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	Creation of unexplored tunnel junction by heterogeneous integration of InGaAs nanowires on germanium. Scientific Reports, 2022, 12, 1606.	3.3	2
2	InP nanowire light-emitting diodes with different pn-junction structures. Nanotechnology, 2022, 33, 305204.	2.6	5
3	InGaAs-InP coreâ€“shell nanowire/Si junction for vertical tunnel field-effect transistor. Applied Physics Letters, 2020, 117, 123501.	3.3	5
4	Rational synthesis of atomically thin quantum structures in nanowires based on nucleation processes. Scientific Reports, 2020, 10, 10720.	3.3	6
5	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
6	Demonstration of InP/InAsP/InP axial heterostructure nanowire array vertical LEDs. Nanotechnology, 2020, 31, 394003.	2.6	8
7	Characterization of nanowire light-emitting diodes grown by selective-area metal-organic vapor-phase epitaxy. Nanotechnology, 2019, 30, 134002.	2.6	18
8	Vertical InGaAs Nanowire Array Photodiodes on Si. ACS Photonics, 2019, 6, 260-264.	6.6	16
9	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
10	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
11	Growth of All-Wurtzite InP/AlInP Coreâ€“Multishell Nanowire Array. Nano Letters, 2017, 17, 1350-1355.	9.1	25
12	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
13	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
14	Composition controllability of InGaAs nanowire arrays in selective area growth with controlled pitches on Si platform. AIP Advances, 2017, 7, .	1.3	8
15	(Invited) Transistor Applications Using Vertical III-V Nanowires on Si Platform. ECS Transactions, 2017, 80, 43-52.	0.5	1
16	Selective-Area Growth of Vertical InGaAs Nanowires on Ge for Transistor Applications. ECS Transactions, 2016, 75, 265-270.	0.5	2
17	(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
18	Crystal phase transition to green emission wurtzite AlInP by crystal structure transfer. Applied Physics Express, 2016, 9, 035502.	2.4	8

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19	Selective-area growth of InGaAs/InP/InAlAs/InP core-multishell nanowires on Si and tunneling transistor application. , 2016, , .		0
20	Advances in steep-slope tunnel FETs. , 2016, , .		2
21	III-V nanowire channel on Si: From high-performance vertical FET to steep-slope devices. , 2015, , .		1
22	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
23	InGaAs axial-junction nanowire-array solar cells. Japanese Journal of Applied Physics, 2015, 54, 015201.	1.5	24
24	Flat transistor defies the limit. Nature, 2015, 526, 51-52.	27.8	4
25	Selective-Area Growth of InAs Nanowires on Ge and Vertical Transistor Application. Nano Letters, 2015, 15, 7253-7257.	9.1	34
26	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
27	Growth of Semiconductor Nanocrystals. , 2015, , 749-793.		1
28	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
29	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
30	(Invited) Vertical Tunnel FETs Using III-V Nanowire/Si Heterojunctions. ECS Transactions, 2014, 61, 81-89.	0.5	1
31	III-V Compound Semiconductor Nanowire Solar Cells. , 2014, , .		0
32	Integration of III-V nanowires on Si: From high-performance vertical FET to steep-slope switch. , 2013, , .		23
33	III-V/Si heterojunctions for steep subthreshold-slope transistor. , 2013, , .		0
34	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
35	Gate-first process and EOT-scaling of III-V nanowire-based vertical transistors on Si. , 2013, , .		2
36	Indium tin oxide and indium phosphide heterojunction nanowire array solar cells. Applied Physics Letters, 2013, 103, .	3.3	28

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37	(Invited) Vertical III-V Nanowire-Channel on Si. ECS Transactions, 2013, 58, 99-114.	0.5	2
38	Indium Phosphide Coreâ€"Shell Nanowire Array Solar Cells with Lattice-Mismatched Window Layer. Applied Physics Express, 2013, 6, 052301.	2.4	34
39	GaAs/InGaP Coreâ€"Multishell Nanowire-Array-Based Solar Cells. Japanese Journal of Applied Physics, 2013, 52, 055002.	1.5	43
40	III-V Compound Semiconductor Nanowire Solar Cells. , 2013, , .		0
41	GaAs nanowire growth on polycrystalline silicon thin films using selective-area MOVPE. Nanotechnology, 2013, 24, 115304.	2.6	23
42	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
43	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
44	Vibrational modes of GaAs hexagonal nanopillar arrays studied with ultrashort optical pulses. Applied Physics Letters, 2012, 100, .	3.3	22
45	Fabrication and Characterization of InP Nanowire Light-Emitting Diodes. Japanese Journal of Applied Physics, 2012, 51, 02BN03.	1.5	9
46	IIIâ€"V Semiconductor Nanowires on Si by Selective-Area Metal-Organic Vapor Phase Epitaxy. Nanoscience and Technology, 2012, , 67-101.	1.5	3
47	Steep-slope tunnel field-effect transistors using III–V nanowire/Si heterojunction. , 2012, , .		126
48	Bidirectional Growth of Indium Phosphide Nanowires. Nano Letters, 2012, 12, 4770-4774.	9.1	32
49	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
50	A IIIâ€"V nanowire channel on silicon for high-performance vertical transistors. Nature, 2012, 488, 189-192.	27.8	650
51	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
52	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
53	Fabrication and Characterization of InP Nanowire Light-Emitting Diodes. Japanese Journal of Applied Physics, 2012, 51, 02BN03.	1.5	14
54	Zinc Blende and Wurtzite Crystal Phase Mixing and Transition in Indium Phosphide Nanowires. Nano Letters, 2011, 11, 4314-4318.	9.1	97

