-Chaotic-Semiconductor-Laser Scheme. IEEE Photonics Technology Letters, 2012, 24, 1072-1074.	1.3	15
85	Enhanced chaotic communication in VCSELs with variable-polarization optical feedback and polarization-preserved optical injection. Optics Communications, 2012, 285, 5293-5301.	1.0	8
86	Loss of Time Delay Signature in Broadband Cascade-Coupled Semiconductor Lasers. IEEE Photonics Technology Letters, 2012, 24, 2187-2190.	1.3	56
87	Photonic Generation of Wideband Time-Delay-Signature-Eliminated Chaotic Signals Utilizing an Optically Injected Semiconductor Laser. IEEE Journal of Quantum Electronics, 2012, 48, 1339-1345.	1.0	45
88	Conceal Time-Delay Signature of Mutually Coupled Vertical-Cavity Surface-Emitting Lasers by Variable Polarization Optical Injection. IEEE Photonics Technology Letters, 2012, 24, 1693-1695.	1.3	19
89	Numerical characterization of time delay signature in chaotic vertical-cavity surface-emitting lasers with optical feedback. Optics Communications, 2012, 285, 3837-3848.	1.0	14
90	Unpredictability-Enhanced Chaotic Vertical-Cavity Surface-Emitting Lasers With Variable-Polarization Optical Feedback. Journal of Lightwave Technology, 2011, 29, 2173-2179.	2.7	22

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91	Influence of polarization mode competition on chaotic unpredictability of vertical-cavity surface-emitting lasers with polarization-rotated optical feedback. Optics Letters, 2011, 36, 310.	1.7	26
92	Influence of injection current on the synchronization and communication performance of closed-loop chaotic semiconductor lasers. Optics Letters, 2011, 36, 3197.	1.7	18
93	Impact of unpredictability on chaos synchronization of vertical-cavity surface-emitting lasers with variable-polarization optical feedback. Optics Letters, 2011, 36, 3497.	1.7	15
94	Conceal time-delay signature of chaotic vertical-cavity surface-emitting lasers by variable-polarization optical feedback. Optics Communications, 2011, 284, 5758-5765.	1.0	38
95	Quantifying Chaotic Unpredictability of Vertical-Cavity Surface-Emitting Lasers With Polarized Optical Feedback via Permutation Entropy. IEEE Journal of Selected Topics in Quantum Electronics, 2011, 17, 1212-1219.	1.9	22
96	Chaos Synchronization and Communication in Multiple Time-Delayed Coupling Semiconductor Lasers Driven by a Third Laser. IEEE Journal of Selected Topics in Quantum Electronics, 2011, 17, 1220-1227.	1.9	22
97	Synchronization of Unpredictability-Enhanced Chaos in VCSELs With Variable-Polarization Optical Feedback. IEEE Journal of Quantum Electronics, 2011, 47, 1354-1361.	1.0	18
98	COMPLEXITY AND SYNCHRONIZATION IN CHAOTIC INJECTION-LOCKING SEMICONDUCTOR LASERS. Modern Physics Letters B, 2011, 25, 2061-2067.	1.0	2
99	Using polarization properties to enhance performance of chaos synchronization communication between vertical-cavity surface-emitting lasers. Optics and Laser Technology, 2010, 42, 674-681.	2.2	11
100	Multiaccess Optical Chaos Communication Using Mutually Coupled Semiconductor Lasers Subjected to Identical External Injections. IEEE Photonics Technology Letters, 2010, 22, 676-678.	1.3	19
101	Properties of leader-laggard chaos synchronization in mutually coupled external-cavity semiconductor lasers. Physical Review E, 2010, 81, 066217.	0.8	45
102	Chaos Synchronization and Communication in Mutually Coupled Semiconductor Lasers Driven by a Third Laser. Journal of Lightwave Technology, 2010, 28, 1978-1986.	2.7	70
103	Polarization degree of vertical-cavity surface-emitting lasers subject to optical feedback with controllable polarization. Journal of the Optical Society of America B: Optical Physics, 2010, 27, 476.	0.9	18
104	Variable-polarization optical feedback induced hysteresis of the polarization switching in vertical-cavity surface-emitting lasers. Journal of the Optical Society of America B: Optical Physics, 2010, 27, 2512.	0.9	17
105	Two chaos synchronization schemes and public-channel message transmission in a mutually coupled semiconductor lasers system. Optics Communications, 2009, 282, 2217-2222.	1.0	13
106	Polarization properties of vertical-cavity surface-emitting lasers subject to feedback with variably rotated polarization angle. Applied Optics, 2009, 48, 5176.	2.1	21