Katsuhiro Tomioka

List of Publications by Year
in descending order

87 papers	3,561 citations	236925 25 h-index	149698 56 g-index
89 all docs	89 docs citations	89 times ranked	3045 citing authors

#	Article	IF	Citations
1	A IIIâ€"V nanowire channel on silicon for high-performance vertical transistors. Nature, 2012, 488, 189-192.	27.8	650
2	Control of InAs Nanowire Growth Directions on Si. Nano Letters, 2008, 8, 3475-3480.	9.1	320
3	GaAs/AlGaAs Core Multishell Nanowire-Based Light-Emitting Diodes on Si. Nano Letters, 2010, 10, 1639-1644.	9.1	305
4	Growth of Coreâ€"Shell InP Nanowires for Photovoltaic Application by Selective-Area Metal Organic Vapor Phase Epitaxy. Applied Physics Express, 0, 2, 035004.	2.4	185
5	Selective-area growth of vertically aligned GaAs and GaAs/AlGaAs coreâ€"shell nanowires on Si(111) substrate. Nanotechnology, 2009, 20, 145302.	2.6	145
6	IIIâ€"V Nanowires on Si Substrate: Selective-Area Growth and Device Applications. IEEE Journal of Selected Topics in Quantum Electronics, 2011, 17, 1112-1129.	2.9	145
7	Steep-slope tunnel field-effect transistors using III–V nanowire/Si heterojunction. , 2012, , .		126
8	Growth of highly uniform InAs nanowire arrays by selective-area MOVPE. Journal of Crystal Growth, 2007, 298, 644-647.	1.5	123
9	Tunnel field-effect transistor using InAs nanowire/Si heterojunction. Applied Physics Letters, 2011, 98, .	3.3	110
10	Selective-area growth of III-V nanowires and their applications. Journal of Materials Research, 2011, 26, 2127-2141.	2.6	109
11	Structural Transition in Indium Phosphide Nanowires. Nano Letters, 2010, 10, 1699-1703.	9.1	108
12	Zinc Blende and Wurtzite Crystal Phase Mixing and Transition in Indium Phosphide Nanowires. Nano Letters, 2011, 11, 4314-4318.	9.1	97
13	Vertical Surrounding Gate Transistors Using Single InAs Nanowires Grown on Si Substrates. Applied Physics Express, 2010, 3, 025003.	2.4	80
14	Sub 60 mV/decade Switch Using an InAs Nanowireâ€"Si Heterojunction and Turn-on Voltage Shift with a Pulsed Doping Technique. Nano Letters, 2013, 13, 5822-5826.	9.1	66
15	Position controlled nanowires for infrared single photon emission. Applied Physics Letters, 2010, 97, .	3.3	55
16	Crystallographic Structure of InAs Nanowires Studied by Transmission Electron Microscopy. Japanese Journal of Applied Physics, 2007, 46, L1102-L1104.	1.5	53
17	Electrical Characterizations of InGaAs Nanowire-Top-Gate Field-Effect Transistors by Selective-Area Metal Organic Vapor Phase Epitaxy. Japanese Journal of Applied Physics, 2007, 46, 7562.	1.5	45
18	GaAs/InGaP Coreâ€"Multishell Nanowire-Array-Based Solar Cells. Japanese Journal of Applied Physics, 2013, 52, 055002.	1.5	43

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19	Current increment of tunnel field-effect transistor using InGaAs nanowire/Si heterojunction by scaling of channel length. Applied Physics Letters, 2014, 104, .	3.3	43
20	Recent progress in integration of IIIâ€"V nanowire transistors on Si substrate by selective-area growth. Journal Physics D: Applied Physics, 2014, 47, 394001.	2.8	41
21	Position-Controlled IIIâ€"V Compound Semiconductor Nanowire Solar Cells by Selective-Area Metalâ€"Organic Vapor Phase Epitaxy. Ambio, 2012, 41, 119-124.	5.5	38
22	Indium Phosphide Coreâ€"Shell Nanowire Array Solar Cells with Lattice-Mismatched Window Layer. Applied Physics Express, 2013, 6, 052301.	2.4	34
23	Selective-Area Growth of InAs Nanowires on Ge and Vertical Transistor Application. Nano Letters, 2015, 15, 7253-7257.	9.1	34
24	Bidirectional Growth of Indium Phosphide Nanowires. Nano Letters, 2012, 12, 4770-4774.	9.1	32
25	Growth and Characterization of InGaAs Nanowires Formed on GaAs(111)B by Selective-Area Metal Organic Vapor Phase Epitaxy. Japanese Journal of Applied Physics, 2010, 49, 04DH08.	1.5	29
26	Indium tin oxide and indium phosphide heterojunction nanowire array solar cells. Applied Physics Letters, 2013, 103, .	3.3	28
27	Size-dependent photoluminescence of hexagonal nanopillars with single InGaAsâˆ•GaAs quantum wells fabricated by selective-area metal organic vapor phase epitaxy. Applied Physics Letters, 2006, 89, 203110.	3.3	27
28	Growth of wurtzite GaP in InP/GaP coreâ€"shell nanowires by selective-area MOVPE. Journal of Crystal Growth, 2015, 411, 71-75.	1.5	26
29	Growth of All-Wurtzite InP/AlInP Coreâ€"Multishell Nanowire Array. Nano Letters, 2017, 17, 1350-1355.	9.1	25
30	InGaAs axial-junction nanowire-array solar cells. Japanese Journal of Applied Physics, 2015, 54, 015201.	1.5	24
31	Structural and photoluminescence properties of porous GaP formed by electrochemical etching. Journal of Applied Physics, 2005, 98, 073511.	2.5	23
32	Integration of III-V nanowires on Si: From high-performance vertical FET to steep-slope switch. , 2013, , .		23
33	GaAs nanowire growth on polycrystalline silicon thin films using selective-area MOVPE. Nanotechnology, 2013, 24, 115304.	2.6	23
34	Vibrational modes of GaAs hexagonal nanopillar arrays studied with ultrashort optical pulses. Applied Physics Letters, 2012, 100, .	3.3	22
35	Influence of growth temperature on growth of InGaAs nanowires in selective-area metalâ€"organic vapor-phase epitaxy. Journal of Crystal Growth, 2012, 338, 47-51.	1.5	22
36	Strong and stable ultraviolet emission from porous silicon prepared by photoetching in aqueous KF solution. Applied Physics Letters, 2005, 87, 251920.	3.3	19

