

Larry A Coldren

List of Publications by Year in descending order

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127
papers

3,235
citations

218381

26
h-index

233125

45
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128
all docs

128
docs citations

128
times ranked

3012
citing authors

#	ARTICLE	IF	CITATIONS
1	A fully reconfigurable photonic integrated signal processor. <i>Nature Photonics</i> , 2016, 10, 190-195.	15.6	329
2	High Performance InP-Based Photonic ICs—A Tutorial. <i>Journal of Lightwave Technology</i> , 2011, 29, 554-570.	2.7	191
3	Submilliwatt threshold vertical-cavity laser diodes. <i>Applied Physics Letters</i> , 1990, 57, 1605-1607.	1.5	114
4	An integrated parity-time symmetric wavelength-tunable single-mode microring laser. <i>Nature Communications</i> , 2017, 8, 15389.	5.8	102
5	Efficient, High-Data-Rate, Tapered Oxide-Aperture Vertical-Cavity Surface-Emitting Lasers. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2009, 15, 704-715.	1.9	89
6	Advanced InP Photonic Integrated Circuits for Communication and Sensing. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2018, 24, 1-12.	1.9	83
7	High-speed InGaAs/GaAs strained multiple quantum well lasers with low damping. <i>Applied Physics Letters</i> , 1991, 58, 2326-2328.	1.5	76
8	Integrated Coherent Receivers for High-Linearity Microwave Photonic Links. <i>Journal of Lightwave Technology</i> , 2008, 26, 209-216.	2.7	69
9	Two-Dimensional Optical Beam Steering With InP-Based Photonic Integrated Circuits. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2013, 19, 6100212-6100212.	1.9	66
10	Highly integrated optical heterodyne phase-locked loop with phase/frequency detection. <i>Optics Express</i> , 2012, 20, 9736.	1.7	51
11	Large coherent acoustic-phonon oscillation observed in InGaN/GaN multiple-quantum wells. <i>Applied Physics Letters</i> , 1999, 75, 1249-1251.	1.5	44
12	Highly Linear Coherent Receiver With Feedback. <i>IEEE Photonics Technology Letters</i> , 2007, 19, 940-942.	1.3	44
13	Analog Coherent Detection for Energy Efficient Intra-Data Center Links at 200 Gbps Per Wavelength. <i>Journal of Lightwave Technology</i> , 2021, 39, 520-531.	2.7	43
14	Indium Phosphide Photonic Integrated Circuit Transceiver for FMCW LiDAR. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2019, 25, 1-7.	1.9	40
15	High Output Saturation and High-Linearity Uni-Travelling-Carrier Waveguide Photodiodes. <i>IEEE Photonics Technology Letters</i> , 2007, 19, 149-151.	1.3	39
16	Towards chip-scale optical frequency synthesis based on optical heterodyne phase-locked loop. <i>Optics Express</i> , 2017, 25, 681.	1.7	39
17	40Gbit/s coherent optical receiver using a Costas loop. <i>Optics Express</i> , 2012, 20, B197.	1.7	38
18	Nonselective etching of GaAs/AlGaAs double heterostructure laser facets by Cl ₂ reactive ion etching in a load-locked system. <i>Applied Physics Letters</i> , 1987, 51, 719-721.	1.5	36

