Toshishige Yamada

List of Publications by Year
in descending order

97 papers	2,463 citations	257450 24 h-index	197818 49 g-index
97 all docs	97 docs citations	97 times ranked	2636 citing authors

#	Article	IF	Citations
1	Single Crystal Nanowire Vertical Surround-Gate Field-Effect Transistor. Nano Letters, 2004, 4, 1247-1252.	9.1	681
2	Direct Integration of Metal Oxide Nanowire in Vertical Field-Effect Transistor. Nano Letters, 2004, 4, 651-657.	9.1	264
3	Photon-trapping microstructures enable high-speed high-efficiency silicon photodiodes. Nature Photonics, 2017, 11, 301-308.	31.4	167
4	Electron transport properties of a strained Si layer on a relaxed Si1âˆ'xGexsubstrate by Monte Carlo simulation. Applied Physics Letters, 1993, 62, 2661-2663.	3.3	92
5	Measurement and analysis of thermopower and electrical conductivity of an indium antimonide nanowire from a vapor-liquid-solid method. Journal of Applied Physics, 2007, 101, 023706.	2.5	81
6	Structural and Electrical Characterization of Carbon Nanofibers for Interconnect Via Applications. IEEE Nanotechnology Magazine, 2007, 6, 688-695.	2.0	71
7	In-plane transport properties of Si/Si/sub 1-x/Ge/sub x/ structure and its FET performance by computer simulation. IEEE Transactions on Electron Devices, 1994, 41, 1513-1522.	3.0	70
8	Modeling of carbon nanotube Schottky barrier modulation under oxidizing conditions. Physical Review B, 2004, 69, .	3.2	59
9	Length dependence of current-induced breakdown in carbon nanofiber interconnects. Applied Physics Letters, 2008, 92, 173110.	3.3	53
10	Metalâ€"nanocarbon contacts. Semiconductor Science and Technology, 2014, 29, 054006.	2.0	53
11	Equivalent circuit model for carbon nanotube Schottky barrier: Influence of neutral polarized gas molecules. Applied Physics Letters, 2006, 88, 083106.	3.3	52
12	Monte Carlo simulation of hole transport in strained Si1 âˆ' xGex. Solid-State Electronics, 1995, 38, 881-890.	1.4	48
13	Surface-illuminated photon-trapping high-speed Ge-on-Si photodiodes with improved efficiency up to 1700â€‰â€‰nm. Photonics Research, 2018, 6, 734.	7.0	45
14	Competing Classical and Quantum Effects in Shape Relaxation of a Metallic Island. Physical Review Letters, 2002, 89, 256101.	7.8	43
15	Improved contact for thermal and electrical transport in carbon nanofiber interconnects. Applied Physics Letters, 2008, 93, 102108.	3.3	34
16	High-field electron transport in quantum wires studied by solution of the Boltzmann equation. Physical Review B, 1989, 40, 6265-6271.	3.2	33
17	Contact resistance in carbon nanostructure via interconnects. Applied Physics Letters, 2009, 94, 163113.	3.3	33
18	Electrothermal Analysis of Breakdown in Carbon Nanofiber Interconnects. IEEE Electron Device Letters, 2009, 30, 469-471.	3.9	31

