

Guy Verschaffelt

List of Publications by Year in descending order

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117
papers

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citations

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all docs

117
docs citations

117
times ranked

893
citing authors

#	ARTICLE	IF	CITATIONS
1	Influence of the input signal's phase modulation on the performance of optical delay-based reservoir computing using semiconductor lasers. <i>Optics Express</i> , 2022, 30, 13434.	1.7	9
2	Neuro-Inspired Computing with Spin-VCSELs. <i>Applied Sciences (Switzerland)</i> , 2021, 11, 4232.	1.3	13
3	Exploiting a Distributed Nonlinearity in a Photonic Coherent Fiber-Based Reservoir Computer. , 2021, , .		0
4	High-Speed Neuromorphic Computing Using Spin-Controlled VCSELs. , 2021, , .		0
5	Order-of-magnitude differences in computational performance of analog Ising machines induced by the choice of nonlinearity. <i>Communications Physics</i> , 2021, 4, .	2.0	19
6	Photonic Reservoir Computer with Output Expansion for Unsupervised Parameter Drift Compensation. <i>Entropy</i> , 2021, 23, 955.	1.1	4
7	Time-multiplexed optical systems for reservoir computing and coherent Ising machines. , 2021, , .		0
8	Compact and inexpensive photonic Ising machines based on optoelectronic oscillators. , 2021, , .		0
9	High-Speed Reservoir Computing with Spin-VCSELs. , 2021, , .		0
10	Not all Ising machines are created equal: choice of nonlinearity induces order-of-magnitude differences in computational performance. , 2021, , .		0
11	Stable High-Speed Encryption Key Distribution via Synchronization of Chaotic Optoelectronic Oscillators. <i>Physical Review Applied</i> , 2020, 13, .	1.5	17
12	Demonstrating delay-based reservoir computing using a compact photonic integrated chip. <i>Optics Express</i> , 2020, 28, 3086.	1.7	47
13	A compact and inexpensive coherent Ising machine based on opto-electronic feedback for solving combinatorial optimization problems. , 2020, , .		1
14	High Performance Optical Reservoir Computing Based on Spatially Extended Systems. , 2019, , .		0
15	A poor man's coherent Ising machine based on opto-electronic feedback systems for solving optimization problems. <i>Nature Communications</i> , 2019, 10, 3538.	5.8	99
16	Solving MAXCUT Optimization Problems with a Coherent Ising Machine Based on Opto-Electronic Oscillators. , 2019, , .		2
17	Optical Feedback Sensitivity of a Semiconductor Ring Laser with Tunable Directionality. <i>Photonics</i> , 2019, 6, 112.	0.9	4
18	Space division multiplexing in standard multi-mode optical fibers based on speckle pattern classification. <i>Scientific Reports</i> , 2019, 9, 17597.	1.6	16

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19	Distributed Kerr Non-linearity in a Coherent All-Optical Fiber-Ring Reservoir Computer. <i>Frontiers in Physics</i> , 2019, 7, .	1.0	10
20	Reducing the sensitivity of semiconductor ring lasers to external optical injection using selective optical feedback. <i>Journal of Applied Physics</i> , 2018, 124, .	1.1	6
21	Directional power distribution and mode selection in micro ring lasers by controlling the phase and strength of filtered optical feedback. <i>Optics Express</i> , 2018, 26, 14315.	1.7	6
22	Semiconductor ring laser with filtered optical feedback: traveling wave description and experimental validation. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2018, 35, 380.	0.9	10
23	Study of wavelength switching time in tunable semiconductor micro-ring lasers: experiment and travelling wave description. <i>OSA Continuum</i> , 2018, 1, 1226.	1.8	4
24	Laser speckle reduction based on partial spatial coherence and microlens-array screens. , 2018, , .		0
25	Design and characterization of a laser integrated with long on-chip optical feedback usable as compact random number generator. , 2018, , .		0
26	Random number generator based on an integrated laser with on-chip optical feedback. <i>Chaos</i> , 2017, 27, 114310.	1.0	20
27	Stability of steady and periodic states through the bifurcation bridge mechanism in semiconductor ring lasers subject to optical feedback. <i>Optics Express</i> , 2017, 25, 339.	1.7	7
28	Speckle reduction in laser projection using microlens-array screens. <i>Optics Express</i> , 2017, 25, 3180.	1.7	26
29	Speckle reduction in laser projection using micro-structured screens. , 2017, , .		0
30	Reducing the phase sensitivity of laser-based optical reservoir computing systems. <i>Optics Express</i> , 2016, 24, 1238.	1.7	42
31	Semiconductor ring lasers subject to both on-chip filtered optical feedback and external conventional optical feedback. <i>Proceedings of SPIE</i> , 2016, , .	0.8	1
32	Dynamics of semiconductor microring lasers subject to on-chip filtered optical feedback. , 2016, , .		1
33	Parallel processing using an optical delay-based reservoir computer. , 2016, , .		2
34	Dynamics of quantum cascade lasers: numerics. , 2016, , .		0
35	Analytical stability boundaries for quantum cascade lasers subject to optical feedback. <i>Physical Review E</i> , 2016, 93, 052201.	0.8	17
36	Speckle perception and disturbance limit in laser based projectors. <i>Proceedings of SPIE</i> , 2016, , .	0.8	1

