Peter M Smowton

List of Publications by Year
in descending order

98 papers	2,019 citations	361413 20 h-index	243625 44 g-index
99 all docs	99 docs citations	99 times ranked	1944 citing authors

#	Article	IF	Citations
1	Electrically pumped continuous-wave IIIâ€“V quantum dot lasers on silicon. Nature Photonics, 2016, 10, 307-311.	31.4	665
2	Experimental investigation of the effect of wetting-layer states on the gainâ€“current characteristic of quantum-dot lasers. Applied Physics Letters, 2002, 81, 4904-4906.	3.3	205
3	Comparative study of InGaAs quantum dot lasers with different degrees of dot layer confinement. Applied Physics Letters, 2002, 81, 1-3.	3.3	72
4	InAs/GaAs Quantum-Dot Superluminescent Light-Emitting Diode Monolithically Grown on a Si Substrate. ACS Photonics, 2014, 1, 638-642.	6.6	66
5	Filamentation and linewidth enhancement factor in InGaAs quantum dot lasers. Applied Physics Letters, 2002, 81, 3251-3253.	3.3	65
6	The effect of p doping in InAs quantum dot lasers. Applied Physics Letters, 2006, 88, 111113.	3.3	52
7	Optical mode loss and gain of multiple-layer quantum-dot lasers. Applied Physics Letters, 2001, 78, 2629-2631.	3.3	50
8	Thermodynamic balance in quantum dot lasers. Semiconductor Science and Technology, 2001, 16, 140-143.	2.0	47
9	Time Evolution of the Screening of Piezoelectric Fields in InGaN Quantum Wells. IEEE Journal of Quantum Electronics, 2006, 42, 1202-1208.	1.9	47
10	Colloidal quantum dot hybrids: an emerging class of materials for ambient lighting. Journal of Materials Chemistry C, 2020, 8, 10676-10695.	5.5	46
11	Temperature dependence of threshold current in p-doped quantum dot lasers. Applied Physics Letters, 2006, 89, 151118.	3.3	44
12	Polarization dependence study of electroluminescence and absorption from InAsâˆ•GaAs columnar quantum dots. Applied Physics Letters, 2007, 91, .	3.3	39
13	Modal gain and internal optical mode loss of a quantum dot laser. Applied Physics Letters, 2000, 77, 163-165.	3.3	37
14	Low-noise 13â€‰â€‰Î¼m InAs/GaAs quantum dot laser monolithically grown on silicon. Photonics Research, 2018, 6, 1062.	7.0	35
15	Temperature-Dependent Gain and Threshold in P-Doped Quantum Dot Lasers. IEEE Journal of Selected Topics in Quantum Electronics, 2007, 13, 1261-1266.	2.9	33
16	Random Population of Quantum Dots in InAsâ€“GaAs Laser Structures. IEEE Journal of Quantum Electronics, 2010, 46, 525-532.	1.9	33
17	In situ annealing enhancement of the optical properties and laser device performance of InAs quantum dots grown on Si substrates. Optics Express, 2016, 24, 6196.	3.4	26
18	All-MBE grown InAs/GaAs quantum dot lasers with thin Ge buffer layer on Si substrates. Journal Physics D: Applied Physics, 2021, 54, 035103.	2.8	23

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19	Inversion Boundary Annihilation in GaAs Monolithically Grown on Onâ€Axis Silicon (001). Advanced Optical Materials, 2020, 8, 2000970.	7.3	22
20	Temperature dependence of the lasing wavelength of InGaAs quantum dot lasers. Journal of Applied Physics, 2001, 90, 4859-4861.	2.5	20
21	The role of high growth temperature GaAs spacer layers in 1.3-/spl mu/m In(Ga)As quantum-dot lasers. IEEE Photonics Technology Letters, 2005, 17, 2011-2013.	2.5	20
22	Low-Temperature Nonthermal Population of InAsâ€“GaAs Quantum Dots. IEEE Journal of Quantum Electronics, 2009, 45, 380-387.	1.9	20
23	Optical Gain in GaInNAs and GaInNAsSb Quantum Wells. IEEE Journal of Quantum Electronics, 2011, 47, 870-877.	1.9	20
24	Origin of Temperature-Dependent Threshold Current in p-Doped and Undoped In(Ga)As Quantum Dot Lasers. IEEE Journal of Selected Topics in Quantum Electronics, 2008, 14, 1162-1170.	2.9	19
25	Polarization Properties of Columnar Quantum Dots: Effects of Aspect Ratio and Compositional Contrast. IEEE Journal of Quantum Electronics, 2010, 46, 197-204.	1.9	19
26	IIIâ€“V semiconductor devices integrated with silicon. Semiconductor Science and Technology, 2013, 28, 090301.	2.0	17
27	Recombination mechanisms in 1.3-/spl mu/m InAs quantum-dot lasers. IEEE Photonics Technology Letters, 2006, 18, 965-967.	2.5	16
28	Spontaneous Radiative Efficiency and Gain Characteristics of Strained-Layer InGaAsâ€“GaAs Quantum-Well Lasers. IEEE Journal of Quantum Electronics, 2008, 44, 732-739.	1.9	16
29	InAsP quantum dot lasers grown by MOVPE. Optics Express, 2015, 23, 27282.	3.4	16
30	Temperature-Dependent Threshold Current in InP Quantum-Dot Lasers. IEEE Journal of Selected Topics in Quantum Electronics, 2011, 17, 1343-1348.	2.9	15
31	Time resolved studies of catastrophic optical mirror damage in red-emitting laser diodes. Journal of Applied Physics, 2010, 107, 123116.	2.5	14
32	Laser dynamics in self-pulsating quantum dot systems. Journal of Applied Physics, 2004, 95, 1036-1041.	2.5	13
33	Ultrafast gain dynamics in InP quantum-dot optical amplifiers. Applied Physics Letters, 2010, 97, 211103.	3.3	13
34	The effect of strained confinement layers in InP self-assembled quantum dot material. Semiconductor Science and Technology, 2012, 27, 094008.	2.0	13
35	Dynamics of the wetting-Layer-quantum-dot interaction in InGaAs self-assembled systems. IEEE Journal of Quantum Electronics, 2005, 41, 344-350.	1.9	12
36	Exploring the wavelength range of InP/AlGaInP QDs and application to dual-state lasing. Semiconductor Science and Technology, 2015, 30, 044002.	2.0	10

