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	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
2	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
3	Optical gain and absorption of 1.55â€‰Î¼m InAs quantum dash lasers on silicon substrate. Applied Physics Letters, 2021, 118, .	3.3	5
4	Modeling the effects of p-modulation doping in InAs quantum dot devices. , 2021, , .		1
5	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
6	Quick Fabrication VCSELs for Characterisation of Epitaxial Material. Applied Sciences (Switzerland), 2021, 11, 9369.	2.5	1
7	Sub-mA Threshold Current Vertical Cavity Surface Emitting Lasers with a Simple Fabrication Process. , 2021, , .		2
8	The limits to peak modal gain in p-modulation doped indium arsenide quantum dot laser diodes. , 2021, , .		0
9	Inversion Boundary Annihilation in GaAs Monolithically Grown on Onâ€Axis Silicon (001). Advanced Optical Materials, 2020, 8, 2000970.	7.3	22
10	Monolithic InP Quantum Dot Mode-Locked Lasers Emitting at 730 nm. IEEE Photonics Technology Letters, 2020, 32, 1073-1076.	2.5	7
11	Colloidal quantum dot hybrids: an emerging class of materials for ambient lighting. Journal of Materials Chemistry C, 2020, 8, 10676-10695.	5.5	46
12	Electrically pumped continuous-wave O-band quantum-dot superluminescent diode on silicon. Optics Letters, 2020, 45, 5468.	3.3	4
13	Temperature Dependent Behavior of the Optical Gain and Electroabsorption Modulation Properties of an InAs/GaAs Quantum Dot Epistructure. , 2019, , .		1
14	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
15	Monolithic Growth of InAs Quantum Dots Lasers on (001) Silicon Emitting at 1.55 Î¼m. , 2019, , .		0
16	InP Quantum Dot Mode-Locked Lasers and Materials Studies. , 2019, , .		0
17	12.5-GHz InP Quantum Dot Monolithically Mode-Locked Lasers Emitting at 740 nm. , 2019, , .		0
18	Increasing Maximum Gain in InAs Quantum Dot Lasers on GaAs and Si. , 2018, , .		0

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19	Low-noise 13â€‰â€‰Î¼m InAs/GaAs quantum dot laser monolithically grown on silicon. Photonics Research, 2018, 6, 1062.	7.0	35
20	Deep-etched III-V lasers grown directly on silicon substrates. , 2016, , .		0
21	Analysing radiative and non-radiative recombination in InAs QDs on Si for integrated laser applications. Proceedings of SPIE, 2016, , .	0.8	0
22	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
23	Electrically pumped continuous-wave IIIâ€“V quantum dot lasers on silicon. Nature Photonics, 2016, 10, 307-311.	31.4	665
24	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
25	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
26	Manufacturingâ€tolerant compact redâ€emitting laser diode designs for next generation applications. IET Optoelectronics, 2015, 9, 75-81.	3.3	1
27	InAsP quantum dot lasers grown by MOVPE. Optics Express, 2015, 23, 27282.	3.4	16
28	Continuous-wave emission of IIIâ€“V quantum dot lasers grown directly on Si substrates. , 2015, , .		0
29	Exploring the wavelength range of InP/AlGaInP QDs and application to dual-state lasing. Semiconductor Science and Technology, 2015, 30, 044002.	2.0	10
30	Reducing Thermal Carrier Spreading in InP Quantum Dot Lasers. IEEE Journal of Selected Topics in Quantum Electronics, 2015, 21, 668-673.	2.9	10
31	Radiative recombination rate measurement by the optically pumped variable stripe length method. Optics Express, 2015, 23, 3308.	3.4	2
32	Effects of temperature and difference-wavelength on mode stability in Dual-Î» QD lasers. Proceedings of SPIE, 2015, , .	0.8	0
33	Improved laser performance in NIR InP Dot Based Structures with Strained Layers. , 2014, , .		0
34	InAs/GaAs Quantum-Dot Superluminescent Light-Emitting Diode Monolithically Grown on a Si Substrate. ACS Photonics, 2014, 1, 638-642.	6.6	66
35	IIIâ€“V semiconductor devices integrated with silicon. Semiconductor Science and Technology, 2013, 28, 090301.	2.0	17
36	Comparison of catastrophic optical damage in InP/(Al)GaInP quantum dot and quantum well diode lasers. , 2013, , .		0

