Tobias Heindel

List of Publications by Year
in descending order

92 papers	2,570 citations	172207 29 h-index	189595 50 g-index
94 all docs	94 docs citations	94 times ranked	1908 citing authors

#	Article	IF	Citations
1	Highly indistinguishable photons from deterministic quantum-dot microlenses utilizing three-dimensional in situ electron-beam lithography. Nature Communications, 2015, 6, 7662.	5.8	252
2	Electrically driven quantum dot-micropillar single photon source with 34% overall efficiency. Applied Physics Letters, 2010, 96, .	1.5	176
3	Exploring Dephasing of a Solid-State Quantum Emitter via Time- and Temperature-Dependent Hong-Ou-Mandel Experiments. Physical Review Letters, 2016, 116, 033601.	2.9	144
4	<i>In situ</i> electron-beam lithography of deterministic single-quantum-dot mesa-structures using low-temperature cathodoluminescence spectroscopy. Applied Physics Letters, 2013, 102, .	1.5	94
5	Low threshold electrically pumped quantum dot-micropillar lasers. Applied Physics Letters, 2008, 93, .	1.5	90
6	Single photon emission from a site-controlled quantum dot-micropillar cavity system. Applied Physics Letters, 2009, 94, 111111.	1.5	86
7	Deterministic Integration of Quantum Dots into on-Chip Multimode Interference Beamsplitters Using in Situ Electron Beam Lithography. Nano Letters, 2018, 18, 2336-2342.	4.5	85
8	Quantum key distribution using quantum dot single-photon emitting diodes in the red and near infrared spectral range. New Journal of Physics, 2012, 14, 083001.	1.2	80
9	Single photon emission from positioned GaAs/AlGaAs photonic nanowires. Applied Physics Letters, 2010, 96, 211117.	1.5	77
10	Single site-controlled In(Ga)As/GaAs quantum dots: growth, properties and device integration. Nanotechnology, 2009, 20, 434012.	1.3	71
11	Demonstration of strong coupling via electro-optical tuning in high-quality QD-micropillar systems. Optics Express, 2008, 16, 15006.	1.7	70
12	A stand-alone fiber-coupled single-photon source. Scientific Reports, 2018, 8, 1340.	1.6	68
13	Quantum Communication Using Semiconductor Quantum Dots. Advanced Quantum Technologies, 2022, 5, .	1.8	64
14	Single Quantum Dot with Microlens and 3D-Printed Micro-objective as Integrated Bright Single-Photon Source. ACS Photonics, 2017, 4, 1327-1332.	3.2	63
15	An electrically driven cavity-enhanced source of indistinguishable photons with 61% overall efficiency. APL Photonics, 2016, 1, .	3.0	60
16	A bright triggered twin-photon source in the solid state. Nature Communications, 2017, 8, 14870.	5.8	58
17	Optimized designs for telecom-wavelength quantum light sources based on hybrid circular Bragg gratings. Optics Express, 2019, 27, 36824.	1.7	55
18	Single-photon emission at a rate of 143â€‰MHz from a deterministic quantum-dot microlens triggered by a mode-locked vertical-external-cavity surface-emitting laser. Applied Physics Letters, 2015, 107, .	1.5	52

