

Joachim Piprek

List of Publications by Year in Descending Order

Source: <https://exaly.com/author-pdf/4311961/joachim-piprek-publications-by-year.pdf>

Version: 2024-04-27

This document has been generated based on the publications and citations recorded by exaly.com. For the latest version of this publication list, visit the link given above.

The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

100
papers

3,469
citations

27
h-index

58
g-index

122
ext. papers

3,883
ext. citations

2.6
avg, IF

6
L-index

#	Paper	IF	Citations
100	GaN-based bipolar cascade lasers with 25nm wide quantum wells. <i>Optical and Quantum Electronics</i> , 2022 , 54, 1	2.4	0
99	Simulation-based machine learning for optoelectronic device design: perspectives, problems, and prospects. <i>Optical and Quantum Electronics</i> , 2021 , 53, 1	2.4	1
98	Energy Efficiency Analysis of GaN-Based Blue Light Emitters. <i>ECS Journal of Solid State Science and Technology</i> , 2020 , 9, 015008	2	13
97	Efficiency Models for GaN-Based Light-Emitting Diodes: Status and Challenges. <i>Materials</i> , 2020 , 13,	3.5	11
96	Energy Efficiency Analysis of GaN-based Superluminescent Diodes 2019 ,		1
95	On the reliability of pulse power saturation models for broad-area GaAs-based lasers. <i>Optical and Quantum Electronics</i> , 2019 , 51, 1	2.4	17
94	What limits the efficiency of GaN-based superluminescent light-emitting diodes (SLEDs)?. <i>Optical and Quantum Electronics</i> , 2019 , 51, 1	2.4	3
93	What Causes the Pulse Power Saturation of GaAs-Based Broad-Area Lasers?. <i>IEEE Photonics Technology Letters</i> , 2018 , 30, 963-966	2.2	24
92	Evaluating Two-Photon Absorption Effects on Pulsed High-Power Laser Operation 2018 ,		1
91	What limits the power conversion efficiency of GaN-based lasers? 2017 ,		3
90	What Limits the Efficiency of High-Power InGaN/GaN Lasers?. <i>IEEE Journal of Quantum Electronics</i> , 2017 , 53, 1-4	2	22
89	Internal power loss in GaN-based lasers: mechanisms and remedies. <i>Optical and Quantum Electronics</i> , 2017 , 49, 1	2.4	4
88	Auger recombination effects on the peak lasing power of InGaN/GaN laser diodes 2017 ,		3
87	Comparative analysis of efficiency limitations in GaN-based blue laser diodes 2016 ,		1
86	Comparative efficiency analysis of GaN-based light-emitting diodes and laser diodes. <i>Applied Physics Letters</i> , 2016 , 109, 021104	3.4	29
85	Analysis of efficiency limitations in high-power InGaN/GaN laser diodes. <i>Optical and Quantum Electronics</i> , 2016 , 48, 1	2.4	10
84	Electroluminescent cooling mechanism in InGaN/GaN light-emitting diodes. <i>Optical and Quantum Electronics</i> , 2016 , 48, 1	2.4	15

83	Index-Antiguinding in Narrow-Ridge GaN-Based Laser Diodes Investigated by Measurements of the Current-Dependent Gain and Index Spectra and by Self-Consistent Simulation. <i>IEEE Journal of Quantum Electronics</i> , 2015 , 51, 1-6	2	4
82	On the uncertainty of the Auger recombination coefficient extracted from InGaN/GaN light-emitting diode efficiency droop measurements. <i>Applied Physics Letters</i> , 2015 , 106, 101101	3-4	76
81	GaN-based bipolar cascade light-emitting diode with 250 % peak quantum efficiency. <i>Optical and Quantum Electronics</i> , 2015 , 47, 1305-1310	2-4	1
80	How to decide between competing efficiency droop models for GaN-based light-emitting diodes. <i>Applied Physics Letters</i> , 2015 , 107, 031101	3-4	52
79	Introduction to the Special Issue on Simulation of GaN-based Light-Emitting Diodes <i>Journal of Computational Electronics</i> , 2015 , 14, 381-381	1.8	
78	Origin of InGaN/GaN light-emitting diode efficiency improvements using tunnel-junction-cascaded active regions. <i>Applied Physics Letters</i> , 2014 , 104, 051118	3-4	35
77	Blue light emitting diode exceeding 100% quantum efficiency. <i>Physica Status Solidi - Rapid Research Letters</i> , 2014 , 8, 424-426	2-5	17
76	GaN-based vertical-cavity laser performance improvements using tunnel-junction-cascaded active regions. <i>Applied Physics Letters</i> , 2014 , 105, 011116	3-4	11
75	Self-consistent analysis of thermal far-field blooming of broad-area laser diodes. <i>Optical and Quantum Electronics</i> , 2013 , 45, 581-588	2-4	5
74	2013 ,		4
73	Inverse Thermal Lens Effects on the Far-Field Blooming of Broad Area Laser Diodes. <i>IEEE Photonics Technology Letters</i> , 2013 , 25, 958-960	2-2	15
72	Origin of InGaN light-emitting diode efficiency improvements using chirped AlGaN multi-quantum barriers. <i>Applied Physics Letters</i> , 2013 , 102, 023510	3-4	52
71	Sensitivity analysis of electron leakage in III-nitride light-emitting diodes. <i>Applied Physics Letters</i> , 2013 , 102, 131103	3-4	51
70	On the importance of non-thermal far-field blooming in broad-area high-power laser diodes. <i>Applied Physics Letters</i> , 2013 , 102, 221110	3-4	17
69	Introduction to the Issue on Numerical Simulation of Optoelectronic Devices. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2013 , 19, 0200602-0200602	3.8	
68	Self-consistent far-field blooming analysis for high-power Fabry-Perot laser diodes 2013 ,		9
67	What is the problem with GaN-based VCSELs? 2013 ,		2
66	Self-consistent electro-thermal-optical simulation of thermal blooming in broad-area lasers 2012 ,		1

