Mingchu Tang

List of Publications by Year
in descending order

107	2,892	201674 27	175258 52
papers	citations	h-index	g-index

107	107	107	2290
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Single-Mode Photonic Crystal Nanobeam Lasers Monolithically Grown on Si for Dense Integration. IEEE Journal of Selected Topics in Quantum Electronics, 2022, 28, 1-6.	2.9	4
2	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
3	Recent Progress of Quantum Dot Lasers Monolithically Integrated on Si Platform. Frontiers in Physics, 2022, 10, .	2.1	14
4	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
5	Refractive indices of MBE-grown AlxGa(1â˜'x)As ternary alloys in the transparent wavelength region. AIP Advances, 2021, 11, .	1.3	52
6	Co-Package Technology Platform for Low-Power and Low-Cost Data Centers. Applied Sciences (Switzerland), 2021, 11, 6098.	2.5	6
7	Microcavity lasers directly grown on silicon. , 2021, , .		0
8	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
9	Monolithic IIIâ€"V quantum dot lasers on silicon. Frontiers of Nanoscience, 2021, 20, 353-388.	0.6	3
10	Various microcavity lasers monolithically grown on planar on-axis Si (001) substrates. , 2021, , .		0
11	The limits to peak modal gain in p-modulation doped indium arsenide quantum dot laser diodes. , 2021, , .		0
12	Origin of Defect Tolerance in InAs/GaAs Quantum Dot Lasers Grown on Silicon. Journal of Lightwave Technology, 2020, 38, 240-248.	4.6	46
13	Inversion Boundary Annihilation in GaAs Monolithically Grown on Onâ€Axis Silicon (001). Advanced Optical Materials, 2020, 8, 2000970.	7.3	22
14	Theoretical Study on the Effects of Dislocations in Monolithic III-V Lasers on Silicon. Journal of Lightwave Technology, 2020, 38, 4801-4807.	4.6	15
15	Continuous-wave quantum dot photonic crystal lasers grown on on-axis Si (001). Nature Communications, 2020, 11, 977.	12.8	61
16	Impact of ex-situ annealing on strain and composition of MBE grown GeSn. Journal Physics D: Applied Physics, 2020, 53, 485104.	2.8	4
17	Quantum dot mode-locked frequency comb with ultra-stable 25.5â€‰â€‰GHz spacing between 20Â°C and 120Â°C. Photonics Research, 2020, 8, 1937.	7.0	14
18	Heteroepitaxial Growth of III-V Semiconductors on Silicon. Crystals, 2020, 10, 1163.	2.2	56

#	Article	IF	Citations
19	InAs/GaAs Quantum Dot Microlasers Formed on Silicon Using Monolithic and Hybrid Integration Methods. Materials, 2020, 13, 2315.	2.9	14
20	Photonic crystal lasers grown on CMOS-compatible on-axis Si(001). , 2020, , .		0
21	Electrically pumped continuous-wave O-band quantum-dot superluminescent diode on silicon. Optics Letters, 2020, 45, 5468.	3.3	4
22	IIIâ€“V quantum dot lasers epitaxially grown on Si substrates. , 2019, , 17-39.		3
23	Recent progress in epitaxial growth of IIIâ€“V quantum-dot lasers on silicon substrate. Journal of Semiconductors, 2019, 40, 101302.	3.7	29
24	Investigation into the current loss in InAs/GaAs quantum dot solar cells with Si-doped quantum dots. Journal Physics D: Applied Physics, 2019, 52, 505108.	2.8	0
25	InAs/GaAs quantum dot solar cells with quantum dots in the base region. IET Optoelectronics, 2019, 13, 215-217.	3.3	9
26	Stabilization of GaAs photoanodes by in situ deposition of nickel-borate surface catalysts as hole trapping sites. Sustainable Energy and Fuels, 2019, 3, 814-822.	4.9	14
27	Integration of III-V lasers on Si for Si photonics. Progress in Quantum Electronics, 2019, 66, 1-18.	7.0	86
28	Selective area intermixing of IIIâ€“V quantum-dot lasers grown on silicon with two wavelength lasing emissions. Semiconductor Science and Technology, 2019, 34, 085004.	2.0	4
29	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
30	The effect of post-growth rapid thermal annealing on InAs/InGaAs dot-in-a-well structure monolithically grown on Si. Journal of Applied Physics, 2019, 125, 135301.	2.5	5
31	Thin Ge buffer layer on silicon for integration of III-V on silicon. Journal of Crystal Growth, 2019, 514, 109-113.	1.5	17
32	O-band InAs/GaAs quantum dot laser monolithically integrated on exact (0â€¯0â€¯1) Si substrate. Journal of Crystal Growth, 2019, 511, 56-60.	1.5	31
33	Optically-pumped InAs/GaAs quantum-dot microdisk lasers monolithically grown on on-axis Si (001) substrate. , 2019, , .		1
34	High performance waveguide uni-travelling carrier photodiode grown by solid source molecular beam epitaxy. Optics Express, 2019, 27, 37065.	3.4	12
35	Roadmap of 1300-nm InAs/GaAs quantum dot laser grown on silicon for silicon photonics. , 2019, , .		7
36	III-V Quantum Dot Lasers Monolithically Grown on Silicon. , 2019, , .		3

