Kathy LÃ¼dge

List of Publications by Year
in descending order

#	Article	IF	Citations
1	Limitations of the Recall Capabilities in Delay-Based Reservoir Computing Systems. Cognitive Computation, 2023, 15, 1419-1426.	5.2	14
2	Connecting reservoir computing with statistical forecasting and deep neural networks. Nature Communications, 2022, 13, 227.	12.8	15
3	Role of delay-times in delay-based photonic reservoir computing [Invited]. Optical Materials Express, 2022, 12, 1214.	3.0	34
4	Efficient timing jitter simulation for passively mode-locked semiconductor lasers. Applied Physics Letters, 2021, 118, 011104.	3.3	3
5	Anticipation-induced social tipping: can the environment be stabilised by social dynamics?. European Physical Journal: Special Topics, 2021, 230, 3189-3199.	2.6	6
6	Insight into delay based reservoir computing via eigenvalue analysis. JPhys Photonics, 2021, 3, 024011.	4.6	15
7	Feedback-induced locking in semiconductor lasers with strong amplitude-phase coupling. Physical Review A, 2021, 103, .	2.5	5
8	How carrier memory enters the Haus master equation of mode-locking. , 2021, , .		0
9	Stabilizing nanolasers via polarization lifetime tuning. Scientific Reports, 2021, 11, 18558.	3.3	1
10	Deterministic and stochastic effects in spreading dynamics: A case study of bovine viral diarrhea. Chaos, 2021, 31, 093129.	2.5	1
11	Reservoir Computing with Delayed Input for Fast and Easy Optimisation. Entropy, 2021, 23, 1560.	2.2	16
12	Reservoir Computing Using Laser Networks. IEEE Journal of Selected Topics in Quantum Electronics, 2020, 26, 1-8.	2.9	19
13	Phase-Incoherent Photonic Molecules in V-Shaped Mode-Locked Vertical-External-Cavity Surface-Emitting Semiconductor Lasers. Physical Review Applied, 2020, 14, .	3.8	5
14	Deep time-delay reservoir computing: Dynamics and memory capacity. Chaos, 2020, 30, 093124.	2.5	29
15	Temperature dependent linewidth rebroadening in quantum dot semiconductor lasers. Journal Physics D: Applied Physics, 2020, 53, 235106.	2.8	2
16	Performance boost of time-delay reservoir computing by non-resonant clock cycle. Neural Networks, 2020, 124, 158-169.	5.9	34
17	Dynamic signatures of mode competition in optically injected high-Î² lasers. New Journal of Physics, 2020, 22, 073052.	2.9	2
18	Optical feedback induced oscillation bursts in two-state quantum-dot lasers. Optics Express, 2020, 28, 3361.	3.4	6

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19	How carrier memory enters the Haus master equation of mode-locking. Optics Letters, 2020, 45, 6210.	3.3	22
20	Laser Dynamics and Delayed Feedback. , 2020, , 1-18.		2
21	Laser Dynamics and Delayed Feedback. , 2020, , 31-47.		1
22	Class-C semiconductor lasers with time-delayed optical feedback. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2019, 377, 20180124.	3.4	7
23	Photon Statistics of Lasers Under External Perturbations: Impact of Nonlinear Dynamics. , 2019, , .		0
24	Broadband Semiconductor Light Sources Operating at 1060 nm Based on InAs:Sb/GaAs Submonolayer Quantum Dots. IEEE Journal of Selected Topics in Quantum Electronics, 2019, 25, 1-10.	2.9	3
25	Semiconductor mode-locked laser with external feedback: emergence of multi-frequency pulse trains with an increasing number of modes. European Physical Journal B, 2019, 92, 1.	1.5	1
26	Pulse Cluster Dynamics in Passively Mode-Locked Semiconductor Vertical-External-Cavity Surface-Emitting Lasers. Physical Review Applied, 2019, 11, .	3.8	18
27	Mutual coupling and synchronization of optically coupled quantum-dot micropillar lasers at ultra-low light levels. Nature Communications, 2019, 10, 1539.	12.8	25
28	Ultra-Short Pulse Generation in a Three Section Tapered Passively Mode-Locked Quantum-Dot Semiconductor Laser. Scientific Reports, 2019, 9, 1783.	3.3	26
29	Pulse Shaping in Multi-Section Tapered Semiconductor Quantum-Dot Passively Mode-Locked Lasers. , 2019, , .		0
30	Tailoring Localization Features in Passively Mode-Locked Lasers with V-Shaped Cavity Geometry. , 2019, , .		0
31	Computing with a camera. Nature Machine Intelligence, 2019, 1, 551-552.	16.0	2
32	Stochastic polarization switching induced by optical injection in bimodal quantum-dot micropillar lasers. Optics Express, 2019, 27, 28816.	3.4	11
33	Laser networks for reservoir computing: How can we optimize the performance?. , 2019, , .		0
34	Heterodimensionally confined carriers in III-V semiconductor nanostructures in multidimensional spectroscopy. , 2019, , .		0
35	Role of Mixed-dimensional Excitons in the Phase Dynamics of Semiconductor Optical Lasers and Amplifiers. , 2019, , .		0
36	Bifurcation scenario leading to multiple pulse emission in VECSELs. , 2019, , .		0