65	AlGa _N polarization doping effects on the efficiency of blue LEDs 2012 ,		24
64	Ultra-violet light-emitting diodes with quasi acceptor-free AlGa _N polarization doping. <i>Optical and Quantum Electronics</i> , 2012 , 44, 67-73	2.4	26
63	Unified model for the GaN LED efficiency droop 2011 ,		5
62	Electron leakage effects on the efficiency droop in GaN-based light-emitting diodes 2010 ,		1
61	GaN-based VCSELs: analysis of internal device physics and performance limitations 2010 ,		2
60	Electron leakage effects on GaN-based light-emitting diodes. <i>Optical and Quantum Electronics</i> , 2010 , 42, 89-95	2.4	86
59	Efficiency droop in nitride-based light-emitting diodes. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2010 , 207, 2217-2225	1.6	619
58	Back Cover (Phys. Status Solidi A 10/2010). <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2010 , 207, n/a-n/a	1.6	3
57	Simulations of laser diodes with nonpolar InGa _N multi-quantum-wells. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2010 , 7, 2259-2261		5
56	Origin of efficiency droop in GaN-based light-emitting diodes. <i>Applied Physics Letters</i> , 2007 , 91, 183507	3.4	1050
55	Blue Laser Diodes. <i>Optik & Photonik</i> , 2007 , 2, 52-55		1
54	Introduction to the OQE Special Issue on Numerical Simulation of Optoelectronic Devices <i>Optical and Quantum Electronics</i> , 2007 , 38, 933-934	2.4	
53	Analysis of wavelength-dependent performance variations of GaN-based ultraviolet lasers 2007 ,		18
52	AlGa _N /Al _N distributed bragg reflectors for deep ultraviolet wavelengths. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2006 , 203, 1915-1919	1.6	15
51	Internal device physics of 1.3- μ m vertical-cavity surface-emitting laser 2005 ,		1
50	MODELING AND OPTIMIZATION OF SINGLE-ELEMENT BULK SiGe THIN-FILM COOLERS. <i>Microscale Thermophysical Engineering</i> , 2005 , 9, 99-118		29
49	Failure analysis of GaN-based current-injected vertical-cavity surface-emitting lasers 2005 ,		1
48	Internal efficiency analysis of 280-nm light emitting diodes 2004 , 5594, 177		16

47	3D simulation and analysis of AlGaIn/GaN ultraviolet light-emitting diodes 2004 , 5366, 127	15
46	Design and optimization of high-performance 1.3- μm VCSELs 2004 ,	11
45	Simulation of GaN-based Light-Emitting Devices 2004 , 101-108	
44	InP-based waveguide photodetector with integrated photon multiplication 2003 ,	2
43	Physics of waveguide photodetectors with integrated amplification 2003 ,	3
42	Recent advances in photodetectors with distributed optical amplification 2003 ,	2
41	Integrated-cavity surface-emitting lasers 2003 , 5248, 148	1
40	Carrier Transport 2003 , 49-82	4
39	Optical Waves 2003 , 83-120	3
38	Photon Generation 2003 , 121-139	1
37	Heat Generation and Dissipation 2003 , 141-148	2
36	Edge-Emitting Laser 2003 , 151-169	1
35	Vertical-Cavity Laser 2003 , 171-186	1
34	Nitride Light Emitters 2003 , 187-211	3
33	Electroabsorption Modulator 2003 , 213-225	
32	Amplification Photodetector 2003 , 227-236	
31	High-power 1320-nm wafer-bonded VCSELs with tunnel junctions. <i>IEEE Photonics Technology Letters</i> , 2003 , 15, 1495-1497	2.2 50
30	Introduction to Semiconductors 2003 , 3-11	31