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19	Application of Carbon Nanotubes to Thermal Interface Materials. Journal of Electronic Packaging, Transactions of the ASME, 2011, 133, .	1.8	30
20	High Speed Surface Illuminated Si Photodiode Using Microstructured Holes for Absorption Enhancements at 900â€“1000 nm Wavelength. ACS Photonics, 2017, 4, 2053-2060.	6.6	30
21	Analysis of submicron carbon nanotube field-effect transistors. Applied Physics Letters, 2000, 76, 628-630.	3.3	29
22	Temperature dependence of carbon nanofiber resistance. Nanotechnology, 2010, 21, 265707.	2.6	27
23	Anisotropic Metal-Insulator Transition in Epitaxial Thin Films. Physical Review Letters, 2004, 92, 226404.	7.8	26
24	Modeling of kink-shaped carbon-nanotube Schottky diode with gate bias modulation. Applied Physics Letters, 2002, 80, 4027-4029.	3.3	25
25	Tunneling between carbon nanofiber and gold electrodes. Journal of Applied Physics, 2010, 107, 044304.	2.5	24
26	Modeling of electronic transport in scanning tunneling microscope tipâ€“carbon nanotube systems. Applied Physics Letters, 2001, 78, 1739-1741.	3.3	22
27	A New Paradigm in High-Speed and High-Efficiency Silicon Photodiodes for Communicationâ€"Part I: Enhancing Photonâ€“Material Interactions via Low-Dimensional Structures. IEEE Transactions on Electron Devices, 2018, 65, 372-381.	3.0	21
28	Monte Carlo simulation of scanning electron microscopy bright contrast images of suspended carbon nanofibers. Applied Physics Letters, 2007, 90, 083111.	3.3	20
29	A New Paradigm in High-Speed and High-Efficiency Silicon Photodiodes for Communicationâ€"Part II: Device and VLSI Integration Challenges for Low-Dimensional Structures. IEEE Transactions on Electron Devices, 2018, 65, 382-391.	3.0	18
30	High-Speed High-Efficiency Photon-Trapping Broadband Silicon PIN Photodiodes for Short-Reach Optical Interconnects in Data Centers. Journal of Lightwave Technology, 2019, 37, 5748-5755.	4.6	17
31	Substrate for atomic chain electronics. Physical Review B, 1999, 59, 15430-15436.	3.2	14
32	Surface passivation of silicon photonic devices with high surface-to-volume-ratio nanostructures. Journal of the Optical Society of America B: Optical Physics, 2018, 35, 1059.	2.1	14
33	Even-odd conductance oscillation in atomic wires. Solid State Communications, 1997, 102, 779-783.	1.9	13
34	Bright contrast imaging of carbon nanofiber-substrate interface. Journal of Applied Physics, 2006, 100, 104305.	2.5	13
35	Room-temperature Coulomb staircase in semiconducting InP nanowires modulated with light illumination. Nanotechnology, 2011, 22, 055201.	2.6	13
36	Dramatically Enhanced Efficiency in Ultra-Fast Silicon MSM Photodiodes Via Light Trapping Structures. IEEE Photonics Technology Letters, 2019, 31, 1619-1622.	2.5	13

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37	Monte Carlo study of the low-temperature mobility of electrons in a strained Si layer grown on aSi1â[~]xGexsubstrate. Physical Review B, 1994, 49, 1875-1881.	3.2	12
38	Change in carbon nanofiber resistance from ambient to vacuum. AIP Advances, 2011, 1, 022102.	1.3	12
39	Energy band of manipulated atomic structures on an insulator substrate. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 1996, 14, 1243.	1.6	10
40	Inductance in One-Dimensional Nanostructures. IEEE Transactions on Electron Devices, 2009, 56, 1834-1839.	3.0	10
41	Rigorous coupled-wave analysis of absorption enhancement in vertically illuminated silicon photodiodes with photon-trapping hole arrays. Nanophotonics, 2019, 8, 1747-1756.	6.0	9
42	Single Microhole per Pixel in CMOS Image Sensors With Enhanced Optical Sensitivity in Near-Infrared. IEEE Sensors Journal, 2021, 21, 10556-10562.	4.7	9
43	Magnetotransport properties of lateral-surface superlattices by molecular-dynamics Monte Carlo simulation. Physical Review B, 1993, 47, 1444-1452.	3.2	8
44	Velocity overshoot in a modulation-doped Si/Si1-xGexstructure. Semiconductor Science and Technology, 1994, 9, 775-777.	2.0	8
45	Atomic wires and their electronic properties. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 1997, 15, 1019.	1.6	8
46	Coupled molecular-dynamics Monte Carlo study of the transport properties of lateral surface superlattices. Physical Review B, 1993, 47, 6416-6426.	3.2	7
47	Modeling of a carbon nanotube ultracapacitor. Nanotechnology, 2012, 23, 095401.	2.6	7
48	Electron-beam and ion-beam-induced deposited tungsten contacts for carbon nanofiber interconnects. Nanotechnology, 2014, 25, 375702.	2.6	7
49	Maximizing Absorption in Photonâ€Trapping Ultrafast Silicon Photodetectors. Advanced Photonics Research, 2021, 2, 2000190.	3.6	7
50	Temperature Modeling for Carbon Nanofiber Breakdown. , 2008, , .		6
51	Frequency-Independent RC Circuit Model for One-Dimensional Carbon Nanostructures. IEEE Electron Device Letters, 2010, 31, 263-265.	3.9	6
52	Modeling of nanohole silicon pin/nip photodetectors: Steady state and transient characteristics. Nanotechnology, 2021, 32, 365201.	2.6	6
53	Transport properties along a finite-length atomic chain. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1997, 15, 1280-1284.	2.1	5
54	Energy band for manipulated atomic structures of Si, GaAs, and Mg on an insulating substrate. Physical Review B, 1996, 54, 1902-1908.	3.2	4