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37	Rabi-oscillation-enhanced frequency conversion in quantum-dot semiconductor optical amplifiers. Optical and Quantum Electronics, 2018, 50, 1.	3.3	8
38	492 fs Short Optical Pulse Generation with 9.2 W Peak Power by a Monolithic Edge-Emitting Quantum Dot Laser. , 2018, , .		1
39	Ultrafast Semiconductor Lasers: Pulse Generation and Stabilization. , 2018, , .		0
40	Multiplexed networks: reservoir computing with virtual and real nodes. Journal of Physics Communications, 2018, 2, 085007.	1.2	24
41	Mode-locking Instabilities for High-Gain Semiconductor Disk Lasers Based on Active Submonolayer Quantum Dots. Physical Review Applied, 2018, 10, .	3.8	19
42	<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>Q</mml:mi></mml:mrow></mml:math> -switched pulsing lasers subject to delayed feedback: A model comparison. Physical Review A, 2018, 98, .	2.5	6
43	Tailoring the mode-switching dynamics in quantum-dot micropillar lasers via time-delayed optical feedback. Optics Express, 2018, 26, 22457.	3.4	17
44	Bistability in two simple symmetrically coupled oscillators with symmetry-broken amplitude- and phase-locking. Chaos, 2018, 28, 063114.	2.5	19
45	Multipulse instabilities of a femtosecond SESAM-modelocked VECSEL. Optics Express, 2018, 26, 21872.	3.4	15
46	Passive mode-locking in a V-shaped cavity. , 2018, , .		0
47	Reservoir computing with delay in structured networks. , 2018, , .		0
48	Increasing stability by two-state lasing in quantum-dot lasers with optical injection. , 2017, , .		1
49	Pulse train stability of passively mode-locked semiconductor lasers. Proceedings of SPIE, 2017, , .	0.8	0
50	Linewidth Rebroadening in Quantum Dot Semiconductor Lasers. IEEE Journal of Selected Topics in Quantum Electronics, 2017, 23, 1-10.	2.9	11
51	CW and ultrafast properties of GaAs-AlGaAs core-shell nanowire lasers on silicon (Conference) Tj ETQq1 1 0.784314 rgBT /Overlock 10 T		0
52	Submonolayer quantum-dot lasers. Proceedings of SPIE, 2017, , .	0.8	1
53	Dynamic phase response and amplitude-phase coupling of self-assembled semiconductor quantum dots. Applied Physics Letters, 2017, 110, 241102.	3.3	8
54	Four-Wave Mixing in Quantum-Dot Semiconductor Optical Amplifiers: A Detailed Analysis of the Nonlinear Effects. IEEE Journal of Selected Topics in Quantum Electronics, 2017, 23, 1-12.	2.9	16