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19	Programmable Photonic Lattice Filters in InGaAsP/InP. IEEE Photonics Technology Letters, 2010, 22, 109-111.	1.3	33
20	40-Gb/s Widely Tunable Transceivers. IEEE Journal of Selected Topics in Quantum Electronics, 2007, 13, 3-14.	1.9	32
21	Angled etching of GaAs/AlGaAs by conventional Cl ₂ reactive ion etching. Applied Physics Letters, 1988, 53, 2549-2551.	1.5	31
22	Channeling as a mechanism for dry etch damage in GaN. Applied Physics Letters, 2000, 76, 3941-3943.	1.5	30
23	40-Gb/s Widely Tunable Low-Drive-Voltage Electroabsorption-Modulated Transmitters. Journal of Lightwave Technology, 2007, 25, 239-248.	2.7	30
24	High verticality InP/InGaAsP etching in Cl ₂ /H ₂ /Ar inductively coupled plasma for photonic integrated circuits. Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics, 2011, 29, 011016.	0.6	28
25	A Photonic Temporal Integrator With an Ultra-Long Integration Time Window Based on an InP-InGaAsP Integrated Ring Resonator. Journal of Lightwave Technology, 2014, 32, 3654-3659.	2.7	28
26	Indium Phosphide Photonic Integrated Circuits for Free Space Optical Links. IEEE Journal of Selected Topics in Quantum Electronics, 2018, 24, 1-6.	1.9	28
27	Monolithically Integrated Gain-Flattened Ring Mode-Locked Laser for Comb-Line Generation. IEEE Photonics Technology Letters, 2012, 24, 131-133.	1.3	27
28	Folded-cavity transverse junction stripe surface-emitting laser. Applied Physics Letters, 1989, 55, 1053-1055.	1.5	26
29	A Monolithically Integrated ACP-OPLL Receiver for RF/Photonic Links. IEEE Photonics Technology Letters, 2011, 23, 1475-1477.	1.3	25
30	Indium Phosphide Photonic Integrated Circuits for Coherent Optical Links. IEEE Journal of Quantum Electronics, 2012, 48, 279-291.	1.0	24
31	Monolithic Integration of a High-Speed Widely Tunable Optical Coherent Receiver. IEEE Photonics Technology Letters, 2013, 25, 1077-1080.	1.3	23
32	High-Power Indium Phosphide Photonic Integrated Circuits. IEEE Journal of Selected Topics in Quantum Electronics, 2019, 25, 1-10.	1.9	23
33	Linear Coherent Receiver based on a Broadband and Sampling Optical Phase-Locked Loop. , 2007, , .		19
34	Indium Phosphide Photonic Integrated Circuits: Technology and Applications. , 2018, , .		17
35	Reduced temperature sensitivity of the wavelength of a diode laser in a stress-engineered hydrostatic package. Applied Physics Letters, 1996, 69, 455-457.	1.5	16
36	1.5mW/Gbps Low Power Optical Interconnect Transmitter Exploiting High-Efficiency VCSEL and CMOS Driver. , 2008, , .		16

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37	40 Gb/s Field-Modulated Wavelength Converters for All-Optical Packet Switching. IEEE Journal of Selected Topics in Quantum Electronics, 2009, 15, 494-503.	1.9	16
38	Multivalued Stability Map of an Injection-Locked Semiconductor Laser. IEEE Journal of Selected Topics in Quantum Electronics, 2013, 19, 1501408-1501408.	1.9	16
39	High-efficiency, high-speed VCSELs for optical interconnects. Applied Physics A: Materials Science and Processing, 2009, 95, 1033-1037.	1.1	15
40	Lasing characteristics of a continuous-wave operated folded-cavity surface-emitting laser. Applied Physics Letters, 1990, 56, 2267-2269.	1.5	14
41	SOA Gate Array Recirculating Buffer for Optical Packet Switching. , 2008, , .		14
42	Holographic realization of hexagonal two dimensional photonic crystal structures with elliptical geometry. Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics, 2010, 28, 1030-1038.	0.6	13
43	Polarization degenerate solid-state cavity quantum electrodynamics. Physical Review B, 2015, 91, .	1.1	13
44	Photonic Integrated Circuits for microwave photonics. , 2010, , .		12
45	A Wavelength Tunable Optical Buffer Based on Self-Pulsation in an Active Microring Resonator. Journal of Lightwave Technology, 2016, 34, 3466-3472.	2.7	12
46	Investigation of tilted superlattices for quantum-wire laser applications. Applied Physics Letters, 1991, 59, 3015-3017.	1.5	11
47	Wafer-fused AlGaAs/GaAs/GaN heterojunction bipolar transistor. Applied Physics Letters, 2003, 82, 820-822.	1.5	11
48	Spurious-Free Dynamic Range in Photonic Integrated Circuit Filters With Semiconductor Optical Amplifiers. IEEE Journal of Quantum Electronics, 2012, 48, 269-278.	1.0	11
49	First Monolithically Integrated Dual-Pumped Phase-Sensitive Amplifier Chip Based on a Saturated Semiconductor Optical Amplifier. IEEE Journal of Quantum Electronics, 2016, 52, 1-12.	1.0	11
50	Separate Absorption and Modulation Mach-Zehnder Wavelength Converter. Journal of Lightwave Technology, 2008, 26, 91-98.	2.7	10
51	Widely Tunable Separate Absorption and Modulation Wavelength Converter With Integrated Microwave Termination. Journal of Lightwave Technology, 2008, 26, 938-944.	2.7	10
52	Dual Laser Indium Phosphide Photonic Integrated Circuit for Integrated Path Differential Absorption Lidar. IEEE Journal of Selected Topics in Quantum Electronics, 2022, 28, 1-8.	1.9	10
53	A Dynamic Measurement Technique for Third-Order Distortion in Optical Phase Modulators. IEEE Photonics Technology Letters, 2007, 19, 170-172.	1.3	9
54	A 1-20-GHz All-Digital InP HBT Optical Wavelength Synthesis IC. IEEE Transactions on Microwave Theory and Techniques, 2013, 61, 570-580.	2.9	9