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55	Doping scheme of semiconducting atomic chains. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1998, 16, 1403-1408.	2.1	4
56	Bright-field transmission imaging of carbon nanofibers on bulk substrate using conventional scanning electron microscopy. Journal of Vacuum Science & Technology B, 2007, 25, 1615.	1.3	4
57	Carbon Nanofiber Interconnect RF Characteristics Improvement with Deposited Tungsten Contacts. Journal of Nanoscience and Nanotechnology, 2014, 14, 2683-2686.	0.9	4
58	Optimization of carbon nanotube ultracapacitor for cell design. Journal of Applied Physics, 2016, 119, .	2.5	4
59	Inhibiting device degradation induced by surface damages during top-down fabrication of semiconductor devices with micro/nano-scale pillars and holes. , 2016, , .		4
60	Nanoelectronics Applications. , 2004, , 163-193.		3
61	High-Speed High-Efficiency Broadband Silicon Photodiodes for Short-Reach Optical Interconnects in Data Centers. , 2018, , .		3
62	Currentâ€injection Josephson latch employing a singleâ€flux quantum. I. Journal of Applied Physics, 1986, 59, 3196-3201.	2.5	2
63	Substrate effects on electronic properties of atomic chains. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1999, 17, 1463-1468.	2.1	2
64	Current capacity and thermal transport in carbon nanofiber interconnects. , 2009, , .		2
65	A semiconductor physics based model for thermal characteristics in electronic electrolytic energy storage devices. Journal of Applied Physics, 2021, 129, 174501.	2.5	2
66	Currentâ€injection Josephson latch employing a singleâ€flux quantum. II. Journal of Applied Physics, 1986, 59, 3202-3207.	2.5	1
67	Monte Carlo simulation of diffusion of interacting electrons in lateral surface superlattices. Physical Review B, 1993, 48, 8076-8082.	3.2	1
68	Nanotechnology in the development of future computing systems. , 0, , .		1
69	Current-induced breakdown of carbon nanofiber interconnects. , 2008, , .		1
70	Thermal and Electrical Transport in Carbon Nanofiber Interconnects. , 2008, , .		1
71	Electrical characteristics of carbon nanofibers in air and vacuum. , 2011, , .		1
72	Optimization of light trapping micro-hole structure for high-speed high-efficiency silicon photodiodes. , 2017, , .		1

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73	Enhanced Quantum Efficiency and Reduction of Reflection for MSM Photodetectors with Nano-Structured Surface. , 2018, , .		1
74	Highly efficient silicon solar cells designed with photon trapping micro/nano structures. , 2017, , .		1
75	Bright Contrast Imaging of Carbon Nanofiber-Substrate Interface using Scanning Electron Microscopy. Materials Research Society Symposia Proceedings, 2006, 963, 1.	0.1	0
76	Electrothermal Transport in Carbon Nanostructures. , 2007, , .		0
77	Analysis of carbon-based interconnect breakdown. , 2008, , .		0
78	Current-carrying Capacity of Carbon Nanofiber Interconnects. , 2008, , .		0
79	Thermal and electrical transport in carbon nanofiber interconnects. , 2008, , .		0
80	Analysis of carbon-based interconnect breakdown. , 2008, , .		0
81	Extracting Resistances of Carbon Nanostructures in Vias. , 2009, , .		0
82	Electrothermal transport in carbon nanofiber interconnects. , 2009, , .		0
83	Electrothermal Transport in Carbon Nanostructures. ECS Transactions, 2009, 25, 487-493.	0.5	0
84	Electrode and substrate contacts in carbon nanofiber interconnects. , 2009, , .		0
85	Joule-heating dependence of carbon nanofiber resistance. , 2009, , .		0
86	Coulomb staircase in fused semiconducting InP nanowires under light illumination. , 2010, , .		0
87	Modeling carbon nanotube ultracapacitor. , 2010, , .		0
88	Transport phenomena in carbon nanostructures. , 2010, , .		0
89	Compact high-frequency circuit model for one-dimensional carbon nanostructures. , 2010, , .		0
90	Reversible suppression of Coulomb staircase in InP nanowires with light illumination. , 2010, , .		0

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91	Contact improvement using E-beam and FIB deposited tungsten in carbon nanofiber interconnects. , 2011, , .		0
92	Transport in fused InP nanowire device in dark and under illumination: Coulomb staircase scenario. , 2011, , .		0
93	Ultra-Thin MSM Photodetectors with Nano-Structured Surface. , 2019, , .		0
94	Electrothermal Transport in Carbon Nanostructures. ECS Meeting Abstracts, 2009, , .	0.0	0
95	Improved bandwidth and quantum efficiency in silicon photodiodes using photon-manipulating micro/nanostructures operating in the range of 700-1060 nm. , 2017, , .		0
96	Photon-trapping micro/nanostructures for high linearity in ultra-fast photodiodes. , 2017, , .		0
97	Black holes enabled light bending and trapping in ultrafast silicon photodetectors. , 2018, , .		0