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37	Fabrication of Axial and Radial Heterostructures for Semiconductor Nanowires by Using Selective-Area Metal-Organic Vapor-Phase Epitaxy. Journal of Nanotechnology, 2012, 2012, 1-29.	3.4	19
38	Characterization of nanowire light-emitting diodes grown by selective-area metal-organic vapor-phase epitaxy. Nanotechnology, 2019, 30, 134002.	2.6	18
39	Selective-area growth of hexagonal nanopillars with single InGaAs/GaAs quantum wells on GaAs(111)B substrate and their temperature-dependent photoluminescence. Nanotechnology, 2007, 18, 105302.	2.6	17
40	Vertical InGaAs Nanowire Array Photodiodes on Si. ACS Photonics, 2019, 6, 260-264.	6.6	16
41	Fabrication and Characterization of InP Nanowire Light-Emitting Diodes. Japanese Journal of Applied Physics, 2012, 51, 02BN03.	1.5	14
42	Fabrication and excitation-power-density-dependent micro-photoluminescence of hexagonal nanopillars with a single InGaAs/GaAs quantum well. Nanotechnology, 2008, 19, 275304.	2.6	12
43	Lattice-mismatched InGaAs nanowires formed on GaAs(1 1 1)B by selective-area MOVPE. Journal of Crystal Growth, 2011, 315, 148-151.	1.5	12
44	Spectroscopic Characterization of GaP Surfaces Treated in Aqueous HCl Solution. Journal of the Electrochemical Society, 2005, 152, G173.	2.9	11
45	Exciton coherence in clean single InP/InAsP/InP nanowire quantum dots emitting in infra-red measured by Fourier spectroscopy. Journal of Physics: Conference Series, 2009, 193, 012132.	0.4	11
46	Fabrication and Characterization of InP Nanowire Light-Emitting Diodes. Japanese Journal of Applied Physics, 2012, 51, 02BN03.	1.5	9
47	Indium-Rich InGaP Nanowires Formed on InP (111)A Substrates by Selective-Area Metal Organic Vapor Phase Epitaxy. Japanese Journal of Applied Physics, 2013, 52, 04CH05.	1.5	8
48	Application of free-standing InP nanowire arrays and their optical properties for resource-saving solar cells. Applied Physics Express, 2015, 8, 012301.	2.4	8
49	Crystal phase transition to green emission wurtzite AlInP by crystal structure transfer. Applied Physics Express, 2016, 9, 035502.	2.4	8
50	Growth and characterization of wurtzite InP/AlGaP coreâ€“multishell nanowires with AlGaP quantum well structures. Japanese Journal of Applied Physics, 2017, 56, 010311.	1.5	8
51	Composition controllability of InGaAs nanowire arrays in selective area growth with controlled pitches on Si platform. AIP Advances, 2017, 7, .	1.3	8
52	Demonstration of InP/InAsP/InP axial heterostructure nanowire array vertical LEDs. Nanotechnology, 2020, 31, 394003.	2.6	8
53	Visible Light Emission from Porous Silicon Prepared by Photoetching in Alkaline Solution. Electrochemical and Solid-State Letters, 2005, 8, G251.	2.2	7
54	Longitudinal and transverse exciton-spin relaxation in a single InAsP quantum dot embedded inside a standing InP nanowire using photoluminescence spectroscopy. Physical Review B, 2012, 85, .	3.2	7