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37	Effect of External Optical Feedback on Tunable Micro-Ring Lasers Using On-Chip Filtered Feedback. IEEE Photonics Technology Letters, 2016, 28, 959-962.	1.3	15
38	Spatial coherence properties of pulsed red VCSELs. IEEE Photonics Technology Letters, 2016, , 1-1.	1.3	2
39	Speckle disturbance limit in laser-based cinema projection systems. Scientific Reports, 2015, 5, 14105.	1.6	23
40	Simultaneous Computation of Two Independent Tasks Using Reservoir Computing Based on a Single Photonic Nonlinear Node With Optical Feedback. IEEE Transactions on Neural Networks and Learning Systems, 2015, 26, 3301-3307.	7.2	91
41	Fast wavelength switching in semiconductor micro-ring lasers using filtered optical feedback. , 2015, , .		0
42	Semiconductor ring lasers with delayed optical feedback: low-frequency fluctuations. , 2014, , .		0
43	Fast phase response and chaos bandwidth enhancement in semiconductor lasers subject to optical feedback and injection. Optics Letters, 2014, 39, 5945.	1.7	13
44	Fast photonic information processing using semiconductor lasers with delayed optical feedback: Role of phase dynamics. Optics Express, 2014, 22, 8672.	1.7	110
45	Human speckle perception threshold for still images from a laser projection system. Optics Express, 2014, 22, 23965.	1.7	39
46	All-optical controlled switching between time-periodic square waves in diode lasers with delayed feedback. Optics Letters, 2014, 39, 6098.	1.7	18
47	Delay signature concealment in chaotic semiconductor ring lasers. , 2014, , .		1
48	Wavelength Switching Speed in Semiconductor Ring Lasers With On-Chip Filtered Optical Feedback. IEEE Photonics Technology Letters, 2014, 26, 520-523.	1.3	23
49	Integrated tunable semiconductor ring laser with fast wavelength switching using filtered optical feedback. , 2014, , .		0
50	Delay-based reservoir computing using semiconductor ring lasers. Proceedings of SPIE, 2014, , .	0.8	1
51	Multi-wavelength emission using compact semiconductor ring laser with filtered optical feedback. Proceedings of SPIE, 2014, , .	0.8	0
52	Wavelength tuning speed in semiconductor ring lasers using on-chip filtered optical feedback. Proceedings of SPIE, 2014, , .	0.8	0
53	The influence of a light pipe on the coherence properties in laser projectors. Proceedings of SPIE, 2014, , .	0.8	0
54	Fast random bit generation based on a single chaotic semiconductor ring laser. , 2013, , .		0