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19	Microcavity enhanced single photon emission from an electrically driven site-controlled quantum dot. Applied Physics Letters, 2012, 100, .	1.5	47
20	Electrically driven single photon source based on a site-controlled quantum dot with self-aligned current injection. Applied Physics Letters, 2012, 101, .	1.5	44
21	Photon-Number-Resolving Transition-Edge Sensors for the Metrology of Quantum Light Sources. Journal of Low Temperature Physics, 2018, 193, 1243-1250.	0.6	43
22	Free space quantum key distribution over 500 meters using electrically driven quantum dot single-photon sourcesâ€"a proof of principle experiment. New Journal of Physics, 2014, 16, 043003.	1.2	41
23	Deterministically fabricated solid-state quantum-light sources. Journal of Physics Condensed Matter, 2020, 32, 153003.	0.7	41
24	Tools for the performance optimization of single-photon quantum key distribution. Npj Quantum Information, 2020, 6, .	2.8	40
25	Whispering gallery mode lasing in electrically driven quantum dot micropillars. Applied Physics Letters, 2010, 97, .	1.5	34
26	Quantum efficiency and oscillator strength of site-controlled InAs quantum dots. Applied Physics Letters, 2010, 96, .	1.5	34
27	Nonlinear photoluminescence spectra from a quantum-dotâ€"cavity system: Interplay of pump-induced stimulated emission and anharmonic cavity QED. Physical Review B, 2010, 81, .	1.1	31
28	Generating single photons at gigahertz modulation-speed using electrically controlled quantum dot microlenses. Applied Physics Letters, 2016, 108, .	1.5	31
29	Electrically Tunable Single-Photon Source Triggered by a Monolithically Integrated Quantum Dot Microlaser. ACS Photonics, 2017, 4, 790-794.	3.2	31
30	Quantum metrology of solid-state single-photon sources using photon-number-resolving detectors. New Journal of Physics, 2019, 21, 035007.	1.2	31
31	Two-photon interference from remote deterministic quantum dot microlenses. Applied Physics Letters, 2017, 110, .	1.5	30
32	The role of optical excitation power on the emission spectra of a strongly coupled quantum dot-micropillar system. Optics Express, 2009, 17, 12821.	1.7	29
33	Accessing the dark exciton spin in deterministic quantum-dot microlenses. APL Photonics, 2017, 2, .	3.0	28
34	Operating single quantum emitters with a compact Stirling cryocooler. Review of Scientific Instruments, 2015, 86, 013113.	0.6	27
35	Deterministically fabricated quantum dot single-photon source emitting indistinguishable photons in the telecom O-band. Applied Physics Letters, 2020, 116, .	1.5	27
36	Deterministically fabricated spectrally-tunable quantum dot based single-photon source. Optical Materials Express, 2020, 10, 76.	1.6	26

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37	A quantum key distribution testbed using a plug&play telecom-wavelength single-photon source. Applied Physics Reviews, 2022, 9, .	5.5	24
38	Swing-Up of Quantum Emitter Population Using Detuned Pulses. PRX Quantum, 2021, 2, .	3.5	24
39	Efficient single-photon source based on a deterministically fabricated single quantum dot - microstructure with backside gold mirror. Applied Physics Letters, 2017, 111, .	1.5	23
40	All-optical depletion of dark excitons from a semiconductor quantum dot. Applied Physics Letters, 2015, 106, .	1.5	21
41	Bright Single-Photon Sources Based on Anti-Reflection Coated Deterministic Quantum Dot Microlenses. Technologies, 2016, 4, 1.	3.0	21
42	Strong light-matter coupling in the presence of lasing. Physical Review A, 2017, 96, .	1.0	20
43	Electrically Driven Quantum Dot Micropillar Light Sources. IEEE Journal of Selected Topics in Quantum Electronics, 2011, 17, 1670-1680.	1.9	17
44	Advanced <i>in-situ</i> electron-beam lithography for deterministic nanophotonic device processing. Review of Scientific Instruments, 2015, 86, 073903.	0.6	17
45	A Pulsed Nonclassical Light Source Driven by an Integrated Electrically Triggered Quantum Dot Microlaser. IEEE Journal of Selected Topics in Quantum Electronics, 2015, 21, 681-689.	1.9	17
46	On-chip optoelectronic feedback in a micropillar laser-detector assembly. Optica, 2017, 4, 303.	4.8	16
47	Enhancing the photon-extraction efficiency of site-controlled quantum dots by deterministically fabricated microlenses. Optics Communications, 2018, 413, 162-166.	1.0	15
48	Site-controlled In(Ga)As/GaAs quantum dots for integration into optically and electrically operated devices. Journal of Crystal Growth, 2011, 323, 194-197.	0.7	13
49	Correlations between axial and lateral emission of coupled quantum dotâ€“micropillar cavities. Physical Review B, 2015, 91, .	1.1	13
50	Micropillars with a controlled number of site-controlled quantum dots. Applied Physics Letters, 2018, 112, .	1.5	11
51	Status and future prospects of laser fusion and high power laser applications. Journal of Physics: Conference Series, 2010, 244, 012005.	0.3	7
52	On-chip light detection using monolithically integrated quantum dot micropillars. Applied Physics Letters, 2016, 108, .	1.5	7
53	Fiber-pigtailing quantum-dot cavity-enhanced light emitting diodes. Applied Physics Letters, 2021, 119, .	1.5	7
54	Radiometric characterization of a triggered narrow-bandwidth single-photon source and its use for the calibration of silicon single-photon avalanche detectors. Metrologia, 2020, 57, 055001.	0.6	7