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37	Ultra-low threshold InAs/GaAs quantum dot microdisk lasers on planar on-axis Si (001) substrates. Optica, 2019, 6, 430.	9.3	37
38	Elevated temperature lasing from injection microdisk lasers on silicon. Laser Physics Letters, 2018, 15, 015802.	1.4	14
39	Direct growth of InAs/GaSb type II superlattice photodiodes on silicon substrates. IET Optoelectronics, 2018, 12, 2-4.	3.3	16
40	Type-II InAs/GaAsSb Quantum Dot Solar Cells With GaAs Interlayer. IEEE Journal of Photovoltaics, 2018, 8, 741-745.	2.5	22
41	InAs/GaAs Quantum Dot Lasers Monolithically Integrated on Group IV Platform. , 2018, , .		1
42	Degradation Studies of InAs / GaAs QD Lasers Grown on Si. , 2018, , .		1
43	Increasing Maximum Gain in InAs Quantum Dot Lasers on GaAs and Si. , 2018, , .		0
44	The influence of direct, delta, and modulation QD Si doping on InAs/GaAs quantum dot solar cells. , 2018, , .		1
45	Optimization of 1.3 Âµm InAs/GaAs quantum dot lasers epitaxially grown on silicon: taking the optical loss of metamorphic epilayers into account. Laser Physics, 2018, 28, 126206.	1.2	5
46	Hybrid IIIâ€“V/IV Nanowires: High-Quality Ge Shell Epitaxy on GaAs Cores. Nano Letters, 2018, 18, 6397-6403.	9.1	6
47	Physics-Based Modeling and Experimental Study of Si-Doped InAs/GaAs Quantum Dot Solar Cells. International Journal of Photoenergy, 2018, 2018, 1-10.	2.5	13
48	Monolithic quantum-dot distributed feedback laser array on silicon. Optica, 2018, 5, 528.	9.3	85
49	Two-colour In_{0.5}Ga_{0.5}As quantum dot infrared photodetectors on silicon. Semiconductor Science and Technology, 2018, 33, 094009.	2.0	21
50	Effect of rapid thermal annealing on threading dislocation density in III-V epilayers monolithically grown on silicon. Journal of Applied Physics, 2018, 123, .	2.5	12
51	Low-noise 13â€‰â€‰Î¼m InAs/GaAs quantum dot laser monolithically grown on silicon. Photonics Research, 2018, 6, 1062.	7.0	35
52	O-band InAs Quantum Dot Light Sources Monolithically Grown on Si. , 2018, , .		0
53	Integrating III-V quantum dot lasers on silicon substrates for silicon photonics. , 2017, , .		0
54	Monolithically Integrated Electrically Pumped Continuous-Wave III-V Quantum Dot Light Sources on Silicon. IEEE Journal of Selected Topics in Quantum Electronics, 2017, 23, 1-10.	2.9	28