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55	Low-Frequency Fluctuations in Semiconductor Ring Lasers With Optical Feedback. IEEE Journal of Quantum Electronics, 2013, 49, 790-797.	1.0	20
56	Propagation of partially coherent light through a light pipe. Optics Express, 2013, 21, 17007.	1.7	7
57	Digitally tunable dual wavelength emission from semiconductor ring lasers with filtered optical feedback. Laser Physics Letters, 2013, 10, 075804.	0.6	21
58	Controlled multiwavelength emission using semiconductor ring lasers with on-chip filtered optical feedback. Optics Letters, 2013, 38, 2608.	1.7	30
59	Evaluation of an extensive speckle measurement method. Proceedings of SPIE, 2012, , .	0.8	0
60	Characterization of a low-speckle laser line generator. Applied Optics, 2012, 51, 4818.	0.9	0
61	Fast random bits generation based on a single chaotic semiconductor ring laser. Optics Express, 2012, 20, 28603.	1.7	90
62	Loss of time-delay signature in chaotic semiconductor ring lasers. Optics Letters, 2012, 37, 2541.	1.7	78
63	Square-wave oscillations in semiconductor ring lasers with delayed optical feedback. Optics Express, 2012, 20, 22503.	1.7	43
64	Tuning the emission wavelength of semiconductor ring lasers with on-chip filtered optical feedback. Proceedings of SPIE, 2012, , .	0.8	0
65	Low speckle line generation using a semiconductor laser source. Proceedings of SPIE, 2012, , .	0.8	0
66	Experimental and numerical study of square wave oscillations due to asymmetric optical feedback in semiconductor ring lasers. , 2012, , .		2
67	Standardized speckle measurement method matched to human speckle perception in laser projection systems. Optics Express, 2012, 20, 8770.	1.7	73
68	Semiconductor Ring Laser With On-Chip Filtered Optical Feedback for Discrete Wavelength Tuning. IEEE Journal of Quantum Electronics, 2012, 48, 129-136.	1.0	39
69	Dynamical behavior of semiconductor ring lasers. , 2011, , .		0
70	Interplay of Current Noise and Delayed Optical Feedback on the Dynamics of Semiconductor Lasers. IEEE Journal of Quantum Electronics, 2011, 47, 368-374.	1.0	11
71	Low-speckle laser projection using farfield nonmodal emission of a broad-area vertical-cavity surface-emitting laser. , 2010, , .		1
72	Speckle characteristics of a laser projector using nonmodal laser emission of a semiconductor laser. , 2010, , .		0

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73	Excitability in optical systems close to π -symmetry. Physics Letters, Section A: General, Atomic and Solid State Physics, 2010, 374, 739-743.	0.9	49
74	Error-Free 10-Gb/s All-Optical Switching Based on a Bidirectional SRL With Miniaturized Retro-Reflector Cavity. IEEE Photonics Technology Letters, 2010, 22, 1805-1807.	1.3	4
75	Theoretical and experimental investigation of mode-hopping in semiconductor ring lasers. , 2010, , .		0
76	Thermally Controlled Onset of Spatially Incoherent Emission in a Broad-Area Vertical-Cavity Surface-Emitting Laser. IEEE Journal of Selected Topics in Quantum Electronics, 2009, 15, 555-562.	1.9	11
77	Low-speckle laser projection with a broad-area vertical-cavity surface-emitting laser in the nonmodal emission regime. Applied Optics, 2009, 48, 792.	2.1	17
78	Far-Field Nonmodal Laser Emission for Low-Speckle Laser Projection. IEEE Photonics Technology Letters, 2009, 21, 1487-1489.	1.3	2
79	Spatially Resolved Characterization of the Coherence Area in the Incoherent Emission Regime of a Broad-Area Vertical-Cavity Surface-Emitting Laser. IEEE Journal of Quantum Electronics, 2009, 45, 249-255.	1.0	13
80	Speckle characteristics of a broad-area VCSEL in the incoherent emission regime. Optics Communications, 2008, 281, 4424-4431.	1.0	23
81	Integrated Small-Sized Semiconductor Ring Laser With Novel Retro-Reflector Cavity. IEEE Photonics Technology Letters, 2008, 20, 99-101.	1.3	27
82	Injection Locking and Switching Operations of a Novel Retro-Reflector-Cavity-Based Semiconductor Micro-Ring Laser. IEEE Photonics Technology Letters, 2008, 20, 1673-1675.	1.3	12
83	Storing 2 Bits of Information in a Novel Single Semiconductor Microring Laser Memory Cell. IEEE Photonics Technology Letters, 2008, 20, 1228-1230.	1.3	38
84	Evolution from modal to spatially incoherent emission of a broad-area VCSEL. Optics Express, 2008, 16, 4452.	1.7	22
85	Directional and wavelength multi-stability realized by a novel retro-reflector micro-cavity based semiconductor ring laser. , 2008, , .		0
86	A Novel Semiconductor Ring Laser device Aimed for All-optical Signal processing. , 2008, , .		1
87	Delayed polarization dynamics in Nd ³⁺ -doped yttrium-aluminum-garnet lasers. Physical Review A, 2008, 77, .	1.0	2
88	Pa250L: <i>Late News Poster</i>: Low-Speckle Laser Projection with a Broad-Area VCSEL in the Incoherent Emission Regime. Digest of Technical Papers SID International Symposium, 2008, 39, 2098-2101.	0.1	0
89	High-speed integrated semiconductor micro-ring lasers with efficient off-axis parabolic reflectors. , 2008, , .		1
90	Coherence radius and mode size of a broad-area vertical-cavity surface-emitting laser in the incoherent emission regime. , 2008, , .		0