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55	Application of thin silicon films to closed-tube Si and Zn diffusion in GaAs and Al _x Ga _{1-x} As. Journal of Applied Physics, 1988, 63, 5541-5547.	1.1	8
56	InP/InGaAsP Flattened Ring Lasers With Low-Loss Etched Beam Splitters. IEEE Photonics Technology Letters, 2011, 23, 573-575.	1.3	8
57	Monolithic Linewidth Narrowing of a Tunable SG-DBR Laser. , 2013, , .		8
58	An Integrated Heterodyne Optical Phase-locked Loop with Record Offset Locking Frequency. , 2014, , .		8
59	Gallium Arsenide Photonic Integrated Circuit Platform for Tunable Laser Applications. IEEE Journal of Selected Topics in Quantum Electronics, 2022, 28, 1-9.	1.9	8
60	Single-chip integrated transmitters and receivers. Optics Express, 2012, 20, B377.	1.7	7
61	Integrated 30GHz passive ring mode-locked laser with gain flattening filter. , 2010, , .		6
62	Compact Low-Power Consumption Single-Mode Coupled Cavity Lasers. IEEE Journal of Selected Topics in Quantum Electronics, 2017, 23, 1-9.	1.9	6
63	INTREPID program: technology and architecture for next-generation, energy-efficient, hyper-scale data centers [Invited]. Journal of Optical Communications and Networking, 2021, 13, 347.	3.3	6
64	High-Power Integrated Indium Phosphide Transmitter for Free Space Optical Communications. , 2018, , .		6
65	Photonic Integrated Circuits for Precision Spectroscopy. , 2020, , .		6
66	A Review of Photonic Systems-on-Chip Enabled by Widely Tunable Lasers. IEEE Journal of Quantum Electronics, 2022, 58, 1-10.	1.0	6
67	Impurity-induced disordering of AlGaInAs quantum wells by low temperature Zn diffusion. Journal of Electronic Materials, 1996, 25, 565-569.	1.0	5
68	n-AlGaAs/p-GaAs/n-GaN heterojunction bipolar transistor wafer-fused at 550±750°C. Applied Physics Letters, 2003, 83, 560-562.	1.5	5
69	High-Confinement Strained MQW for Highly Polarized High-Power Broadband Light Source. IEEE Photonics Technology Letters, 2007, 19, 771-773.	1.3	5
70	Demonstration of a linear ultra-compact integrated coherent receiver. , 2010, , .		5
71	A Chip-Scale Heterodyne Optical Phase-Locked Loop with Low-Power Consumption. , 2017, , .		5
72	Wafer-fused n-AlGaAs/p-GaAs/n-GaN Heterojunction Bipolar Transistor with uid-GaAs Base-Collector Setback. Materials Research Society Symposia Proceedings, 2003, 798, 92.	0.1	4

