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	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
2	Wideband Unpredictability-Enhanced Chaotic Semiconductor Lasers With Dual-Chaotic Optical Injections. IEEE Journal of Quantum Electronics, 2012, 48, 1069-1076.	1.0	80
3	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
4	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
5	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
6	Loss of Time Delay Signature in Broadband Cascade-Coupled Semiconductor Lasers. IEEE Photonics Technology Letters, 2012, 24, 2187-2190.	1.3	56
7	Recent progress of integrated circuits and optoelectronic chips. Science China Information Sciences, 2021, 64, 1.	2.7	56
8	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
9	A review: Photonics devices, architectures, and algorithms for optical neural computing. Journal of Semiconductors, 2021, 42, 023105.	2.0	48
10	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
11	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
12	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
13	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
14	An efficient photonic mixer with frequency doubling based on a dual-parallel MZM. Optics Communications, 2014, 321, 11-15.	1.0	46
15	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
16	Properties of leader-laggard chaos synchronization in mutually coupled external-cavity semiconductor lasers. Physical Review E, 2010, 81, 066217.	0.8	45
17	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
18	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

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19	Microwave Generation With Photonic Frequency Sextupling Based on Cascaded Modulators. IEEE Photonics Technology Letters, 2014, 26, 1199-1202.	1.3	43
20	Four-channels reservoir computing based on polarization dynamics in mutually coupled VCSELs system. Optics Express, 2019, 27, 23293.	1.7	42
21	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
22	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
23	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
24	All-optical neuromorphic binary convolution with a spiking VCSEL neuron for image gradient magnitudes. Photonics Research, 2021, 9, B201.	3.4	35
25	Hybrid chaos-based communication system consisting of three chaotic semiconductor ring lasers. Applied Optics, 2013, 52, 1523.	0.9	34
26	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
27	Emulation of Spiking Response and Spiking Frequency Property in VCSEL-Based Photonic Neuron. IEEE Photonics Journal, 2016, 8, 1-9.	1.0	32
28	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
29	Enhanced Two-Channel Optical Chaotic Communication Using Isochronous Synchronization. IEEE Journal of Selected Topics in Quantum Electronics, 2013, 19, 0600109-0600109.	1.9	31
30	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
31	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
32	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
33	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
34	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
35	Conceal Time Delay Signature of Chaos in Semiconductor Lasers With Dual-Path Injection. IEEE Photonics Technology Letters, 2013, 25, 1398-1401.	1.3	26
36	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

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37	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
38	Synchronization Regime of Star-Type Laser Network With Heterogeneous Coupling Delays. IEEE Photonics Technology Letters, 2016, 28, 1988-1991.	1.3	23
39	Unpredictability-Enhanced Chaotic Vertical-Cavity Surface-Emitting Lasers With Variable-Polarization Optical Feedback. Journal of Lightwave Technology, 2011, 29, 2173-2179.	2.7	22
40	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
41	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
42	Photonic spiking neural network based on excitable VCSELs-SA for sound azimuth detection. Optics Express, 2020, 28, 1561.	1.7	22
43	Polarization properties of vertical-cavity surface-emitting lasers subject to feedback with variably rotated polarization angle. Applied Optics, 2009, 48, 5176.	2.1	21
44	Photonic Frequency Measurement and Signal Separation for Pulsed/CW Microwave Signals. IEEE Photonics Technology Letters, 2013, 25, 500-503.	1.3	21
45	Photonic Microwave Generation With Frequency Octupling Based on a DP-QPSK Modulator. IEEE Photonics Technology Letters, 2015, 27, 2260-2263.	1.3	21
46	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
47	An Analog Photonic Link With Compensation of Dispersion-Induced Power Fading. IEEE Photonics Technology Letters, 2015, 27, 1301-1304.	1.3	20
48	Polarization-resolved and polarization- multiplexed spike encoding properties in photonic neuron based on VCSEL-SA. Scientific Reports, 2018, 8, 16095.	1.6	20
49	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
50	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
51	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
52	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
53	Influence of injection current on the synchronization and communication performance of closed-loop chaotic semiconductor lasers. Optics Letters, 2011, 36, 3197.	1.7	18
54	Synchronization of Unpredictability-Enhanced Chaos in VCSELs With Variable-Polarization Optical Feedback. IEEE Journal of Quantum Electronics, 2011, 47, 1354-1361.	1.0	18