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55	Intrinsic circularly polarized exciton emission in a twisted van der Waals heterostructure. Physical Review B, 2022, 105, .	1.1	6
56	Cesiumâ€Vaporâ€Based Delay of Single Photons Emitted by Deterministically Fabricated Quantum Dot Microlenses. Advanced Quantum Technologies, 2020, 3, 1900071.	1.8	5
57	Single-Photon Sources Based on Deterministic Quantum-Dot Microlenses. Nano-optics and Nanophotonics, 2017, , 199-232.	0.2	5
58	Controlling the gain contribution of background emitters in few-quantum-dot microlasers. New Journal of Physics, 2018, 20, 023036.	1.2	3
59	Highly efficient electrically triggered quantum dot micropillar single photon source. Journal of Physics: Conference Series, 2010, 245, 012005.	0.3	2
60	Deterministic Quantum Devices for Optical Quantum Communication. Springer Series in Solid-state Sciences, 2020, , 285-359.	0.3	2
61	Stressor-Induced Site Control of Quantum Dots for Single-Photon Sources. Springer Series in Solid-state Sciences, 2020, , 53-90.	0.3	2
62	Cavity quantum electrodynamics studies with site-controlled InGaAs quantum dots integrated into high quality microcavities. , 2011, , .		1
63	Hybrid microcavity for superminiature single quantum dot based emitters. Optoelectronics, Instrumentation and Data Processing, 2017, 53, 178-183.	0.2	1
64	A bright triggered twin-photon source in the solid state. , 2017, , .		1
65	Deterministic Integration of Quantum Dots into On-Chip Multi-Mode Interference Couplers Via in-Situ Electron Beam Lithography. , 2019, , .		1
66	Cavity quantum electrodynamics effects in electrically driven high-Q micropillar cavities. , 2008, , .		0
67	Cavity quantum electrodynamics in electrically addressed quantum dot-micropillar cavities. , 2008, , .		0
68	Quantum Dot Microlasers. , 2009, , .		0
69	Light-matter interaction of a site-controlled quantum dot- micropillar cavity system. , 2009, , .		0
70	Quantum dot micropillar lasers. Proceedings of SPIE, 2009, , .	0.8	0
71	cQED enhanced light detection and emission in electrically contacted quantum dot micropillars. , 2010, , .		0
72	Semiconductor quantum light emitters and sensors. , 2010, , .		0

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73	Highly Efficient Electrically Driven Quantum Dot Micropillar Single Photon Sources. , 2010, , .		0
74	Electrically driven quantum dot micropillar single photon sources. , 2010, , .		0
75	Site-controlled In(Ga)As quantum dots with narrow emission linewidth for integration into nanophotonic devices. , 2011, , .		0
76	Physics of micropillars with quantum dots - growth, patterning, and spectroscopy. , 2011, , .		0
77	Single photon sources for quantum information applications. , 2012, , .		0
78	Self-aligned quantum-dot growth for single-photon sources. , 2013, , .		0
79	Free space quantum key distribution over 500 meters using electrically driven quantum dot single photon sources. , 2013, , .		0
80	Advanced Quantum Light Sources: Modelling and Realization by Deterministic Nanofabrication Technologies. , 2014, , .		0
81	Free Space Quantum Key Distribution over 500 Meters using Electrically Triggered Quantum Dot Single-Photon Sources. , 2014, , .		0
82	Boosting the photon-extraction efficiency of nanophotonic structures by deterministic microlenses. , 2014, , .		0
83	Subminiature emitters based on a single (111) In(Ga)As quantum dot and hybrid microcavity. Semiconductors, 2017, 51, 1399-1402.	0.2	0
84	High-Î² micropillar lasers with site-controlled quantum dots fabricated via a buried stressor approach. , 2017, , .		0
85	Two-photon interference from remote deterministic quantum dot microlenses. , 2017, , .		0
86	Cavity Quantum Electrodynamics in Electrically Driven Quantum Dot-Micropillar Cavities. , 2009, , .		0
87	Magneto-Optical Cavity Quantum Electrodynamics Effects in Quantum Dot Micropillar Systems. , 2010, , .		0
88	Fabrication of Deterministic Quantum Light Sources using Cathodoluminescence Lithography. , 2014, , .		0
89	Indistinguishable Photons from Deterministically Fabricated Quantum Dot Microlenses. , 2015, , .		0
90	Nanolasers operating in the regime of strong coupling (Conference Presentation). , 2018, , .		0

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91	Photon-number-resolving transition-edge sensors for the metrology of photonic microstructures based on semiconductor quantum dots. , 2019, , .		0
92	A Quantum Key Distribution Testbed Using Plug&Play Telecom-Wavelength Single-Photons. , 2021, , .		0