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55	Multipulse dynamics of a passively mode-locked semiconductor laser with delayed optical feedback. Chaos, 2017, 27, 114301.	2.5	18
56	Stability of Optically Injected Twoâ€State Quantumâ€Dot Lasers. Annalen Der Physik, 2017, 529, 1600279.	2.4	15
57	Long-term mutual phase locking of picosecond pulse pairs generated by a semiconductor nanowire laser. Nature Communications, 2017, 8, 15521.	12.8	14
58	Bistability in optically injected two-state quantum dot lasers. , 2017, , .		0
59	Four-wave mixing and rabi oscillations in quantum-dot semiconductor optical amplifiers. , 2017, , .		0
60	High-Î² quantum dot-microlasers subject to time-delayed optical feedback. , 2017, , .		0
61	On-chip optoelectronic feedback in a micropillar laser-detector assembly. Optica, 2017, 4, 303.	9.3	16
62	Phase sensitivity of mode-locking with optical feedback. , 2017, , .		1
63	Quantum-Dot Semiconductor Optical Amplifiers. , 2017, , 715-746.		1
64	Injection Locking of High-Î² Quantum Dot Microlasers. , 2016, , .		0
65	Experimental demonstration of change of dynamical properties of a passively mode-locked semiconductor laser subject to dual optical feedback by dual full delay-range tuning. Optics Express, 2016, 24, 14301.	3.4	38
66	Strong amplitude-phase coupling in submonolayer quantum dots. Applied Physics Letters, 2016, 109, 201102.	3.3	18
67	Small chimera states without multistability in a globally delay-coupled network of four lasers. Physical Review E, 2016, 94, 042204.	2.1	30
68	Mode-switching induced super-thermal bunching in quantum-dot microlasers. New Journal of Physics, 2016, 18, 063011.	2.9	45
69	Ultrafast gain recovery and large nonlinear optical response in submonolayer quantum dots. Physical Review B, 2016, 94, .	3.2	24
70	Suppression of Noise-Induced Modulations in Multidelay Systems. Physical Review Letters, 2016, 117, 154101.	7.8	14
71	Dynamics of a passively mode-locked semiconductor laser subject to dual-cavity optical feedback. Physical Review E, 2016, 93, 022205.	2.1	48
72	Injection Locking of Quantum-Dot Microlasers Operating in the Few-Photon Regime. Physical Review Applied, 2016, 6, .	3.8	18

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73	Pulse train stability of multi-gigahertz passively mode-locked semiconductor lasers. , 2016, , .		0
74	Timing jitter and repetition rate control of a passively mode-locked semiconductor laser by dual optical feedback. , 2016, , .		2
75	Modulation response of nanolasers: what rate equation approaches miss. Optical and Quantum Electronics, 2016, 48, 1.	3.3	10
76	Carrier relaxation pathways in submonolayer quantum dots. , 2016, , .		0
77	Exploiting Multistability to Stabilize Chimera States in All-to-All Coupled Laser Networks. Understanding Complex Systems, 2016, , 355-374.	0.6	0
78	Timing jitter of passively-mode-locked semiconductor lasers subject to optical feedback: A semi-analytic approach. Physical Review A, 2015, 92, .	2.5	36
79	Analytic Characterization of the Dynamic Regimes of Quantum-Dot Lasers. Photonics, 2015, 2, 402-413.	2.0	15
80	Ultra-Broadband Bidirectional Dual-Band Quantum-Dot Semiconductor Optical Amplifier. , 2015, , .		7
81	Modulation response of nanolasers: What rate equation approaches miss. , 2015, , .		0
82	Advanced control schemes for passively mode-locked lasers: Coupled lasers and dual-feedback approaches. , 2015, , .		0
83	Amplitude-phase coupling drives chimera states in globally coupled laser networks. Physical Review E, 2015, 91, 040901.	2.1	104
84	Passively mode-locked laser coupled to two external feedback cavities. Proceedings of SPIE, 2015, , .	0.8	4
85	Ground-state modulation-enhancement by two-state lasing in quantum-dot laser devices. Applied Physics Letters, 2015, 106, .	3.3	14
86	Tracking the Ultrafast Light-Matter Interaction in Population-Inverted Quantum Dots via Quantum State Tomography. , 2015, , .		0
87	Understanding Ground-State Quenching in Quantum-Dot Lasers. IEEE Journal of Quantum Electronics, 2015, 51, 1-11.	1.9	304
88	Ground and excited-state performance of an quantum-dot semiconductor amplifier. , 2014, , .		1
89	Amplitude Modulation and Frequency Chirp of an Injection-Locked Quantum Dash Semiconductor Laser. , 2014, , .		0
90	Improved modeling and dynamical analyses for semiconductor quantum-dot based lasers in nanophotonics applications. , 2014, , .		0