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91	CW operation of fabricated semiconductor ring lasers based on retro-reflector cavities with parabolic mirrors. , 2008, , .		0
92	Propagation of spatially partially coherent emission from a vertical-cavity surface-emitting laser. Optics Letters, 2006, 31, 1178.	1.7	8
93	Nonmodal emission characteristics of broad-area vertical-cavity surface-emitting lasers. , 2006, 6184, 313.		1
94	Determining the temporally and radially resolved temperature distribution inside a pulsed broad-area vertical-cavity surface-emitting laser cavity. Applied Physics Letters, 2006, 89, 151106.	1.5	7
95	Influence of current noise on the relaxation oscillation dynamics of semiconductor lasers. Applied Physics Letters, 2006, 88, 071107.	1.5	6
96	Ghost stochastic resonance in vertical-cavity surface-emitting lasers: Experiment and theory. Physical Review E, 2005, 72, 016113.	0.8	29
97	Spatial decoherence of pulsed broad-area vertical-cavity surface-emitting lasers. Optics Express, 2005, 13, 9337.	1.7	33
98	Modulation frequency response of a bistable system with noise. Physical Review E, 2004, 70, 046214.	0.8	1
99	Time scales of polarization switching in different types of VCSELs. , 2004, 5452, 433.		1
100	Polarization-mode hopping in single-mode vertical-cavity surface-emitting lasers: Theory and experiment. Physical Review A, 2003, 68, .	1.0	44
101	Controlled polarization switching in intracavity contacted VCSELs. , 2003, 4942, 84.		0
102	Investigation of polarization behavior in a vertical-coupled-cavities surface-emitting laser. , 2003, 4942, 363.		2
103	Polarization behavior and mode structure of vertical-cavity surface-emitting lasers with elliptical surface relief. , 2003, , .		5
104	Comparison of thermal and polarization switching frequency response in VCSELs. , 2003, 4942, 72.		0
105	Frequency response of current-driven polarization modulation in vertical-cavity surface-emitting lasers. Applied Physics Letters, 2002, 80, 2248-2250.	1.5	30
106	Polarization behavior of vertical-cavity surface-emitting lasers under the influence of in-plane anisotropic strain. , 2002, 4649, 281.		6
107	Frequency response of current modulation induced polarization switching in VCSELs. , 2002, 4649, 245.		1
108	Polarization behavior of vertical-cavity surface-emitting lasers: Experiments, models and applications. AIP Conference Proceedings, 2001, , .	0.3	31

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109	Polarization switching dynamics in single-mode VCSELs. , 2001, 4286, 34.		3
110	<title>Design and optimization of VCSEL-based micro-optical relay systems: bringing optical information to silicon chips</title>. , 2001, 4455, 209.		2
111	In-plane strain modification of polarization behavior of vertical-cavity surface-emitting lasers. , 2001, 4286, 55.		2
112	<title>Intracavity contacted VCSELs with polarization control</title>. , 2000, , .		8
113	<title>Polarization switching and modulation dynamics in gain- and index-guided VCSELs</title>. , 2000, , .		11
114	<title>Polarization switching in VCSELs: experiments and theory</title>. , 1999, 3749, 302.		0
115	Experimental demonstration of a multichannel micro-optical bridge for multi-gigabit per second free-space intra-MCM interconnects. , 1998, , .		0
116	Performance simulations of optical multichip-module interconnects: comparing guided-wave and free-space pathways. , 1998, , .		2
117	Preliminary results on high-total-dose testing of semiconductor photonic sources: a comparison of VCSELs and resonant-cavity LEDs. , 1998, 3440, 47.		7