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55	Silicon-Based Single Quantum Dot Emission in the Telecoms C-Band. ACS Photonics, 2017, 4, 1740-1746.	6.6	10
56	Influence of Si doping on InAs/GaAs quantum dot solar cells with AlAs cap layers. , 2017, , .		0
57	Influence of built-in charge on photogeneration and recombination processes in InAs/GaAs quantum dot solar cells. Journal Physics D: Applied Physics, 2017, 50, 165101.	2.8	5
58	Impact of the growth temperature on the performance of 1.70-eV Al0.22Ga0.78As solar cells grown by MBE. Journal of Crystal Growth, 2017, 475, 322-327.	1.5	2
59	Si-Doped InAs/GaAs Quantum Dot Solar Cell with Alas Cap Layers. E3S Web of Conferences, 2017, 16, 16001.	0.5	2
60	III-IV quantum dot lasers epitaxially grown on Si. , 2017, , .		1
61	Electrically pumped continuous-wave 13 Âµm InAs/GaAs quantum dot lasers monolithically grown on on-axis Si (001) substrates. Optics Express, 2017, 25, 4632.	3.4	102
62	High-performance InAs/GaAs quantum-dot laser didoes monolithically grown on silicon for silicon photonics. , 2017, , .		0
63	Heat-sink free CW operation of injection microdisk lasers grown on Si substrate with emission wavelength beyond 13â€‰â€‰¼m. Optics Letters, 2017, 42, 3319.	3.3	40
64	MBE growth of 1.7eV Al0.2Ga0.8As and 1.42eV GaAs solar cells on Si using dislocations filters: an alternative pathway toward III-V/ Si solar cells architectures. , 2017, , .		0
65	Long lifetime quantum-dot laser monolithically grown on silicon. , 2016, , .		1
66	Deep-etched III-V lasers grown directly on silicon substrates. , 2016, , .		0
67	1.7eV Al0.2Ga0.8As solar cells epitaxially grown on silicon by SSMBE using a superlattice and dislocation filters. , 2016, , .		5
68	Optimizations of Defect Filter Layers for 1.3-Î¼m InAs/GaAs Quantum-Dot Lasers Monolithically Grown on Si Substrates. IEEE Journal of Selected Topics in Quantum Electronics, 2016, 22, 50-56.	2.9	69
69	Monolithically Integrated InAs/GaAs Quantum Dot Mid-Infrared Photodetectors on Silicon Substrates. ACS Photonics, 2016, 3, 749-753.	6.6	63
70	Al0.2Ga0.8As Solar Cells Monolithically Grown on Si and GaAs by MBE for III-V/Si Tandem Dual-junction Applications. Energy Procedia, 2016, 92, 661-668.	1.8	9
71	Silicon-based III-V quantum dot devices for silicon photonics. , 2016, , .		0
72	InAs/GaAs quantum-dot light emitters monolithically grown on Si substrate. , 2016, , .		0

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73	Si-Doped InAs/GaAs Quantum-Dot Solar Cell With AlAs Cap Layers. IEEE Journal of Photovoltaics, 2016, 6, 906-911.	2.5	16
74	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
75	Electrically pumped continuous-wave IIIâ€“V quantum dot lasers on silicon. Nature Photonics, 2016, 10, 307-311.	31.4	665
76	InAs/InGaP quantum dot solar cells with an AlGaAs interlayer. Solar Energy Materials and Solar Cells, 2016, 144, 96-101.	6.2	21
77	InAs/GaAs quantum dot lasers monolithically grown on silicon for silicon photonics. , 2016, , .		0
78	Silicon-based III-V quantum-dot lasers for silicon photonics. , 2016, , .		0
79	Monolithically Grown Superluminescent Diodes on Germanium and Silicon substrates. , 2015, , .		0
80	Optimisation of 1.3-Î¼m InAs/GaAs Quantum-Dot Lasers Monolithically Grown on Si Substrates. Journal of Physics: Conference Series, 2015, 619, 012011.	0.4	1
81	Dislocation filters in GaAs on Si. Semiconductor Science and Technology, 2015, 30, 114004.	2.0	40
82	Long-Wavelength InAs/GaAs Quantum-Dot Light Emitting Sources Monolithically Grown on Si Substrate. Photonics, 2015, 2, 646-658.	2.0	10
83	Optimisation of the dislocation filter layers in 1.3â€Î¼m InAs/GaAs quantumâ€dot lasers monolithically grown on Si substrates. IET Optoelectronics, 2015, 9, 61-64.	3.3	23
84	Continuous-wave emission of IIIâ€“V quantum dot lasers grown directly on Si substrates. , 2015, , .		0
85	Effect of rapid thermal annealing on InAs/GaAs quantum dot solar cells. IET Optoelectronics, 2015, 9, 65-68.	3.3	14
86	Quantum Dot Lasers on Silicon by Direct Epitaxial Growth. , 2015, , .		0
87	Electrically Pumped 1.3-Âµm InAs/GaAs Quantum Dot Laser Monolithically Grown on Si Substrate Lasing up to 111Â°C. , 2015, , .		1
88	InAs/GaAsSb quantum dot solar cells. Optics Express, 2014, 22, A679.	3.4	43
89	1.3µm InAs/GaAs Quantum-Dot Laser Monolithically Grown on Si Substrates Using InAlAs/GaAs Dislocation Filter Layers. , 2014, , .		2
90	13-Î¼m InAs/GaAs quantum-dot lasers monolithically grown on Si substrates using InAlAs/GaAs dislocation filter layers. Optics Express, 2014, 22, 11528.	3.4	125

