

Hideaki Taniyama

List of Publications by Year in descending order

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82
papers

3,813
citations

159525
30
h-index

128225
60
g-index

82
all docs

82
docs citations

82
times ranked

3155
citing authors

#	ARTICLE	IF	CITATIONS
1	Sub-femtojoule all-optical switching using a photonic-crystal nanocavity. Nature Photonics, 2010, 4, 477-483.	15.6	595
2	Trapping and delaying photons for one nanosecond in an ultrasmall high-Q photonic-crystal nanocavity. Nature Photonics, 2007, 1, 49-52.	15.6	360
3	Large-scale integration of wavelength-addressable all-optical memories on a photonic crystal chip. Nature Photonics, 2014, 8, 474-481.	15.6	270
4	Ultrahigh-Q Nanocavity with 1D Photonic Gap. Optics Express, 2008, 16, 11095.	1.7	225
5	Few-fJ/bit data transmissions using directly modulated lambda-scale embedded active region photonic-crystal lasers. Nature Photonics, 2013, 7, 569-575.	15.6	206
6	Dynamic Release of Trapped Light from an Ultrahigh-Q Nanocavity via Adiabatic Frequency Tuning. Physical Review Letters, 2009, 102, 043907.	2.9	135
7	Nonlinear and adiabatic control of high-Q photonic crystal nanocavities. Optics Express, 2007, 15, 17458.	1.7	129
8	Ultrahigh-Q one-dimensional photonic crystal nanocavities with modulated mode-gap barriers on SiO ₂ claddings and on air claddings. Optics Express, 2010, 18, 15859.	1.7	126
9	Optomechanical Wavelength and Energy Conversion in High-Q Double-Layer Cavities of Photonic Crystal Slabs. Physical Review Letters, 2006, 97, 023903.	2.9	123
10	Fast Purcell-enhanced single photon source in 1,550-nm telecom band from a resonant quantum dot-cavity coupling. Scientific Reports, 2012, 2, 321.	1.6	120
11	Room-temperature continuous-wave operation of lateral current injection wavelength-scale embedded active-region photonic-crystal laser. Optics Express, 2012, 20, 3773.	1.7	117
12	Movable high-Q nanoresonators realized by semiconductor nanowires on a Si photonic crystal platform. Nature Materials, 2014, 13, 279-285.	13.3	94
13	All-silicon sub-Gb/s telecom detector with low dark current and high quantum efficiency on chip. Applied Physics Letters, 2010, 96, .	1.5	92
14	Design of a high-Q air-slot cavity based on a width-modulated line-defect in a photonic crystal slab. Optics Express, 2008, 16, 13809.	1.7	83
15	20-Gbit/s directly modulated photonic crystal nanocavity laser with ultra-low power consumption. Optics Express, 2011, 19, 2242.	1.7	78
16	Carrier Diffusion and Recombination in Photonic Crystal Nanocavity Optical Switches. Journal of Lightwave Technology, 2008, 26, 1396-1403.	2.7	68
17	Ultralow Operating Energy Electrically Driven Photonic Crystal Lasers. IEEE Journal of Selected Topics in Quantum Electronics, 2013, 19, 4900311-4900311.	1.9	68
18	Deep-subwavelength plasmonic mode converter with large size reduction for Si-wire waveguide. Optica, 2016, 3, 999.	4.8	61