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73	Novel application of quantum well intermixing implant buffer layer to enable high-density photonic integrated circuits in InP. , 2009, , .		4
74	Realization of silicon nanopillar arrays with controllable sidewall profiles by holography lithography and a novel single-step deep reactive ion etching. Materials Research Society Symposia Proceedings, 2010, 1258, 1.	0.1	4
75	Integrated Linewidth Reduction of a Tunable SG-DBR Laser. , 2013, , .		4
76	Efficient and Accurate Modeling of Multiwavelength Propagation in SOAs: A Generalized Coupled-Mode Approach. Journal of Lightwave Technology, 2016, 34, 2188-2197.	2.7	4
77	Evolution of Chip-Scale Heterodyne Optical Phase-Locked Loops Toward Watt Level Power Consumption. Journal of Lightwave Technology, 2018, 36, 258-264.	2.7	4
78	Integrated Indium Phosphide Transmitter for Free Space Optical Link. , 2018, , .		4
79	45 nm wavelength tuning range of an InP/InGaAsP photonic integrated tunable receiver. Applied Physics Letters, 1996, 69, 3131-3133.	1.5	3
80	Effect Of AlGaIn/GaN Strained Layer Superlattice Period On InGaIn MQW Laser Diodes. MRS Internet Journal of Nitride Semiconductor Research, 2000, 5, 14-19.	1.0	3
81	Characterization of Third Order Distortion in InGaAsP Optical Phase Modulator Monolithically Integrated with Balanced UTC Photodetector. , 2006, , .		3
82	Analysis of Sampled Optical Phase-Lock Loops. , 2007, , .		3
83	Increased Modal Overlap for Improved Sensitivity in a Monolithic Intracavity Chemical Sensor. IEEE Photonics Technology Letters, 2007, 19, 1051-1053.	1.3	3
84	Design and Implementation of Ultra-Compact Grating-Based 2 \times 2 Beam Splitter for Miniature Photonic Integrated Circuits. , 2008, , .		3
85	Wide-dynamic-range, fast-response CBr4 doping system for molecular beam epitaxy. Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics, 2010, 28, C3F10-C3F15.	0.6	3
86	Ultra-compact integrated coherent receiver for high linearity RF photonic links. , 2010, , .		3
87	Large-scale InP photonic integrated circuit packaged with ball grid array for 2D optical beam steering. , 2013, , .		3
88	A Heterodyne Optical Phase-locked Loop for Multiple Applications. , 2013, , .		3
89	Indium Phosphide Photonic Integrated Circuit Transmitter with Integrated Linewidth Narrowing for Laser Communications and Sensing. , 2018, , .		3
90	Wideband and Continuously Tunable Microwave Photonic Phase Shifter Based on an Active InP/InGaAsP Microring Resonator. , 2019, , .		3