29	Electron Energy Bands 2003 , 13-48		5
28	Analog modulation of semiconductor lasers 2002 , 57-80		4
27	Physics of Output Power Limitations in Long-Wavelength Laser Diodes 2002 , 4871, 70		
26	Multi-quantum-well electroabsorption modulators 2002 , 4646, 609		2
25	. <i>IEEE Journal of Quantum Electronics</i> , 2002 , 38, 1253-1259	2	79
24	Modeling of traveling-wave amplification photodetectors (TAP detectors) 2001 , 4283, 528		5
23	Modeling and optimization of vertical-cavity semiconductor laser amplifiers 2001 , 4283, 129		1
22	High-speed traveling-wave electro-absorption modulators 2001 ,		4
21	Wafer bonded 1.55 μm vertical-cavity lasers with continuous-wave operation up to 105 $^{\circ}\text{C}$. <i>Applied Physics Letters</i> , 2001 , 78, 2632-2633	3-4	34
20	Optimization of the barrier height in 1.3- μm InGaAsP multiple-quantum-well active regions for high-temperature operation 2001 ,		4
19	Design and analysis of vertical-cavity semiconductor optical amplifiers. <i>IEEE Journal of Quantum Electronics</i> , 2001 , 37, 127-134	2	45
18	Long-wavelength vertical-cavity lasers and amplifiers. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2000 , 6, 1244-1253	3-8	72
17	Self-consistent analysis of high-temperature effects on strained-layer multiquantum-well InGaAsP-InP lasers. <i>IEEE Journal of Quantum Electronics</i> , 2000 , 36, 366-374	2	71
16	Carrier nonuniformity effects on the internal efficiency of multiquantum-well lasers. <i>Applied Physics Letters</i> , 1999 , 74, 489-491	3-4	35
15	Thermionic emission cooling in single barrier heterostructures. <i>Applied Physics Letters</i> , 1999 , 74, 88-89	3-4	84
14	Analog modulation of 1.55- μm vertical-cavity lasers 1999 ,		6
13	Efficiency Analysis of Quantum Well Lasers using PICS3D 1999 ,		2
12	Minimum temperature sensitivity of 1.55 μm vertical-cavity lasers at 30 nm gain offset. <i>Applied Physics Letters</i> , 1998 , 72, 1814-1816	3-4	62

11	Thermal conductivity reduction in GaAs-AlAs distributed Bragg reflectors. <i>IEEE Photonics Technology Letters</i> , 1998 , 10, 81-83	2.2	51
10	Enhanced Thermionic Emission Cooling in High Barrier Superlattice Heterostructures. <i>Materials Research Society Symposia Proceedings</i> , 1998 , 545, 449		62
9	Simulation and analysis of 1.55 μm double-fused vertical-cavity lasers. <i>Journal of Applied Physics</i> , 1997 , 81, 3382-3390	2.5	37
8	High-temperature lasing of long-wavelength VCSELs: problems and prospects 1997 ,		9
7	64/spl deg/C continuous-wave operation of 1.5-/spl μm vertical-cavity laser. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 1997 , 3, 359-365	3.8	55
6	Design and analysis of double-fused 1.55-/spl μm vertical-cavity lasers. <i>IEEE Journal of Quantum Electronics</i> , 1997 , 33, 1369-1383	2	69
5	Material parameters of quaternary III - V semiconductors for multilayer mirrors at wavelength. <i>Modelling and Simulation in Materials Science and Engineering</i> , 1996 , 4, 349-357	2	67
4	Numerical analysis of 1.54 μm double-fused vertical-cavity lasers operating continuous-wave up to 33 $^{\circ}\text{C}$. <i>Applied Physics Letters</i> , 1996 , 68, 2630-2632	3.4	22
3	Spontaneous and Piezoelectric Polarization: Basic Theory vs. Practical Recipes49-68		35
2	Electronic Properties of InGaN/GaN Vertical-Cavity Lasers423-445		3
1	Origin of efficiency droop in GaN-based light-emitting diodes		1