#	ARTICLE	IF	CITATIONS
19	Slow light enhanced optical nonlinearity in a silicon photonic crystal coupled-resonator optical waveguide. Optics Express, 2011, 19, 19861.	1.7	60
20	Low-power nanophotonic devices based on photonic crystals towards dense photonic network on chip. IET Circuits, Devices and Systems, 2011, 5, 84.	0.9	60
21	On-demand ultrahigh-Q cavity formation and photon pinning via dynamic waveguide tuning. Optics Express, 2008, 16, 18657.	1.7	57
22	Strong optomechanical interaction in a bilayer photonic crystal. Physical Review B, 2010, 81, .	1.1	47
23	Large pulse delay and small group velocity achieved using ultrahigh-Q photonic crystal nanocavities. Optics Express, 2007, 15, 7826.	1.7	44
24	Single point defect photonic crystal nanocavity with ultrahigh quality factor achieved by using hexapole mode. Applied Physics Letters, 2007, 91, 021110.	1.5	43
25	Ultrahigh-Q two-dimensional photonic crystal slab nanocavities in very thin barriers. Applied Physics Letters, 2008, 93, 111112.	1.5	43
26	Systematic study of thresholdless oscillation in high- \hat{I}^2 buried multiple-quantum-well photonic crystal nanocavity lasers. Optics Express, 2016, 24, 3441.	1.7	39
27	Subwavelength Nanowire Lasers on a Silicon Photonic Crystal Operating at Telecom Wavelengths. ACS Photonics, 2017, 4, 355-362.	3.2	35
28	Waveguide structures using one-dimensional photonic crystal. Journal of Applied Physics, 2002, 91, 3511-3515.	1.1	33
29	Electro-optic adiabatic wavelength shifting and Q switching demonstrated using a p-i-n integrated photonic crystal nanocavity. Optics Letters, 2010, 35, 3895.	1.7	32
30	Systematic hole-shifting of L-type nanocavity with an ultrahigh Q factor. Optics Letters, 2014, 39, 5780.	1.7	31
31	Photonic crystal lasers using wavelength-scale embedded active region. Journal Physics D: Applied Physics, 2014, 47, 023001.	1.3	29
32	Strong radiation force induced in two-dimensional photonic crystal slab cavities. Physical Review B, 2008, 78, .	1.1	28
33	Minority electron transport property in $\text{p}^+\text{-GaAs}$ under high electric field. Journal of Applied Physics, 1990, 67, 293-299.	1.1	25
34	On-Chip All-Optical Switching and Memory by Silicon Photonic Crystal Nanocavities. Advances in Optical Technologies, 2008, 2008, 1-10.	0.8	25
35	Ultrafast spontaneous emission of copper-doped silicon enhanced by an optical nanocavity. Scientific Reports, 2014, 4, 5040.	1.6	24
36	A Monte Carlo study for minority-electron transport in $\text{p}^+\text{-GaAs}$. Journal of Applied Physics, 1990, 68, 621-626.	1.1	19

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37	Design for ultrahigh-Q position-controlled nanocavities of single semiconductor nanowires in two-dimensional photonic crystals. Journal of Applied Physics, 2012, 112, .	1.1	19
38	Narrow linewidth operation of buried-heterostructure photonic crystal nanolaser. Optics Express, 2012, 20, 11643.	1.7	16
39	Design of nanowire-induced nanocavities in grooved 1D and 2D SiN photonic crystals for the ultra-violet and visible ranges. Optics Express, 2016, 24, 26792.	1.7	16
40	Self-consistent calculation of subband occupation and electron-hole plasma effects: Variational approach to quantum well states with Hartree and exchange-correlation interactions. Journal of Applied Physics, 2003, 94, 4489-4501.	1.1	13
41	Numerically stable and flexible method for solutions of the Schrodinger equation with self-interaction of carriers in quantum wells. IEEE Journal of Quantum Electronics, 2002, 38, 1372-1383.	1.0	11
42	Ultralow bias power all-optical photonic crystal memory realized with systematically tuned L3 nanocavity. Applied Physics Letters, 2015, 107, .	1.5	11
43	Propagation characteristics of one-dimensional photonic crystal slab waveguides and radiation loss. Physical Review B, 2005, 71, .	1.1	10
44	Room temperature continuous-wave nanolaser diode utilized by ultrahigh-Q few-cell photonic crystal nanocavities. Optics Express, 2018, 26, 26598.	1.7	10
45	High-frequency performance of lateral p-n junction photodiodes. IEEE Journal of Quantum Electronics, 2001, 37, 830-836.	1.0	9
46	S-matrix calculation of radiation characteristics from dipole oscillation in two-dimensional photonic crystal slabs. Journal of Applied Physics, 2008, 103, 083115.	1.1	9
47	Quantum distributed model of the resonant tunneling transistor. IEEE Transactions on Electron Devices, 1994, 41, 294-298.	1.6	8
48	Short Pulse Generation by Adiabatic Tuning of Light. Optics and Photonics News, 2009, 20, 41.	0.4	6
49	Finite-Difference Time-Domain Analysis of Photonic Crystal Slab Cavities with Two-Level Systems. Optics Express, 2011, 19, 23067.	1.7	6
50	Purcell enhancement of fast-dephasing spontaneous emission from electron-hole droplets in high-Qsilicon photonic crystal nanocavities. Physical Review B, 2016, 94, .	1.1	6
51	Hot-carrier transport in p-GaAs. Semiconductor Science and Technology, 1992, 7, B346-B350.	1.0	4
52	Ultra-low threshold current CW operation of photonic crystal nanocavity laser with InAlAs sacrificial layer. , 2012, , .		4
53	Optomechanical oscillator pumped and probed by optically two isolated photonic crystal cavity systems. Optics Express, 2016, 24, 28039.	1.7	4
54	High-Temperature Operation of Photonic-Crystal Lasers for On-Chip Optical Interconnection. IEICE Transactions on Electronics, 2012, E95.C, 1244-1251.	0.3	4