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91	Integrated Micro-Photonics for Remote Earth Science Sensing (Impress) Lidar. , 2019, , .		3
92	Periodic Loading and Selective Undercut Etching for High-Impedance Traveling-Wave Electroabsorption Modulators. , 2008, , .		2
93	Filter designs for a reconfigurable photonic integrated circuit. , 2008, , .		2
94	Integrated coherent receiver for linear optical phase demodulation. Microwave and Optical Technology Letters, 2011, 53, 2343-2345.	0.9	2
95	InP photonic integrated circuit with on-chip monitors for optical beam steering. , 2012, , .		2
96	Ultrafast electrical polarization modulation in VCSEL with asymmetric current injection. , 2014, , .		2
97	Improved Characteristics of InGaN Multi-Quantum-Well Laser Diodes Grown on Laterally Epitaxially Overgrown GaN on Sapphire. MRS Internet Journal of Nitride Semiconductor Research, 2000, 5, 8-13.	1.0	2
98	Heterogeneously Integrated O-band SG-DBR Lasers for Short Reach Analog Coherent Links. , 2021, , .		2
99	Effect of AlGaIn/GaN Strained Layer Superlattice Period on InGaIn MQW Laser Diodes. Materials Research Society Symposia Proceedings, 1999, 595, 1.	0.1	1
100	The First Wafer-fused AlGaAs-GaAs-GaN Heterojunction Bipolar Transistor. Materials Research Society Symposia Proceedings, 2002, 743, L12.10.1.	0.1	1
101	Analysis of Digital System Performance in EAM-Based Photocurrent Driven Wavelength Converter. IEEE Photonics Technology Letters, 2007, 19, 215-217.	1.3	1
102	Optical synthesis using Kerr frequency combs. , 2017, , .		1
103	Widely Tunable Integrated Laser Transmitter for Free Space Optical Communications. , 2018, , .		1
104	SGDBR tunable laser on gallium arsenide for 1030 nm lidar applications. , 2021, , .		1
105	Improved Characteristics of InGaIn Multi-Quantum-Well Laser Diodes Grown on Laterally Epitaxially Overgrown GaN on Sapphire. Materials Research Society Symposia Proceedings, 1999, 595, 1.	0.1	0
106	Optically pumped Silicon laser based on evanescent coupling of Si micro-disk to III–V DBR stack. , 2006, , .		0
107	Highly Polarized Single-Chip ELED Sources Using Oppositely Strained MQW Emitters and Absorbers. IEEE Photonics Technology Letters, 2008, 20, 1267-1269.	1.3	0
108	Transmission Line Characterization of Undercut-Ridge Traveling-Wave Electroabsorption Modulators. IEEE Photonics Technology Letters, 2008, 20, 1302-1304.	1.3	0

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109	High frequency single photon sources. , 2008, , .		0
110	Recent advances in InP PICs. , 2009, , .		0
111	Integration technologies for an 8×8 InP-based monolithic tunable optical router with 40GB/S line rate per port. , 2010, , .		0
112	Ultra-compact intra-cavity contacts for multi-terminal VCSEL power enhancement. , 2012, , .		0
113	Electro-thermal single-mode tuning in field-induced charge-separation lasers. , 2012, , .		0
114	Fast polarization modulation in vertical cavity lasers with electrical RF injection. , 2012, , .		0
115	Frequency dependent polarization dynamics in vertical cavity surface emitting lasers with electrical injection. , 2012, , .		0
116	High-performance InP photonic integrated circuits. , 2014, , .		0
117	On-chip VCSEL interconnects enabled by 3-D interposer-based integration and polarization modulation. , 2015, , .		0
118	Integrated star coupler-based multi-beam LiDAR. , 2017, , .		0
119	Optical frequency synthesis by offset-locking the tunable local-oscillator of a low-power integrated receiver to a microresonator comb. , 2017, , .		0
120	3-Gbps Free Space Optical Link Based on Integrated Indium Phosphide Transmitter. , 2018, , .		0
121	High Power Indium Phosphide Photonic Integrated Circuit for Pulse Position Modulation Free Space Optical Communications. , 2019, , .		0
122	Design of High-Power Electrically-Pumped VECSELs for the 3â€“4 Î¼m Wavelength Range. , 2019, , .		0
123	Integrated Photonics Technology for Earth Science Remote-Sensing Lidar. , 2021, , .		0
124	Gallium Arsenide Photonic Integrated Circuit Platform for 1030 nm Applications. , 2021, , .		0
125	Integrated phase-locked lasers and photonic integrated circuits for remote gas sensing. , 2021, , .		0
126	Widely Tunable 1030 nm Gallium Arsenide Sampled Grating Distributed Bragg Reflector Lasers and Photonic Integrated Circuits. , 2022, , .		0

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127	Dual Laser Indium Phosphide Photonic Integrated Circuits for Remote Active Carbon Dioxide Sensing. , 2022, , .		0