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55	Randomness-Enhanced Chaotic Source With Dual-Path Injection From a Single Master Laser. IEEE Photonics Technology Letters, 2012, 24, 1753-1756.	1.3	18
56	Delay-weight plasticity-based supervised learning in optical spiking neural networks. Photonics Research, 2021, 9, B119.	3.4	18
57	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
58	Message Encoding/Decoding Using Unpredictability-Enhanced Chaotic VCSELs. IEEE Photonics Technology Letters, 2012, 24, 1267-1269.	1.3	17
59	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
60	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
61	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
62	High Bit Rate Fiber-Optic Transmission Using a Four-Chaotic-Semiconductor-Laser Scheme. IEEE Photonics Technology Letters, 2012, 24, 1072-1074.	1.3	15
63	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
64	Cluster synchronization in symmetric VCSELs networks with variable-polarization optical feedback. Optics Express, 2018, 26, 10754.	1.7	14
65	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
66	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
67	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
68	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
69	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
70	Image edge detection with a photonic spiking VCSEL-neuron. Optics Express, 2020, 28, 37526.	1.7	13
71	Chaotic unpredictability properties of small network mutually-coupled laser diodes. Optics Communications, 2013, 311, 294-300.	1.0	12
72	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

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73	Linearization of an intensity-modulated analog photonic link using an FBG and a dispersive fiber. Optics Communications, 2015, 338, 1-6.	1.0	12
74	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
75	Bandwidth and unpredictability properties of semiconductor ring lasers with chaotic optical injection. Optics and Laser Technology, 2013, 53, 45-50.	2.2	10
76	Spiking VGG7: Deep Convolutional Spiking Neural Network with Direct Training for Object Recognition. Electronics (Switzerland), 2022, 11, 2097.	1.8	10
77	Fast physical and pseudo random number generation based on a nonlinear optoelectronic oscillator. Modern Physics Letters B, 2015, 29, 1550142.	1.0	9
78	Cluster synchronization in mutually-coupled semiconductor laser networks with different topologies. Optics Communications, 2019, 445, 262-267.	1.0	9
79	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
80	Enhanced chaotic communication in VCSELs with variable-polarization optical feedback and polarization-preserved optical injection. Optics Communications, 2012, 285, 5293-5301.	1.0	8
81	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
82	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
83	Photonic Associative Learning Neural Network Based on VCSELs and STDP. Journal of Lightwave Technology, 2020, 38, 4691-4698.	2.7	8
84	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
85	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
86	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
87	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
88	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
89	Spiking dynamics and synchronization properties of optical neurons based on VCSEL-SAs. Nonlinear Dynamics, 2021, 105, 2665-2675.	2.7	6
90	Influence of statistical distribution properties on ultrafast random-number generation using chaotic semiconductor lasers. Optik, 2014, 125, 3555-3558.	1.4	5

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91	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
92	Common-injection-induced isolated desynchronization in delay-coupled VCSELs networks with variable-polarization optical feedback. Optics Letters, 2019, 44, 3845.	1.7	5
93	An All-MRR-Based Photonic Spiking Neural Network for Spike Sequence Learning. Photonics, 2022, 9, 120.	0.9	5
94	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
95	Experimental demonstration of photonic spike-timing-dependent plasticity based on a VCSOA. Science China Information Sciences, 2022, 65, .	2.7	4
96	Simultaneous unidirectional and bidirectional chaos-based optical communication using hybrid coupling semiconductor lasers. Science China Information Sciences, 2014, 57, 1-11.	2.7	3
97	COMPLEXITY AND SYNCHRONIZATION IN CHAOTIC INJECTION-LOCKING SEMICONDUCTOR LASERS. Modern Physics Letters B, 2011, 25, 2061-2067.	1.0	2
98	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
99	All-optical Sudoku solver with photonic spiking neural network. Optics Communications, 2021, 495, 127068.	1.0	2
100	Hardware Architecture and Algorithm Co-design for Multi-Layer Photonic Neuromorphic Network with Excitable VCSELs-SA. , 2020, , .		2
101	Multilayer Photonic Spiking Neural Networks: Generalized Supervised Learning Algorithm and Network Optimization. Photonics, 2022, 9, 217.	0.9	2
102	Polarization and dynamical properties of VCSELs-based photonic neuron subject to optical pulse injection. Proceedings of SPIE, 2016, , .	0.8	1
103	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
104	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
105	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
106	Neuromorphic Reservoir Computing System Using a Semiconductor Nanolaser with Double Phase Conjugate Feedbacks. , 2020, , .		0