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91	InAs/GaAs quantum-dot superluminescent diodes monolithically grown on a Ge substrate. Optics Express, 2014, 22, 23242.	3.4	14
92	1.3 Î¼m InAs/GaAs quantumâ€dot laser monolithically grown on Si substrates operating over 100Â°C. Electronics Letters, 2014, 50, 1467-1468.	1.0	81
93	Submonolayer InGaAs/GaAs quantum dot solar cells. Solar Energy Materials and Solar Cells, 2014, 126, 83-87.	6.2	43
94	Voltage recovery in charged InAs/GaAs quantum dot solar cells. Nano Energy, 2014, 6, 159-166.	16.0	61
95	Electrically pumped continuousâ€wave 1.3â€Âµm InAs/GaAs quantum dot lasers monolithically grown on Si substrates. IET Optoelectronics, 2014, 8, 20-24.	3.3	19
96	InAs/GaAs Quantum-Dot Superluminescent Light-Emitting Diode Monolithically Grown on a Si Substrate. ACS Photonics, 2014, 1, 638-642.	6.6	66
97	Design rules for dislocation filters. Journal of Applied Physics, 2014, 116, .	2.5	55
98	Wafer-Scale Fabrication of Self-Catalyzed 1.7 eV GaAsP Coreâ€“Shell Nanowire Photocathode on Silicon Substrates. Nano Letters, 2014, 14, 2013-2018.	9.1	58
99	Self-Catalyzed Ternary Coreâ€“Shell GaAsP Nanowire Arrays Grown on Patterned Si Substrates by Molecular Beam Epitaxy. Nano Letters, 2014, 14, 4542-4547.	9.1	48
100	Antimony mediated growth of high-density InAs quantum dots for photovoltaic cells. Applied Physics Letters, 2013, 103, 043901.	3.3	20
101	Long-wavelength III-V quantum-dot lasers monolithically grown on Si substrates. , 2013, , .		1
102	InAs/GaAs Quantum-Dot Lasers Monolithically Grown on Si, Ge, and Ge-on-Si Substrates. IEEE Journal of Selected Topics in Quantum Electronics, 2013, 19, 1901107-1901107.	2.9	93
103	InAs/GaAs quantum-dot lasers and detectors on silicon substrates for silicon photonics. , 2013, , .		1
104	IIIâ€“V quantum-dot laser growth on silicon and germanium. , 2013, , .		0
105	Continuous-wave InAs/GaAs quantum-dot laser diodes monolithically grown on Si substrate with low threshold current densities. Optics Express, 2012, 20, 22181.	3.4	153
106	Silicon-based long-wavelength III–V quantum-dot lasers. , 2012, , .		2
107	GaAs Compounds Heteroepitaxy on Silicon for Opto and Nano Electronic Applications. , 0, , .		1