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37	Absorption, Gain, and Threshold in InP/AlGaInP Quantum Dot Laser Diodes. IEEE Journal of Quantum Electronics, 2013, 49, 389-394.	1.9	7
38	The effect of strained confinement layers in InP self-assembled quantum dot material. Semiconductor Science and Technology, 2012, 27, 094008.	2.0	13
39	Strained confinement layers in InP quantum dot lasers. , 2012, , .		2
40	700nm InP quantum dot lasers with strained confinement layers. , 2012, , .		0
41	Catastrophic optical bulk damage in InP 7xx emitting quantum dot diode lasers. Semiconductor Science and Technology, 2012, 27, 102001.	2.0	3
42	Optical Gain in GaInNAs and GaInNAsSb Quantum Wells. IEEE Journal of Quantum Electronics, 2011, 47, 870-877.	1.9	20
43	Temperature-Dependent Threshold Current in InP Quantum-Dot Lasers. IEEE Journal of Selected Topics in Quantum Electronics, 2011, 17, 1343-1348.	2.9	15
44	Random population of InAs-GaAs quantum dots. Proceedings of SPIE, 2010, , .	0.8	0
45	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
46	Random Population of Quantum Dots in InAsâ€“GaAs Laser Structures. IEEE Journal of Quantum Electronics, 2010, 46, 525-532.	1.9	33
47	Time resolved studies of catastrophic optical mirror damage in red-emitting laser diodes. Journal of Applied Physics, 2010, 107, 123116.	2.5	14
48	Ultrafast gain dynamics in InP quantum-dot optical amplifiers. Applied Physics Letters, 2010, 97, 211103.	3.3	13
49	Quantum Dot Lasers. , 2010, , 9â€šÃ„Ã¬1-9â€šÃ„Ã¬35.		2
50	Self-pulsing 1050 nm quantum dot edge emitting laser diodes. Applied Physics Letters, 2009, 95, 101111.	3.3	6
51	Self pulsing quantum dot lasers for optical coherence tomography. , 2009, , .		0
52	Introduction to the Issue on Solid-State Lighting. IEEE Journal of Selected Topics in Quantum Electronics, 2009, 15, 1025-1027.	2.9	2
53	Low-Temperature Nonthermal Population of InAsâ€“GaAs Quantum Dots. IEEE Journal of Quantum Electronics, 2009, 45, 380-387.	1.9	20
54	Higher power density limit at COMD in GaInP/AlGaInP in quantum dots than in wells. , 2009, , .		2

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55	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
56	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
57	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
58	Towards polarization insensitive semiconductor optical amplifiers using InAs/GaAs columnar quantum dots. , 2008, , .		1
59	Maximising the gain: optimising the carrier distribution in InGaAs quantum dot lasers. , 2007, , .		2
60	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
61	Nonradiative Recombination in Multiple Layer In(Ga)As Quantum-Dot Lasers. IEEE Journal of Quantum Electronics, 2007, 43, 698-703.	1.9	7
62	Polarization dependence study of electroluminescence and absorption from InAsâˆ•GaAs columnar quantum dots. Applied Physics Letters, 2007, 91, .	3.3	39
63	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
64	Time Evolution of the Screening of Piezoelectric Fields in InGaN Quantum Wells. IEEE Journal of Quantum Electronics, 2006, 42, 1202-1208.	1.9	47
65	Recombination mechanisms in 1.3-/spl mu/m InAs quantum-dot lasers. IEEE Photonics Technology Letters, 2006, 18, 965-967.	2.5	16
66	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
67	The effect of p doping in InAs quantum dot lasers. Applied Physics Letters, 2006, 88, 111113.	3.3	52
68	Characterisation of modulation doped quantum dot lasers. , 2006, , .		0
69	Temperature dependence of threshold current in p-doped quantum dot lasers. Applied Physics Letters, 2006, 89, 151118.	3.3	44
70	1.3 μm emitting, self assembled quantum dot lasers. , 2006, , .		0
71	Localised recombination in quantum dot structures. , 2006, , .		0
72	Time evolution of piezoelectic field screening in InGaN quantum wells. , 2005, , .		1

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73	Growth and characterization of multiple layer quantum dot lasers. , 2005, , .		2
74	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
75	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
76	Carrier distribution, spontaneous emission, and gain in self-assembled quantum dot lasers. , 2004, 5365, 86.		3
77	Laser dynamics in self-pulsating quantum dot systems. Journal of Applied Physics, 2004, 95, 1036-1041.	2.5	13
78	Mode structure of quantum dot semiconductor lasers. , 2004, , .		0
79	Mode formation in broad area quantum dot lasers at 1060 nm. Optics Communications, 2004, 235, 387-393.	2.1	8
80	Energy distributions of carriers in quantum dot laser structures. , 2004, , .		0
81	Saturable absorber characteristics in quantum dot lasers. , 2004, , .		1
82	Many-body effects in quantum dot lasers. , 2003, , .		0
83	Coupled multi quantum well 650-nm emitting GaInP laser diodes. , 2003, 4995, 152.		2
84	Comparative study of InGaAs quantum dot lasers with different degrees of dot layer confinement. Applied Physics Letters, 2002, 81, 1-3.	3.3	72
85	Filamentation and linewidth enhancement factor in InGaAs quantum dot lasers. Applied Physics Letters, 2002, 81, 3251-3253.	3.3	65
86	Gain characteristics of GaInP quantum well laser structures. , 2002, 4651, 1.		1
87	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
88	Temperature dependence of gain in multiple-layer quantum dots. , 2001, , .		0
89	Comparison of experimental and theoretical optical properties of GaInP lasers. , 2001, , .		0
90	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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91	Dependence of threshold current density on the stacked quantum dot layers. , 2001, , .		0
92	Thermodynamic balance in quantum dot lasers. Semiconductor Science and Technology, 2001, 16, 140-143.	2.0	47
93	Optical mode loss and gain of multiple-layer quantum-dot lasers. Applied Physics Letters, 2001, 78, 2629-2631.	3.3	50
94	Temperature dependence of the lasing wavelength of InGaAs quantum dot lasers. Journal of Applied Physics, 2001, 90, 4859-4861.	2.5	20
95	Modal gain and internal optical mode loss of a quantum dot laser. Applied Physics Letters, 2000, 77, 163-165.	3.3	37
96	Impact of structural nonuniformity on the operation of AlGaInP lasers at high compressive strain. , 1998, , .		0
97	Al x GayIn 1-x-y As/AlGaAs quantum well lasers at 670 to 750 nm. , 1997, 3001, 153.		0
98	New approach to blue-shifting asymmetric quantum wells. , 1997, , .		1