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91	Phase-amplitude coupling of optically-injected nanostructured semiconductor lasers. , 2014, , .		0
92	Optimization of Timing Jitter Reduction by Optical Feedback for a Passively Mode-Locked Laser. IEEE Photonics Journal, 2014, 6, 1-14.	2.0	22
93	Stability of quantum-dot excited-state laser emission under simultaneous ground-state perturbation. Applied Physics Letters, 2014, 105, 191105.	3.3	13
94	Manipulating coherence resonance in a quantum dot semiconductor laser via electrical pumping. Optics Express, 2014, 22, 13288.	3.4	13
95	Pump-probe quantum state tomography in a semiconductor optical amplifier. Optics Express, 2014, 22, 32520.	3.4	8
96	Feedback-induced steady-state light bunching above the lasing threshold. Physical Review A, 2014, 89, .	2.5	25
97	Passively mode-locked lasers subject to optical feedback: The role of amplitude-phase coupling. , 2014, , .		0
98	Laserlicht auf den Punkt gebracht. Physik in Unserer Zeit, 2014, 45, 140-146.	0.0	1
99	Predicting modes of operation in quantum dot mode-locked lasers using a delay differential equation model. , 2014, , .		0
100	Integrated quantum-dot laser devices: modulation stability with electro-optic modulator. Optical and Quantum Electronics, 2014, 46, 1337-1344.	3.3	6
101	Corrections to â€œEnhanced Dynamic Performance of Quantum Dot Semiconductor Lasers Operating on the Excited Stateâ€•[Sep 14 723-731]. IEEE Journal of Quantum Electronics, 2014, 50, 1072-1072.	1.9	1
102	Impact of amplitude-phase coupling on opticalfeedback induced timing jitter reduction in passively mode-locked lasers. , 2014, , .		0
103	Enhanced Dynamic Performance of Quantum Dot Semiconductor Lasers Operating on the Excited State. IEEE Journal of Quantum Electronics, 2014, 50, 1-9.	1.9	38
104	Amplitude-phase coupling and chirp in quantum-dot lasers: influence of charge carrier scattering dynamics. Optics Express, 2014, 22, 4867.	3.4	40
105	Dynamics of Quantum Dot Lasers. Springer Theses, 2014, , .	0.1	31
106	High Performance Excited-State Nanostructure Lasersâ€"Modulation Response, Frequency Chirp and Linewidth Enhancement Factor. , 2014, , .		0
107	Chalcogenide negative curvature hollow-core photonic crystal fibers with low loss and low power ratio in the glass. , 2014, , .		3
108	Optical injection enables coherence resonance in quantum-dot lasers. Europhysics Letters, 2013, 103, 14002.	2.0	21

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109	Quantum coherence induces pulse shape modification in a semiconductor optical amplifier at room temperature. Nature Communications, 2013, 4, 2953.	12.8	56
110	Nonlinear dynamics of a quantum-dot laser coupled to an electro-optic modulator. , 2013, , .		0
111	Influence of Noise on the Signal Quality of Quantum-Dot Semiconductor Optical Amplifiers. IEEE Journal of Selected Topics in Quantum Electronics, 2013, 19, 1900106-1900106.	2.9	20
112	Microscopic versus α-factor descriptions of dynamics in quantum-dot lasers. , 2013, , .		2
113	Evidence of macroscopic coherence at room temperature: Rabi oscillation induced pulse break-up in a quantum dot amplifier. , 2013, , .		1
114	Nonequilibrium laser dynamics of quantum-dot lasers with optical feedback and injection. , 2013, , .		0
115	Feedback and injection locking instabilities in quantum-dot lasers: a microscopically based bifurcation analysis. New Journal of Physics, 2013, 15, 093031.	2.9	53
116	Pulse Shaping and Break-Up by Quantum-Coherent Effects in Quantum-Dot Amplifiers at Room Temperature. , 2013, , .		0
117	Many-body effects and self-contained phase dynamics in an optically injected quantum-dot laser. , 2012, , .		10
118	Time-domain model of quantum-dot semiconductor optical amplifiers for wideband optical signals. Optics Express, 2012, 20, 27265.	3.4	4
119	Failure of the<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>Î±</mml:mi></mml:math>factor in describing dynamical instabilities and chaos in quantum-dot lasers. Physical Review E, 2012, 86, 065201.	2.1	55
120	COMPLEX DYNAMICS OF SEMICONDUCTOR QUANTUM DOT LASERS SUBJECT TO DELAYED OPTICAL FEEDBACK. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2012, 22, 1250246.	1.7	47
121	Delay-induced dynamics and jitter reduction of passively mode-locked semiconductor lasers subject to optical feedback. New Journal of Physics, 2012, 14, 113033.	2.9	83
122	Influencing modulation properties of quantum-dot semiconductor lasers by carrier lifetime engineering. Applied Physics Letters, 2012, 101, 131107.	3.3	29
123	Influence of carrier lifetimes on the dynamical behavior of quantum-dot lasers subject to optical feedback. Physical Review E, 2012, 86, 046201.	2.1	26
124	Optically injected quantum dot lasers: impact of nonlinear carrier lifetimes on frequency-locking dynamics. New Journal of Physics, 2012, 14, 053018.	2.9	53
125	Maxwell-Bloch approach to four-wave mixing in quantum dot semiconductor optical amplifiers. , 2011, , .		3
126	Impact of carrier-carrier scattering and carrier heating on pulse train dynamics of quantum dot semiconductor optical amplifiers. Applied Physics Letters, 2011, 99, .	3.3	44