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37	Reducing Thermal Carrier Spreading in InP Quantum Dot Lasers. IEEE Journal of Selected Topics in Quantum Electronics, 2015, 21, 668-673.	2.9	10
38	Degradation of IIIâ€“V Quantum Dot Lasers Grown Directly on Silicon Substrates. IEEE Journal of Selected Topics in Quantum Electronics, 2019, 25, 1-6.	2.9	10
39	Mode formation in broad area quantum dot lasers at 1060 nm. Optics Communications, 2004, 235, 387-393.	2.1	8
40	Improved performance of 1.3-/spl mu/m In(Ga)As quantum-dot lasers by modifying the temperature profile of the GaAs spacer layers. IEEE Photonics Technology Letters, 2006, 18, 1557-1559.	2.5	8
41	Multi-wavelength 128 Gbit s^{â^'1} Î» ^{â^'1} PAM4 optical transmission enabled by a 100 GHz quantum dot mode-locked optical frequency comb. Journal Physics D: Applied Physics, 2022, 55, 144001.	2.8	8
42	Nonradiative Recombination in Multiple Layer In(Ga)As Quantum-Dot Lasers. IEEE Journal of Quantum Electronics, 2007, 43, 698-703.	1.9	7
43	Absorption, Gain, and Threshold in InP/AlGaInP Quantum Dot Laser Diodes. IEEE Journal of Quantum Electronics, 2013, 49, 389-394.	1.9	7
44	A twoâ€stage surface treatment for the longâ€term stability of hydrophilic SUâ€8. Surface and Interface Analysis, 2015, 47, 1174-1179.	1.8	7
45	Monolithic InP Quantum Dot Mode-Locked Lasers Emitting at 730 nm. IEEE Photonics Technology Letters, 2020, 32, 1073-1076.	2.5	7
46	Self-pulsing 1050 nm quantum dot edge emitting laser diodes. Applied Physics Letters, 2009, 95, 101111.	3.3	6
47	The role of different types of dopants in 1.3 Î¼m InAs/GaAs quantum-dot lasers. Journal Physics D: Applied Physics, 2022, 55, 215105.	2.8	6
48	Dry Etching of Anisotropic Microstructures for Distributed Bragg Reflectors in AlGaInP/GaAs Laser Structures. IEEE Journal of Selected Topics in Quantum Electronics, 2008, 14, 1098-1103.	2.9	5
49	Optical gain and absorption of 1.55â€‰Î¼m InAs quantum dash lasers on silicon substrate. Applied Physics Letters, 2021, 118, .	3.3	5
50	Optical Gain and Spontaneous Emission in GaAsSbâ€“InGaAs Type-II â€œWâ€•Laser Structures. IEEE Journal of Quantum Electronics, 2007, 43, 607-613.	1.9	4
51	Electrically pumped continuous-wave O-band quantum-dot superluminescent diode on silicon. Optics Letters, 2020, 45, 5468.	3.3	4
52	Carrier distribution, spontaneous emission, and gain in self-assembled quantum dot lasers. , 2004, 5365, 86.		3
53	Catastrophic optical bulk damage in InP 7xx emitting quantum dot diode lasers. Semiconductor Science and Technology, 2012, 27, 102001.	2.0	3
54	Optical Spectroscopic Study of Carrier Processes in Self-Assembled In(Ga)As-Ga(Al)As Quantum Dot Lasers. Physica Status Solidi (B): Basic Research, 2001, 224, 123-127.	1.5	2