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55	Observation of heavy photon state in ultrahigh-Q photonic crystal coupled resonator chain. , 2007, , .		3
56	Enhanced electron-hole droplet emission from surface-oxidized silicon photonic crystal nanocavities. Optics Express, 2016, 24, 1072.	1.7	3
57	Design of nanowire-induced nanocavities in photonic crystal disks. Optics Letters, 2017, 42, 5121.	1.7	3
58	Steady-state characteristics of lateral p-n junction vertical-cavity surface-emitting lasers. Journal of Applied Physics, 2001, 90, 2654-2659.	1.1	2
59	95Â°C CW operation of InGaAlAs multiple-quantum-well photonic-crystal nanocavity laser with ultra-low threshold current. , 2012, , .		2
60	Fast calculation of the quality factor for two-dimensional photonic crystal slab nanocavities. Optics Express, 2014, 22, 23349.	1.7	2
61	Numerical simulation of a coupledâ€quantumâ€well resonant tunneling transistor. Journal of Applied Physics, 1994, 75, 5079-5086.	1.1	1
62	Two-dimensional simulation for resonant tunneling transistor. IEEE Transactions on Electron Devices, 1994, 41, 883-887.	1.6	1
63	Photonic crystal resonant tunneling filters using ultrahigh-Q locally-width-modulated line-defect cavity. , 2006, , .		1
64	Dynamic control of light by photonic-crystal resonator-waveguide-coupled system. , 2006, , .		1
65	All-optical switching with extremely-small control energy in InGaAsP-based photonic crystal nanocavity. , 2009, , .		1
66	Simulation technique of quantum optical emission process from multiple two-level atoms based on classical numerical method. Optics Express, 2019, 27, 12070.	1.7	1
67	Slow pulse propagation in long photonic crystal coupled cavity waveguides. , 2008, , .		1
68	Role of carrier diffusion and recombination in photonic crystal nanocavity optical switches. , 2008, , .		1
69	S-Matrix Analysis of Dipole Radiation from Photonic Crystal Slab Structures. , 0, , .		0
70	All-Optical Switching and Control of Ultrahigh-Q Photonic-Crystal Nanocavities. , 2007, , .		0
71	Photonic-Crystal-Based Chip-Scale Optical Integration. , 2007, , .		0
72	Photon Trapping, Delaying, and Dynamic-Control using Ultra-small High-Q Photonic Crystal Cavities. , 2007, , .		0

#	ARTICLE	IF	CITATIONS
73	Nonlinear and adiabatic control of light in a photonic crystal chip. , 2008, , .		0
74	Ultrahigh-Q nanocavity with 1D periodicity. , 2008, , .		0
75	Ultrahigh-Q Nanocavities realized by using a very narrow photonic crystal with built-in air Slots. , 2008, , .		0
76	Optomechanical response of photonic crystal with double-slab configuration. , 2009, , .		0
77	High- Q air-slot photonic crystal cavities. , 2009, , .		0
78	Modulated mode-gap cavities in various forms. , 2011, , .		0
79	Ultralow-power integrated nanophotonics for future chips. , 2012, , .		0
80	Connecting deep sub-wavelength plasmonic waveguide to Si photonics waveguides. , 2015, , .		0
81	Double optical cavities optomechanically coupled via slab oscillator for spontaneous emission control. , 2016, , .		0
82	All-optical switches and bistable devices using high- Q photonic crystal nanocavities. , 2009, , .		0