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55	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
56	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
57	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
58	Tunnel field-effect transistor using InAs nanowire/Si heterojunction. Applied Physics Letters, 2011, 98, .	3.3	110
59	(Invited) Growth of InAs/InAlAs Core-Shell Nanowires on Si and Transistor Application. ECS Transactions, 2011, 41, 61-69.	0.5	3
60	Selective-area growth of III-V nanowires and their applications. Journal of Materials Research, 2011, 26, 2127-2141.	2.6	109
61	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
62	III-V Semiconductor Nanowire Light Emitting Diodes and Lasers. , 2011, , 145-157.		1
63	Position controlled nanowires for infrared single photon emission. Applied Physics Letters, 2010, 97, .	3.3	55
64	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
65	Vertical Surrounding Gate Transistors Using Single InAs Nanowires Grown on Si Substrates. Applied Physics Express, 2010, 3, 025003.	2.4	80
66	GaAs/AlGaAs Core Multishell Nanowire-Based Light-Emitting Diodes on Si. Nano Letters, 2010, 10, 1639-1644.	9.1	305
67	Structural Transition in Indium Phosphide Nanowires. Nano Letters, 2010, 10, 1699-1703.	9.1	108
68	Fabrication of III-V semicondctor nanowires by SA-MOVPE and their applications to photonic and photovoltaic devices. , 2010, , .		0
69	Selective-area MOVPE growth and optical properties of single InAsP quantum dots embedded in InP NWs. , 2010, , .		1
70	Selective-area growth of vertically aligned GaAs and GaAs/AlGaAs coreâ€“shell nanowires on Si(111) substrate. Nanotechnology, 2009, 20, 145302.	2.6	145
71	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
72	Control of InAs Nanowire Growth Directions on Si. Nano Letters, 2008, 8, 3475-3480.	9.1	320

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73	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
74	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
75	Formation of III-V Compound Semiconductor Nanowires by using Selective-area MOVPE. Hyomen Kagaku, 2008, 29, 726-730.	0.0	0
76	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
77	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
78	Crystallographic Structure of InAs Nanowires Studied by Transmission Electron Microscopy. Japanese Journal of Applied Physics, 2007, 46, L1102-L1104.	1.5	53
79	Growth of highly uniform InAs nanowire arrays by selective-area MOVPE. Journal of Crystal Growth, 2007, 298, 644-647.	1.5	123
80	Ultraviolet emission from porous silicon photosynthesized in aqueous alkali fluoride solutions. Journal of Applied Physics, 2006, 100, 014301.	2.5	4
81	Size-dependent photoluminescence of hexagonal nanopillars with single InGaAsâ^•GaAs quantum wells fabricated by selective-area metal organic vapor phase epitaxy. Applied Physics Letters, 2006, 89, 203110.	3.3	27
82	Strong and stable ultraviolet emission from porous silicon prepared by photoetching in aqueous KF solution. Applied Physics Letters, 2005, 87, 251920.	3.3	19
83	Spectroscopic Characterization of GaP Surfaces Treated in Aqueous HCl Solution. Journal of the Electrochemical Society, 2005, 152, G173.	2.9	11
84	Visible Light Emission from Porous Silicon Prepared by Photoetching in Alkaline Solution. Electrochemical and Solid-State Letters, 2005, 8, G251.	2.2	7
85	Structural and photoluminescence properties of porous GaP formed by electrochemical etching. Journal of Applied Physics, 2005, 98, 073511.	2.5	23
86	A SrRuO/sub 3//IrO/sub 2/ top electrode FeRAM with cu BEOL process for embedded memory of 130nm generation and beyond. , 0, , .		2
87	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