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55	Coupled multi quantum well 650-nm emitting GaInP laser diodes. , 2003, 4995, 152.		2
56	Growth and characterization of multiple layer quantum dot lasers. , 2005, , .		2
57	Maximising the gain: optimising the carrier distribution in InGaAs quantum dot lasers. , 2007, , .		2
58	Introduction to the Issue on Solid-State Lighting. IEEE Journal of Selected Topics in Quantum Electronics, 2009, 15, 1025-1027.	2.9	2
59	Higher power density limit at COMD in GaInP/AlGaInP in quantum dots than in wells. , 2009, , .		2
60	Strained confinement layers in InP quantum dot lasers. , 2012, , .		2
61	Improving the Optical Bandwidth of Passively Mode-Locked InAs Quantum Dot Lasers. IEEE Journal of Selected Topics in Quantum Electronics, 2015, 21, 674-680.	2.9	2
62	Radiative recombination rate measurement by the optically pumped variable stripe length method. Optics Express, 2015, 23, 3308.	3.4	2
63	Quantum Dot Lasers. , 2010, , 9â€šÃ„Ã¬1-9â€šÃ„Ã¬35.		2
64	Sub-mA Threshold Current Vertical Cavity Surface Emitting Lasers with a Simple Fabrication Process. , 2021, , .		2
65	New approach to blue-shifting asymmetric quantum wells. , 1997, , .		1
66	Gain characteristics of GaInP quantum well laser structures. , 2002, 4651, 1.		1
67	Saturable absorber characteristics in quantum dot lasers. , 2004, , .		1
68	Time evolution of piezoelectic field screening in InGaN quantum wells. , 2005, , .		1
69	Manufacturingâ€tolerant compact redâ€emitting laser diode designs for next generation applications. IET Optoelectronics, 2015, 9, 75-81.	3.3	1
70	Temperature Dependent Behavior of the Optical Gain and Electroabsorption Modulation Properties of an InAs/GaAs Quantum Dot Epistructure. , 2019, , .		1
71	Modeling the effects of p-modulation doping in InAs quantum dot devices. , 2021, , .		1
72	Quick Fabrication VCSELs for Characterisation of Epitaxial Material. Applied Sciences (Switzerland), 2021, 11, 9369.	2.5	1

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73	Towards polarization insensitive semiconductor optical amplifiers using InAs/GaAs columnar quantum dots. , 2008, , .		1
74	Al x GayIn 1-x-y As/AlGaAs quantum well lasers at 670 to 750 nm. , 1997, 3001, 153.		0
75	Impact of structural nonuniformity on the operation of AlGaInP lasers at high compressive strain. , 1998, , .		0
76	Temperature dependence of gain in multiple-layer quantum dots. , 2001, , .		0
77	Comparison of experimental and theoretical optical properties of GaInP lasers. , 2001, , .		0
78	Dependence of threshold current density on the stacked quantum dot layers. , 2001, , .		0
79	Many-body effects in quantum dot lasers. , 2003, , .		0
80	Mode structure of quantum dot semiconductor lasers. , 2004, , .		0
81	Energy distributions of carriers in quantum dot laser structures. , 2004, , .		0
82	Characterisation of modulation doped quantum dot lasers. , 2006, , .		0
83	1.3 μm emitting, self assembled quantum dot lasers. , 2006, , .		0
84	Localised recombination in quantum dot structures. , 2006, , .		0
85	Self pulsing quantum dot lasers for optical coherence tomography. , 2009, , .		0
86	Random population of InAs-GaAs quantum dots. Proceedings of SPIE, 2010, , .	0.8	0
87	700nm InP quantum dot lasers with strained confinement layers. , 2012, , .		0
88	Comparison of catastrophic optical damage in InP/(Al)GaInP quantum dot and quantum well diode lasers. , 2013, , .		0
89	Improved laser performance in NIR InP Dot Based Structures with Strained Layers. , 2014, , .		0
90	Continuous-wave emission of IIIâ€“V quantum dot lasers grown directly on Si substrates. , 2015, , .		0

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91	Effects of temperature and difference-wavelength on mode stability in Dual-Î» QD lasers. Proceedings of SPIE, 2015, , .	0.8	0
92	Deep-etched III-V lasers grown directly on silicon substrates. , 2016, , .		0
93	Analysing radiative and non-radiative recombination in InAs QDs on Si for integrated laser applications. Proceedings of SPIE, 2016, , .	0.8	0
94	Increasing Maximum Gain in InAs Quantum Dot Lasers on GaAs and Si. , 2018, , .		0
95	Monolithic Growth of InAs Quantum Dots Lasers on (001) Silicon Emitting at 1.55 Î¼m. , 2019, , .		0
96	InP Quantum Dot Mode-Locked Lasers and Materials Studies. , 2019, , .		0
97	12.5-GHz InP Quantum Dot Monolithically Mode-Locked Lasers Emitting at 740 nm. , 2019, , .		0
98	The limits to peak modal gain in p-modulation doped indium arsenide quantum dot laser diodes. , 2021, , .		0