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55	Integration of Indium Arsenide/Indium Phosphide Core-Shell Nanowire Vertical Gate-All-Around Field-Effect Transistors on Si. IEEE Electron Device Letters, 2020, 41, 1169-1172.	3.9	7
56	Vertical In<inf>0.7</inf>Ga<inf>0.3</inf>As nanowire surrounding-gate transistors with high-k gate dielectric on Si substrate. , 2011, , .		6
57	Selective-area growth of pulse-doped InAs nanowires on Si and vertical transistor application. Journal of Crystal Growth, 2018, 500, 58-62.	1.5	6
58	Growth and characterization of GaAs nanowires on Ge(1â€¯1â€¯1) substrates by selective-area MOVPE. Journal of Crystal Growth, 2019, 506, 135-139.	1.5	6
59	Rational synthesis of atomically thin quantum structures in nanowires based on nucleation processes. Scientific Reports, 2020, 10, 10720.	3.3	6
60	Growth of InGaAs nanowires on Ge(111) by selective-area metal-organic vapor-phase epitaxy. Journal of Crystal Growth, 2017, 464, 75-79.	1.5	5
61	InGaAs-InP coreâ€“shell nanowire/Si junction for vertical tunnel field-effect transistor. Applied Physics Letters, 2020, 117, 123501.	3.3	5
62	InP nanowire light-emitting diodes with different pn-junction structures. Nanotechnology, 2022, 33, 305204.	2.6	5
63	Ultraviolet emission from porous silicon photosynthesized in aqueous alkali fluoride solutions. Journal of Applied Physics, 2006, 100, 014301.	2.5	4
64	Flat transistor defies the limit. Nature, 2015, 526, 51-52.	27.8	4
65	(Invited) Growth of InAs/InAlAs Core-Shell Nanowires on Si and Transistor Application. ECS Transactions, 2011, 41, 61-69.	0.5	3
66	IIIâ€“V Semiconductor Nanowires on Si by Selective-Area Metal-Organic Vapor Phase Epitaxy. Nanoscience and Technology, 2012, , 67-101.	1.5	3
67	A SrRuO/sub 3//IrO/sub 2/ top electrode FeRAM with cu BEOL process for embedded memory of 130nm generation and beyond. , 0, , .		2
68	Gate-first process and EOT-scaling of III-V nanowire-based vertical transistors on Si. , 2013, , .		2
69	(Invited) Vertical III-V Nanowire-Channel on Si. ECS Transactions, 2013, 58, 99-114.	0.5	2
70	Selective-Area Growth of Vertical InGaAs Nanowires on Ge for Transistor Applications. ECS Transactions, 2016, 75, 265-270.	0.5	2
71	Advances in steep-slope tunnel FETs. , 2016, , .		2
72	Creation of unexplored tunnel junction by heterogeneous integration of InGaAs nanowires on germanium. Scientific Reports, 2022, 12, 1606.	3.3	2

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73	Selective-area growth of hexagonal nanopillars with single InGaAs/GaAs quantum wells on GaAs(111)B substrate and their temperature-dependent photoluminescence. Nanotechnology, 2008, 19, 409801-409801.	2.6	1
74	Selective-area MOVPE growth and optical properties of single InAsP quantum dots embedded in InP NWs. , 2010, , .		1
75	Selective-area MOVPE of GaSb on GaAs (111)-oriented substrates. Physica Status Solidi C: Current Topics in Solid State Physics, 2011, 8, 272-274.	0.8	1
76	(Invited) Vertical Tunnel FETs Using III-V Nanowire/Si Heterojunctions. ECS Transactions, 2014, 61, 81-89.	0.5	1
77	III-V nanowire channel on Si: From high-performance vertical FET to steep-slope devices. , 2015, , .		1
78	Growth of Semiconductor Nanocrystals. , 2015, , 749-793.		1
79	(Invited) Transistor Applications Using Vertical III-V Nanowires on Si Platform. ECS Transactions, 2017, 80, 43-52.	0.5	1
80	III-V Semiconductor Nanowire Light Emitting Diodes and Lasers. , 2011, , 145-157.		1
81	Fabrication of III-V semicondctor nanowires by SA-MOVPE and their applications to photonic and photovoltaic devices. , 2010, , .		0
82	III-V/Si heterojunctions for steep subthreshold-slope transistor. , 2013, , .		0
83	III-V Compound Semiconductor Nanowire Solar Cells. , 2013, , .		0
84	(Invited) Recent Progress in Vertical Si/III-V Tunnel FETs: From Fundamentals to Current-Boosting Technology. ECS Transactions, 2016, 75, 127-134.	0.5	0
85	Selective-area growth of InGaAs/InP/InAlAs/InP core-multishell nanowires on Si and tunneling transistor application. , 2016, , .		0
86	Formation of III-V Compound Semiconductor Nanowires by using Selective-area MOVPE. Hyomen Kagaku, 2008, 29, 726-730.	0.0	0
87	III-V Compound Semiconductor Nanowire Solar Cells. , 2014, , .		0