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127	Nonlinear gain dynamics of quantum dot optical amplifiers. Semiconductor Science and Technology, 2011, 26, 014008.	2.0	21
128	Analytical approach to modulation properties of quantum dot lasers. Journal of Applied Physics, 2011, 109, 103112.	2.5	34
129	Temperature dependent two-state lasing in quantum dot lasers. , 2011, , .		6
130	Theory of single quantum dot lasers: Pauli-blocking-enhanced anti-bunching. Semiconductor Science and Technology, 2011, 26, 014015.	2.0	5
131	Impact of nonlinear carrier-carrier scattering on gain dynamics and nonlinear optical properties of quantum dot semiconductor optical amplifiers. , 2011, , .		1
132	Nonlinear dynamics of doped semiconductor quantum dot lasers. European Physical Journal D, 2010, 58, 167-174.	1.3	31
133	Large-Signal Response of Semiconductor Quantum-Dot Lasers. IEEE Journal of Quantum Electronics, 2010, 46, 1755-1762.	1.9	37
134	Modeling quantum dot lasers with optical feedback: sensitivity of bifurcation scenarios. Physica Status Solidi (B): Basic Research, 2010, 247, 829-845.	1.5	58
135	The Role of Decoupled Electron and Hole Dynamics in the Turn-on Behavior of Semiconductor Quantum-Dot Lasers. , 2010, , .		0
136	Dynamic many-body and nonequilibrium effects in a quantum dot microcavity laser. , 2010, , .		3
137	Cascading enables ultrafast gain recovery dynamics of quantum dot semiconductor optical amplifiers. Physical Review B, 2010, 82, .	3.2	59
138	Many-body and nonequilibrium effects on relaxation oscillations in a quantum-dot microcavity laser. Applied Physics Letters, 2010, 97, 111102.	3.3	12
139	Publisher's Note: Turn-on dynamics and modulation response in semiconductor quantum dot lasers [Phys. Rev. B78, 035316 (2008)]. Physical Review B, 2009, 79, .	3.2	1
140	Analytical dissection of a model for quantum-dot lasers. , 2009, , .		0
141	Nonlinear Dynamics of Quantum Dot Lasers. , 2009, , .		1
142	Quantum-Dot Lasersâ€"Desynchronized Nonlinear Dynamics of Electrons and Holes. IEEE Journal of Quantum Electronics, 2009, 45, 1396-1403.	1.9	107
143	Nonlinear dynamics of quantum dot lasers and amplifiers. , 2008, , .		0
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145	Turn-on dynamics and modulation response in semiconductor quantum dot lasers. Physical Review B, 2008, 78, .	3.2	77
146	Dynamic response of quantum dot lasers - influence of nonlinear electron-electron scattering. , 2008, , .		0
147	Current instabilities in resonant tunneling quantum dot structures. AIP Conference Proceedings, 2007, , .	0.4	1
148	Optical anisotropy and magneto-optical properties of Ni on preoxidizedCu(110). Physical Review B, 2006, 73, .	3.2	34
149	Metallic nanostructures on Co/GaAs(001)(4Ã—2) surfaces. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2004, 22, 2008.	1.6	8
150	Self-assembled CoAs nanostructures. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2003, 21, 1760.	1.6	3
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153	ErAs interlayers for limiting interfacial reactions in Fe/GaAs(100) heterostructures. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2002, 20, 1600.	1.6	38
154	First-principles study of InP and GaP(001) surfaces. Computational Materials Science, 2001, 22, 32-37.	3.0	13
155	Growth phases and optical anisotropy of Co on preoxidized Cu(110). Physical Review B, 2001, 64, .	3.2	21
156	Atomic structure and composition of the (2Ã—4) reconstruction of InGaP(001). Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2000, 18, 2210.	1.6	7
157	Surface structure of ordered InGaP(001): The(2Ã—4)reconstruction. Physical Review B, 2000, 62, 12601-12604.	3.2	23
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160	MBE growth and interfacial reaction control of ferromagnetic metal/GaAs heterostructures. , 0, , .		0
161	Collective Coherence Resonance in Networks of Optical Neurons. Physica Status Solidi (B): Basic Research, 0, , 2100345.	1.5	1